

# AIDS Task Force Report



.

# NEW YORK CITY AIDS TASK FORCE REPORT

## ERRATA

# Page 4

Some of the figures for housing and SNF beds in the table "System-wide Requirements, 1989-1993" are incorrect. The correct figures are:

Services	1989	1990	1991	1992	1993
Housing Units	1,280	1,590	1,930	2,280	2,640
SNF Beds	310	380	460	550	630



# **Table of Contents**

Letter of Transmittal	1
Executive Summary	3
Dedication	7
Task Force Membership	8
D-t-	
Lata	11
Work Group Membership	12
Executive Summary	13
Report of the Data Work Group	15
Introduction	15
Existing AIDS Caseload in New York City	15
Distribution of AIDS Cases	16
High-Risk Populations and Infection Rates	16
Projections of Future AIDS Incidence and Prevalence	21
Effect of the Revised CDC AIDS Case Definition	22
Resource Needs Projections	22
Complications in Planning for AIDS and HIV-related Illness	23
References	24
Tables	25
Bibliography	35
Addend of February 22, 1989	36
Models of Care	39
Work Group Membership	40
Executive Summary	41
Introduction	41
Service Components	43
Primary Care	45
Acute Care	46
Long-term Care and Residential Alternatives	47
Social Services	51
Case Management	52
Counseling and Testing	53
Clinical Trials	54
Service Needs of Special Populations	55
Adolescents	55
Gay/Bisexuals and Lesbians	56
Minorities	56
Persons with Chronic Mental Disorders/Developmental Disabilities	57
Prisoners	58
Substance Abusers	58
Women and Children	59
Financial Considerations	62
References	64
Appendix A	64
Needs Assessment	67
Work Croup Membership	69
Frequire Summery	69
Report of the Needs Assessment Work Group	69
	~~

The Context of Need	71
Current Resources and Utilization	71
Models for Projecting Future Resource Needs	72
What Could Change Impacts on Resource Estimates	78
Future Planning Agenda	80
Appendix 1 Subgroup Membership, Consultants, Staff	95
Appendix 2 Resource Inventory and SPARCS Data	99
Appendix 3 Detailed Utilization Data	139
Appendix 4 Needs Assessment Methodology	249
Cost Assessment	259
Work Group Membership	260
Executive Summary	261
Report of the Cost Assessment Work Group	263
Construction Cost of Health Facilities and Supportive Housing	263
Annual Operating Costs of Providing HIV-related Services	263
Paying for Needed Services, Source of Funding	267
Additional Work Required	268
Tables	269
Health Care Personnel	289
Work Group Membership	290
Executive Summary	291
Report of the Health Care Personnel Work Group	292
Recruitment and Retention of Health Care Personnel	292
Education and Training	293
Special Protections and Precautions	294
Psycho-Social Support Systems	295
Resource Differentials	296
Bibliography	298
Prevention and Education	299
Work Group Membership	300
Executive Summary	301
Report of the Prevention and Education Work Group	303
Introduction	303
Risk Behavior: Changes in Knowledge and Behavior	303
Minorities and AIDS	305
Recommendations	306
Community-based Prevention and Education	307
Messages and Content	307
The Principle of Multiple Approaches	308
Appendix A: Overview of AIDS Prevention and Education	311
Bibliography	315

iv

#### THE CITY OF NEW YORK DEPARTMENT OF HEALTH OFFICE OF THE COMMISSIONER



125 WORTH STREET NEW YORK, N.Y. 10013

To the Citizens of New York City:

On behalf of the New York City AIDS Task Force, I am pleased to present the "New York City AIDS Task Force Report." This Report is the culmination of a 15-month effort on the part of public and voluntary health leadership in New York City to develop a framework of response to the HIV epidemic over the period 1989-93.

Ever since the epidemic was recognized in 1981, New York City has been its epicenter, with more people diagnosed with AIDS than any other city in the nation, or for that matter, the world. The "New York City AIDS Task Force Report" represents a broad consensus concerning the magnitude of the HIV epidemic, what services are required to meet the need, and what they will cost. The Report is unique in that it represents the views of public and voluntary service, labor and management groups which most often have diverse, even divergent, agendas. Working together, these groups reached strong consensus on what actions need to be taken.

Given what we know about the HIV epidemic today, the report is a realistic appraisal of where we are, where we are heading and what resources are needed to provide the necessary services to the HIV-infected. In spite of the short time-frame in which much of the work was done, the analyses and projections were performed with great sophistication thanks to extraordinary efforts on the part of Task Force and work group members. Special thanks is due to Task Force Director Glenna Michaels and to her staff.

Now that the report is complete, no more time should be spent simply fine-tuning estimates of cases, service, and costs. The needs are so urgent, and the task so great, that it is critical that we get on with the work of creating sufficient services in order that prevention can be accelerated, and that the increasing number of HIV-infected persons can be provided with the care they need. As I have said many times in the past, we need to worry much more about the *first* 500 additionally needed beds, than about the *last* 500.

Stephen C. Joseph, M.D., M.P.H. Commissioner of Health, New York City Chairman, New York City AIDS Task Force •

# New York City AIDS Task Force Report Executive Summary

HE New York City Aids Task Force was formed in March 1988 under the sponsorship of the Health Systems Agency of New York City. Its mission was to project the course of the AIDS epidemic in the City of New York and to develop a plan of care for people with AIDS/HIV infection.

Over a 15 month period, Task Force members and other invited individuals from labor and management in the public and voluntary sectors worked together to produce six separate reports:

1. The Data Report which, identifies the projected incidence and prevalence of AIDS in New York City through 1993;

2. The Models of Care Report, which describes what HIV-related services need to be available and how they should be organized and provided;

3. The Needs Assessment Report, which identifies the volume of services needed through 1993;

4. The Cost Assessment Report which identifies the cost of providing these services through 1993;

5. The Health Care Personnel Report, which analyzes what effect the epidemic has had and will have on health care workers; and

6. The Prevention and Education Report which discusses the the importance of AIDS prevention and education programs and ways to enhance them in New York City.

These reports reflect current views on how the HIV/AIDS epidemic is impacting the City of New York, what the present and future service needs are and what the financial impact might be.

#### Data Report

The Data Work Group was the first work group to convene. They worked with the New York City Department of Health to re-evaluate the number of HIV-infected persons in New York City. In July, 1988, with the support from members of the Data Work Group, the estimated number of HIV-infected individuals in the City was reduced from 400,000 to 200,000.

The Data Report emphasized that there might be significant under-reporting of AIDS cases and undercounting of HIV-related illnesses, especially among substance abusers. If these concerns are valid, projections of future cases are more likely to be too low rather than too high.

Since the HIV epidemic is very much a moving target and incidence and prevalence data are constantly being revised, the Data Report contains the incidence and prevalence projections that were available in the summer of 1988 and an addendum with the incidence and prevalence projections that were available in February 1989. According to these latest projections, by the end of 1993 about 64,000 New Yorkers will have been diagnosed with AIDS. Of these, about 14,000 will be alive and require services. In accordance with the recommendation of the "Report of the Expert Panel on HIV Sero-prevalence Estimates and AIDS Case Projection Methodologies" (New York City Department of Health, February 1989, p.31), incidence projections for each year were adjusted upward by 30 to 40 percent when projecting service needs to take into account those who are HIVill, but do not have CDC-defined AIDS and who are major consumers of services.

#### Models of Care Report

The Models of Care Report outlines what services should be available to the HIV-infected and how they should be organized, without taking into consideration whether the services exist or how difficult or costly it might be to establish them. The report states that the full spectrum of services that are needed by the HIV-infected should be provided throughout the entire course of their HIV illness, from the earliest asymptomatic stage forward. These services should be appropriately allocated based on degree of illness and need. To meet the urgent needs of the increasing number of HIV-infected, the report stresses that there will have to be fundamental changes in the way health care is delivered and the changes would have to occur rapidly to avert a health care and social crisis. Existing services must be expanded and new and innovative ones developed. These services must also be coordinated into a multitiered, integrated system. However, the report stresses that for the most part it is better integrate HIV-related services into existing medical delivery systems rather

#### 4 NEW YORK CITY AIDS TASK FORCE

than create HIV/AIDS-specific programs or dedicated facilities. The model also proposes that HIV-related services, as far as possible, should be provided in noninstitutional, community settings or in individuals' homes. This is to enable the HIV-ill to maintain the highest level of independence in the least restrictive environment.

The report also provides a detailed description of what the elements of a comprehensive service model for HIV-infected individuals ought to be and identifies the special service needs of several population groups.

#### **Needs Assessment Report**

Building on the service model outlined in the Models of Care Report, the Needs Assessment Work Group determined the volume of some of the major services that need to be put in place to care adequately for HIV-infected individuals in New York City through 1993. Before the actual projections were developed, sub-work groups inventoried trends in society that might influence the course of the HIV epidemic and developed methodologies for five major, high-impact services—acute care, long-term care, housing, home health care services and ambulatory physician visits.

Because of time constraints and lack of sufficient data, the work group was unable to project the need for many other important services such as inpatient and outpatient pediatric services, substance abuse treatment, mental health services, dentistry and HIV counselling and testing. Nor was the work group able to address the additional demand for non-clinical HIV-related programs such as community-based support services, transportation services, research and epidemiological studies, prevention and education programs, legal and anti-discrimination services and administrative and coordinating activities. These are all important areas that are closely interwoven with the HIV epidemic and must be available if there is to be an adequate response to it. The Needs and Cost Assessment Work Groups as well as the members of the New York City AIDS Task Force strongly urge that additional studies be conducted to determine the magnitude of demand for these services and their cost.

The epidemic is evolving rapidly and each month new statistics become available. The incidence and prevalence data used by the Needs Assessment Work Group to develop its projections was the most current available as of December 1988. This data base produced the following estimates of resources needed in New York City through 1993:

System-Wide Requirements 1989-1993								
Services	End o: 1989	f: 1990	1991	1992	1993			
	0.400		0.040	e 470	4 090			
Acute Care Beds	2,420	3,020	Z,940	3,470	4,020 9,840			
SNF Rede*	1,250 810	380	480	550	630			
HRF Beds**	290	360	430	510	590			
Home Health Care								
Average Daily								
Enrollment	1 <b>,67</b> 0	2,080	2,520	2,980	3,450			
MD Visits	934,480	958,840	979,250	<b>993,94</b> 01	,003,820			
<ul> <li>Skilled Nursing Facility</li> <li>Health Related Facility</li> </ul>								

The methodologies used to produce those estimates are included in Appendix 4 of the Needs Assessment report so that these projections can be updated on a regular basis. The above estimates assume that an adequate supply of various alternate level of care services will be developed during the forecast period. Should this not occur, the need for acute care and long-term care beds will far exceed that shown in the table above. Additionally, the report points out that these estimates are based on the historic utilization patterns of mainly gay, white men. As the epidemic unfolds, the population is growing poorer and includes more minorities, women and children, many of whom are substance abusers. This, in conjunction with more aggressive intervention and treatment modalities, will probably produce much greater resource consumption per HIV-infected person than in the past.

#### Cost Assessment Report

The Cost Assessment Work Group produced cost estimates of the five major services (acute care, longterm care, housing, home health care and physician visits) that had been projected by the Needs Assessment Work Group. In addition, it calculated the cost of providing prophylactic pharmaceuticals (AZT, pentamidine or drugs with similar costs) to the majority of HIV symptomatic individuals. To develop a unit cost for each type of service, the group compared actual costs to the prevailing reimburse-ment rates. In those instances where the reimburse-ment rates were deemed adequate, the group chose to use those as the unit cost. In other instances, such as home health care, a new methodology had to be developed to establish a cost per enrollment day.

The analysis revealed that the cost of providing these selected services over the next five years will be over \$7 billion. The breakdown by year and service is:

#### Executive Summary 5

Summary of Costs for Salacted Services , 1989-1993 (\$ millions)								
Services	1989	1990	1991	1 <b>992</b>	1 <b>993</b>	Total*		
Acute Care	\$628	\$782	\$ 955	\$ 938	\$1,105	\$4,409		
SNF Care**	21	26	26	75	87	235		
HRF Care***	-	6	11	53	61	130		
MD Visits	88	94	99	105	111	496		
Home Hlth.Care	70	88	121	161	1 <b>94</b>	634		
Sup.Housing	2	3	41	86	100	233		
Proph. drugs	172	176	181	184	186	899		
& blood transf.								
Total*	\$980	\$1,176	\$1,435	\$1,602	\$1,844	\$7,036		
* Totals do not add due to rounding								

The Cost Report estimates that the burden of paying for these HIV-related services will be distributed across third-party payors as follows:

Federal Government	30%
New York State Government	16%
New York City Government	17%
Private Insurers	26%
Others	11%
	100%

In addition, there needs to be a major influx of capital funds to support the renovation and construction of additional health care and housing facilities. The initial capital requirements are estimated to be \$712 million:

Initial Capital Outlay Requirements, 1989-1993 (\$ thousands)								
		Long-te	erm Care					
	Acute	SNF	HRF					
	Care	Care	Care	Housing	Total			
New Const.	\$293,942	\$50,661	\$61,776	\$165,490	\$571,869			
Renovation	140,473	-	-	-	140,473			
Total	\$434,415	\$50,661	\$61,776	\$165,490	\$712,342			
Table is exclusive of interest payments.								

### The Health Care Personnel Report

New York City has been particularly hard hit by the short supply of health care workers because many factors know to affect recruitment, such as a high cost of living and the lack of affordable housing, are exaggerated in the City. Aggravating the problem are the unprecedented high occupancy rates in acute care hospitals which causes heavy work loads. In addition, over the last few decades many training programs for nurses and other health care workers have been scaled back or eliminated altogether in New York City.

The Health Care Personnel Report examines whether the HIV epidemic has contributed to the shortage of health care workers and found a need for further study. Some dedicated AIDS units have been difficult to staff, but so have many other specialty units such as intensive care and emergency departments. Some residency training programs at teaching hospitals with high AIDS census have had difficulties filling their training programs. But there is some indication that this problem might be hospitalspecific and not a general rule. The conclusion of the report is that health care personnel who work in hospitals in New York City which are treating people with HIV illnesses must be provided with the training, protection and psychological support they need to carry out their duties safely and efficiently.

#### The AIDS Prevention and Education Report

The Prevention and Education Report stresses that high risk behavior rather than risk group should be the focus of all AIDS education and prevention efforts. To reduce high risk behavior and thus, the transmission of the AIDS virus, it is not enough to increase an individual's general knowledge of AIDS. Rather there must be group and community pressure to actively encourage certain behaviors and discourage others. For this to occur, there needs to be broad community awareness and involvement in AIDS as well as substance abuse issues. Community leaders and local service organizations should spearhead these efforts since they are well connected in their communities and can identify and reach those who are at high risk. The report recommends that local groups be provided funding and technical assistance to set up and conduct these services. It all calls for greatly expanded funding to support AIDS prevention and education programs. Finally, the report suggests several approaches that might be taken to reach target audiences.



# **Dedication**

This report of the New York City AIDS Task Force is dedicated to the memory of Rafael Tavares, M.D., a Task Force member who died suddenly in November of 1988. He was a rare person who generously used his knowledge to improve the lives of others. He was wise and funny, dedicated and irreverent. His life enriched all of us. He is greatly missed.

7

# New York City AIDS Task Force Membership

Stephen C. Joseph, M.D., M.P.H. Commissioner New York City Department of Health

Mario Andriolo, D.D.S., *Director of Dentistry* Chief of AIDS Dental Program St. Clare's Hospital and Health Center

Jo Ivey Boufford, M.D., *President* NYC Health & Hospitals Corporation

Alternate: Ray Baxter, Ph.D., Senior Vice President NYC Health & Hospitals Corporation

John Brandon, *Commissioner* New York City Commission on Human Rights

Alternate: Russell Pearce, General Counsel New York City Commission on Human Rights

William Frohlich, Executive Director Beth Abraham Hospital

Verona Greenland, Executive Director Morris Heights Health Center

Michael Grieco, M.D. Chief of the Division of Allergy, Clinical Immunology and Infectious Diseases St. Luke's/Roosevelt Hospital Center

Alternate: Donna O'Hare, M.D., President New York County Medical Society

William Grinker, Commissioner Human Resources Administration

#### Alternate:

Carol Raphael, Executive Deputy Commissioner Income and Medical Assistance Program Human Resources Administration

Alternate after January 1989 Kathryn Haslanger, Assistant Executive Deputy Commissioner Income and Medical Assistance Program Human Resources Administration Stanley Hill, Executive Director District Council 37

Alternate: Kathy Schrier, Administrator of the Education Fund District Council 37

John Jacobs, *Co-Chairman* John Zuccotti, *Co-Chairman* Citizens Commission on AIDS

Alternate: Carol Levine, Executive Director Citizens Commission on AIDS

Mark Kator, Executive Director Coler Memorial Hospital

Sara L. Kellermann, M.D., Commissioner NYC Department of Mental Health, Mental Retardation and Alcoholism Services

Alternate: Gerald Landsberg, D.S.W., Assistant Commissioner NYC Department of Mental Health, Mental Retardation and Alcoholism Services

Sally Kohn, Executive Director AIDS Services Delivery Consortium

Mathilde Krim, Ph.D., Founding Director American Foundation for AIDS Research

Donald Maier, Actuary and Vice President Metropolitan Life Insurance Company

Michael R. McGarvey, M.D., Corporate Vice President Health Affairs Empire Blue Cross Blue Shield

Megan McLaughlin, D.S.W., Executive Director/CEO Federation of Protestant Welfare Agencies, Inc.

Kathleen McMahon, R.N., AIDS Nurse Clinician New York Counties Registered Nurses Association Robert G. Newman, M.D., *President* Beth Israel Medical Center Technical Advisory Group on Substance Abuse Health Systems Agency of New York City

Donald L. Polk, President New York Urban League

Beny Primm, M.D., Executive Director Addiction Research and Treatment Corporation President, Urban Resource Institute Member, President's Commission on AIDS

#### Alternate:

Lawrence S. Brown, Jr., M.D., Senior Vice President for Research and Medical Affairs Addiction Research and Treatment Corporation Urban Resource Institute

Kenneth Raske, *President* Greater New York Hospital Association

Alternate: Elizabeth Sommers, Vice President for Regulatory and Professional Affairs Greater New York Hospital Association

David Rogers, M.D., *Chairman* The AIDS Advisory Council Walsh McDermott University Professor of Medicine New York Hospital - Cornell Medical Center

Alternate: Jim Bulger, Executive Deputy Director AIDS Institute, NYS Department of Health Richard H. Schwarz, M.D., *President* Associated Medical Schools of New York Provost, SUNY Health Science Center at Brooklyn

Alternate: Frank Jones, Executive Director Associated Medical Schools of New York

Tom Stoddard, Executive Director Lambda Legal Defense and Education Fund, Inc.

Timothy Sweeney, *Deputy Executive Director* Gay Men's Health Crisis

Rafael Tavares, M.D., President\* Hispanic AIDS Forum Director, Community Psychiatry Columbia Presbyterian Hospital

Peter Ungvarski, M.S., R.N., C *Clinical Nurse Specialist - HIV Infection* Visiting Nurse Home Care Service of New York

Bruce C. Vladeck, President United Hospital Fund

Mark Wade, M.D., Co-Chair Black Leadership Commission on AIDS

Alternate: Debra Fraser-Howze, *Executive Director* Black Leadership Commission on AIDS

#### \*Deceased

Glenna R. Michaels Director

Suzan Carrington Associate Director Ralph Horton, Ph.D Associate Director



# New York City AIDS Task Force

Section I

Data

November 1988

# Data Work Group Membership

Chairman: Bruce C. Vladeck President United Hospital Fund

#### Members:

Raymond J. Baxter, Ph.D. Senior Vice President New York City Health and Hospitals Corporation

Donald C. DesJarlais Coordinator for AIDS Research Narcotic and Drug Research Institute

Ernest Drucker, Ph.D. Associate Professor, Epidemiology and Social Medicine Albert Einstein College of Medicine Director, Division of Community Health Executive Director for Drug Abuse Treatment Programs, Montefiore Medical Center

Donald Maier Actuary Metropolitan Life Insurance Company Michael McGarvey, M.D. Corporate Vice President, Health Affairs Empire Blue Cross Blue Shield

Kenneth Raske President Greater New York Hospital Association

Steven Schultz, M.D. Deputy Commissioner New York City Department of Health

Cladd E. Stevens, M.D. Head, Laboratory of Epidemiology New York Blood Center

The Work Group is indebted to the following consultants for their invaluable input:

Steven Blum, Ph.D. Director of Epidemiology and Surveillance Statistics New York City Department of Health

Jon Eisenhandler, Ph.D. Project Manager Empire Blue Cross Blue Shield

Gerry Goodrich Manager Peat Marwick

Support staff for the Data Work Group:

Suzan Carrington Associate Director New York City AIDS Task Force

John Griggs Staff Consultant , AIDS Policy Initiatives United Hospital Fund Regina Neal Assistant Director, Office of Planning Services New York City Health and Hospitals Corporation

Pauline Thomas, M.D. Director of AIDS Surveillance New York City Department of Health

Glenna R. Michaels Director New York City AIDS Task Force

# **Executive Summary**

URRENT planning for meeting the health care, housing, and other needs of persons infected with human immunodeficiency virus (HIV) in New York City has been based, in part, upon a set of assumptions and projections about the numbers of persons ill with CDC-defined AIDS in New York City and the nature of the disease process that leads to AIDS. These data have been combined with what is known about the service needs and resource utilization of persons diagnosed with AIDS and HIV infection to project what types and volume of services will be needed over the next four to five years.

Nearly 17,000 cases of AIDS, and over 9,000 resulting deaths, have been reported in New York City. The New York City Department of Health has estimated that by the end of 1991 there may be a cumulative total of 43,000 cases of AIDS in the city, with perhaps 31,000 cumulative deaths. It has been projected that 8,000-11,000 new cases of AIDS will be diagnosed in 1991 and that there will be 10,000 living persons with AIDS at the end of that year. A significant number of additional persons will have HIV-related illnesses.

The Data Work Group has examined existing planning assumptions and projections of the future of the AIDS epidemic in New York City and reports the following conclusions:

1. For purposes of needs assessment and services planning, the most important figures about the AIDS epidemic are estimates of future case incidence-that is, the number of new cases of AIDS (using the CDC definition) that occur over any given period of time-since most treatment resources will continue to be devoted to symptomatically ill persons. To date, projections of future caseloads based on statistical models have proven to be remarkably accurate. Concern has been expressed, however, that there may be a significant underreporting of AIDS cases and undercounting of HIV-related illness and mortality, especially among intravenous drug abusers. If these concerns are valid, projections of future cases may be increasingly unreliable. Further, there is reason to suspect that if case projections are erroneous, they are more likely to be too low rather than too high.

2. Estimates of future service needs—for inpatient hospital beds, long-term care and residential beds, home care, outpatient services, and so forth—have been based largely on current use rates applied to estimates of future cases. To the extent that estimates of future cases are too low, so will be needs projections. More importantly, even if current projections of future caseloads prove to be accurate, the services that will be needed in the future appear likely to far exceed our currently projected capacity to provide them.

3. Considerable attention has been focussed in recent months on estimates of the number of persons infected with HIV in New York City, that is, on the prevalence of infection. It is now generally believed that a very high proportion of all persons infected with HIV will eventually develop AIDS, although many will remain asymptomatic for a decade or more. Efforts to make estimates of the prevalence of HIV infection are important and worthwhile for at least three reasons. First, they can increase understanding of the likely future trajectory of the AIDS epidemic. Second, the increasing likelihood of the development of treatment methodologies for asymptomatic, HIVpositive persons means that all HIV-infected persons will be appropriate candidates for targeted services, whether or not they have developed symptoms of AIDS. Third, HIV infection prevalence estimates are useful to planning preventive strategies.

On the other hand, it is important to emphasize that, for purposes of service needs assessment and resource planning over the next three to five years—for services such as inpatient hospital beds, residential care, home care, and outpatient treatment—projected cases of HIV disease, rather than the number of infected persons, are still the key variable. Even relatively large differences in estimates of the number of infected persons produce relatively small changes in projected case loads in the near term, although the effect of differences in estimation is magnified over longer time periods.

The Work Group has reviewed with care and debated the revised estimates of prevalence of HIV infection recently produced by the New York City Department of Health, and finds them more consistent than earlier estimates with the data on reported cases to date. Specifically, given what is now known about the time period between initial HIV infection and the diagnosis of AIDS, earlier estimates of the prevalence of HIV infection produce projected case numbers far in excess of what has been reported.

While the Work Group is aware that the New York City Department of Health's prevalence estimates explicitly make no estimate of the number of persons in the risk group of men who have sex with other men, and finds plausible the methodology on which the estimates are based, it is also cognizant of the implicit estimates of the size of the city's homosexual/bisexual population implied by that methodology, and shares some of the skepticism that estimate has engendered. The Data Work Group emphasizes that it is high-risk behavior, rather than membership per se in a so-called "risk group," that determines individual risk for HIV infection. Moreover, patterns of sexual activity are no more uniform among homosexual/bisexual men than among their heterosexual counterparts; as a result, neither is risk for HIV infection nor the rate of infection among members of this group. The actual overall seroprevalence of HIV among homosexual/bisexual men in New York City is unknown.

More importantly, the Work Group recognizes the extremely limited data on which the city's revised estimates have been based, although it also recognizes that earlier estimates were based on at least equally limited data. In that context, the Work Group wishes to reemphasize its central conclusion: that the most important statistics for service planning are those involving case projections in the relatively near term.

4. While the data are extremely limited and difficult to interpret, it appears that persons with AIDS are surviving longer, from diagnosis to death, in part due to more effective treatment, including the use of AZT (Zidovudine), and in part due to earlier diagnosis. There appears to be wide variance in survival times across risk groups and ages.

5. Better data is urgently needed on infection rates and clinical patterns among persons engaged in different "risk behaviors" and in different geographic areas of New York City. These data are best obtained by anonymous sero-surveys.

6. The lack of any sophisticated methodology for projecting needs for services other than acute care hospital beds hampers planning for outpatient care and for services in non-hospital residential or institutional settings. Efforts must be undertaken as soon as possible to develop and refine such methodologies.

7. Regardless of the techniques employed for estimating service needs, the Work Group is concerned that development of needed services will continue to lag badly behind demand. This is most dramatically true in housing for persons with AIDS, ARC, and other HIV-related conditions, given the overall housing crisis in New York City. The Work Group, while charged with focussing on data issues, thus urges that attention be concentrated, not on arguments about necessarily imprecise numbers, but on service development.

8. Finally, it is clear that the HIV epidemic is very much a moving target, information and knowledge about which are continually increasing. The Work Group thus urges continued monitoring of data and scientific developments to permit continual refinement of incidence and prevalence estimates, and the associated service needs determinations. In that regard, better information will increasingly permit planners to think beyond the very short-term future. This epidemic shows no signs of ending in 1991, and planning activities will need increasingly to take longer-term issues into account. MISSION

- To evaluate existing planning assumptions and methodologies used to project future prevalence of AIDS, ARC, and HIV seropositive cases in New York City.
- To recommend the planning assumptions to be used and project the prevalence of AIDS cases by relevant categories through 1992, using existing sources.

#### Introduction

By October 1988, nearly 17,000 cases of AIDS, and over 9,000 cumulative deaths due to AIDS, have been reported in New York City. The New York City Department of Health has estimated that by the end of 1991 there will be a cumulative total of 43,000 cases of AIDS and 31,000 cumulative deaths in the city. Beyond 1991, the number of cases and deaths is expected to continue to climb until the epidemic plateaus sometime later in the 1990s.

Current planning for meeting the health care, social service, housing, and other needs of persons infected with human immunodeficiency virus (HIV) in New York City has been based, in part, upon a set of assumptions and projections about the number of persons with CDC-defined AIDS in New York City and the nature of the disease process that leads to AIDS. These data are combined with what is known through experience about the service needs and resource utilization of persons with AIDS (PWAs) and with what has been called AIDS-related complex (ARC), to project what will be needed in terms of both types and volume of services over roughly the next four to five years.

Because this planning process is so closely tied to estimates of future cases, the Data Work Group has examined both current estimates and projections about the AIDS epidemic and assessed their validity as a basis for planning.

Projections about the HIV epidemic are based on current knowledge about HIV-related disease. But this knowledge and the assumptions on which the related projections are based will undoubtedly change as the epidemic unfolds. In the course of the eleven years since the epidemic is thought to have begun here, ideas about it have changed continually as the knowledge base has increased. At first, the disease was thought to be an illness confined to homosexual/bisexual men in the United States, and possibly caused by their sexual practices. We now know that we are confronted with a worldwide pandemic caused by a (possibly new) transmissible retrovirus, identified only in 1984, and affecting persons without regard to sexual orientation. This process of developing knowledge and information will and must continue; there is still much to be discovered about the AIDS epidemic and its sociomedical outcomes.

In planning, it is important that we not focus on planning only for AIDS-a narrowly defined clinical diagnosis that thus far applies to only a small percentage of the estimated one to 1.4 million Americans, including those thousands of New Yorkers, who are thought to be infected with HIV. As the 1988 report of the Presidential Commission on the Human Immunodeficiency Virus Epidemic points out, HIV "is actually responsible for human infection with a wide range of consequences," not all of which may yet be known. In projecting health care needs, it is important to be aware of the range of persons who will need services-from those who constitute the uninfected "worried well" to those in terminal stages of HIV-related illness. This is a critical concept that should be kept foremost in mind as we consider what the present and future of the HIV epidemic look like and how accurate our perceptions and projections are. The planning process must take into account the entire breadth of the HIV epidemic.

#### The Existing AIDS Caseload in New York City

As of October 12, 1988, there had been a cumulative total of 17,090 cases of clinically diagnosed AIDS, fitting the CDC case-definition criteria, reported to the New York City Health Department's AIDS Surveillance Office. These included 16,741 adult/adolescent and 349 pediatric cases. There were 9,439 known dead (56%), and more than 7,000 living persons with AIDS. Because PWAs may leave the city and die elsewhere, the number who are alive may not be as large as simple arithmetic would indicate. Lags in reporting, which may range from six to twenty-four months, also may result in undercounting both active cases and deaths. Of the 349 children diagnosed with AIDS in New York City, 226 (65%) are known to have died (New York City Department of Health 1988a).

The New York City Health Department has estimated (New York City Strategic Plan for AIDS, 1988) that there may be as many as 100,000 persons with some manifestation of HIV-related illness in the city, but since this is not reportable, there is no way of knowing the actual incidence of illness or to what extent this component of the population needs or consumes medical and other resources. Earlier in the

#### 16 NEW YORK CITY AIDS TASK FORCE

epidemic, it was said that for every diagnosed AIDS patient there were ten people with ARC; however, the ratio of ARC to AIDS cases appears to be decreasing with lengthening duration of endemic infection, as the CDC case definition becomes more inclusive, and as increasing numbers of infected persons progress to AIDS diagnosis.

The distribution of reported adult and adolescent AIDS cases by transmission/exposure category is summarized in Table 1: cumulative cases through October 12, 1988 and cases reported since January 1, 1988 are shown. What is perhaps significant is that, since the beginning of 1988, the percentages of new reported AIDS cases involving intravenous (IV) drug abuse and those involving men who have sex with men (homosexual/bisexual males) are roughly equal, with new cases being reported at a slightly higher rate among IV drug abusers (IVDAs) than among homosexual/bisexual men. Heretofore, homosexual/bisexual men accounted for the higher proportion of new cases. Possible causes for this shift are 1) the revised CDC case definition for AIDS may have a greater effect on diagnosis among IVDAs than among homosexual/bisexual men, 2) a decreasing incidence of AIDS among homosexual/bisexual men, and 3) an increasing incidence of AIDS among IVDAs. It is too early to determine whether the shift is temporary or will continue, or what it signifies for the future demographics of HIV disease in New York <sup>^</sup> City.

# Distribution of AIDS Cases by Age, Sex, Race/Ethnicity, and Borough of Residence

The current distributions of reported New York City AIDS cases by age, sex, race/ethnicity, and borough of residence are summarized in detail in Tables 2 through 5b. Of the adolescent and adult cases, 88% are males and 12% are females. About 48% of both male and female cases are in persons 30-39 years of age, 24% in the 40-49 age range, 16% among those 20-29, and 10% of PWAs are over 50 years of age.

Racially/ethnically, 41% of reported adult/ adolescent PWAs in New York City are white, 32% are black, and 26% are Hispanic: Of AIDS cases reported to be linked only to men having sex with men, that is, among self-identified homosexual/bisexual males, 63% are white, 19% are black, and 17% are Hispanic. Thirty-four percent of male PWAs who identify as homosexual/bisexual men and IV drug users are white, 36.5% are black, and 29% are Hispanic. Among AIDS cases linked to IV drug abuse alone, about 44% of those PWAs are black, 41% are Hispanic, and 15% are white. Among women with AIDS, 52% are black, 33% are Hispanic, and 15% are white. Among pediatric cases, about three-quarters are reported to be related to perinatal HIV transmission due to intravenous drug abuse by one or both parents; 58% of mothers of infants with AIDS are black, 32% are Hispanic, and 10% are white.

Geographically, of the adolescent and adult AIDS patients whose place of residence is known to be in the city, 50% are from Manhattan, 21% from Brooklyn, 15% from the Bronx, 13% from Queens, and 2% from Staten Island (due to rounding, these percents do not total 100).

## High-Risk Populations and Infection Rates in New York City

Planning for AIDS and HIV disease begins with projections of anticipated caseloads. There has been debate about the accuracy of the New York City Department of Health's surveillance of, and projections for, AIDS cases in the city. The Department's own estimates have been revised periodically as data have accumulated and been analyzed and as more is learned about HIV-related illnesses. Estimates of HIV-related deaths among IVDAs, for example, have been revised upward within the last year on the basis of a retrospective study of death certificates that suggested an undercounting of IVDA deaths from HIV-related infections that did not meet the CDC case criteria for AIDS. Analyses of excess mortality among IV drug users in New York City suggest possible adjusted AIDS cases 50-150% more numerous than those currently shown for this group (Drucker 1988; Stoneburner et al. 1988). Indeed, Stoneburner et al. report 2,520 excess deaths among IVDAs between 1982 and 1986 that are believed to be HIV-related but that were not recognized as AIDS or reported to AIDS surveillance. Adding these 2,520 excess deaths to the 1,873 AIDSrelated deaths in IVDAs that were reported to AIDS surveillance suggests that AIDS mortality among IVDAs was at least 134% greater during 1982-86 than AIDS surveillance data alone indicates (Stoneburner et al.). Taking account of these deaths not only raises the reported toll of the epidemic, but should also raise our consciousness about the range of needed medical and social services for persons with HIVrelated illness that may be catastrophic without being strictly classified as AIDS.

Current New York City and New York State Health Department estimates of future cases and service needs have been based largely on statistical modelling of the epidemic, based on extrapolation of reported cases, a methodology fundamentally similar to that employed by CDC. To date, these projections have proved relatively accurate. In order to assess the validity and plausibility of such estimates, the Work Group also explored both alternative projection methodologies and some of the assumptions on which such methodologies might be based.

One issue involves estimating the number of persons in New York City currently infected with HIV. Here the Work Group explored two estimation methods. The first method, employed by the New York City Department of Health, begins with estimates of the size of the major population groups at risk for infection and with data on prevalence rates within those groups. An alternative method begins with reported cases, and employs assumptions about seroconversion rates and progression from infection to active-case status to extrapolate backwards to estimates of the size of the infected population. This latter method, however, is only as good as the knowledge of conversion rates and incubation periods on which it is based. That knowledge is still very limited and is derived from three relatively small studies.

In New York City, the situation is further complicated by a large and heterogeneous population with varying degrees of risk for HIV infection. While it should be emphasized that it is high-risk behavior, rather than membership per se in a so-called "risk group" that determines individual risk for HIV infection, AIDS cases in New York City clearly occur at higher rates among some population groups than among others. More is known about some of these population subgroups than about others, and highrisk behavior-and, subsequently, HIV infectionvaries widely within and across such groups. In such a population, it is impossible to know precisely how many persons in New York are at risk for HIV infection or are already infected. In late 1987 and early 1988, estimates of the number infected in New York City ranged as high as 400,000 persons, but more recent estimates by the New York City Department of Health (1988b), based on more refined epidemiological and surveillance data and methodological approaches, have lowered the number of those thought to be currently infected to about 200,000 individuals, with a range of between 149,000 and 226,000 (Table 6). This range of figures is more consistent with the number of AIDS cases reported to date than is the previous estimate of the size of the infected population.

#### Intravenous Drug Abusers (IVDAs)—Male and Female

Current estimates are that there are 60-90,000 HIVinfected drug abusing males and 20-30,000 infected female IVDAs (40-60% of an estimated total 200,000 IVDAs in New York City). The assumption that there are approximately 200,000 intravenous drug abusers—about 75% of whom are male—in the city is based on methodology developed by the New York

١

State Division of Substance Abuse Services in 1976 (Frank et al. 1978) and appears to be a reasonable, though admittedly "soft," figure. The total number of IVDAs is believed to be relatively stable, but there is some fluidity to the cohort. Some IVDAs die and some stop using drugs in the course of a year but others, new IVDAs and relapsers, also enter the pool. We clearly need to know more about these new entrants. This number does not mean that there are 200,000 people shooting drugs in New York every single day, but includes persons who are occasional, but regular, "shooters," those addicts who inject themselves several times a day, as well as those who do not share needles.

Recent studies of IVDAs entering drug treatment programs in New York indicate that about 55-60% are already infected with HIV and that HIV infection is still spreading within this group. The level of infection for IVDAs recruited for testing in street settings has been found to be slightly higher-63% seroprevalence (Kleinman et al. 1988). Although seroprevalence among IVDAs appears to be stable, the recent incidence of seroconversion has been about 5-7% per year, reflecting some turnover in this group. There is some evidence that risk reduction programs and practices are now having some impact on reducing the rate of new infections. The entry of new members into the cohort, however, indicates that the numbers of infected may continue to grow among IVDAs unless more effective preventive interventions and education programs are implemented.

#### Homosexual/Bisexual Males

Another large group affected by relatively high rates of HIV infection in New York is that of men who have sex with men, that is, sexually active homosexual/ bisexual men. No one knows with any degree of precision the total number of homosexual/bisexual men in the city. Studies among some cohorts of selfidentified homo-sexual/bisexual men in New York City have suggested that 35-50% may be infected with HIV, but these cohorts may not be said to be representative of the New York City homosexual/ bisexual population as a whole. Moreover, patterns of sexual activity are no more uniform among homosexual/bisexual men than among their heterosexual counterparts; as a result, neither is risk for infection nor the rate of infection among members of this group. The actual overall seroprevalence of HIV among homo-sexual/bisexual men in New York City is unknown.

A study conducted at the New York Blood Center indicated that HIV infection grew fairly steadily among a cohort homosexual/bisexual men between 1979, when 6.6% were HIV antibody-positive, and

#### 18 NEW YORK CITY AIDS TASK FORCE

1984, when 43% were positive. Between 1979 and 1984, the annual incidence of new HIV infections ranged between 5% and 8%. The rate of new infections has since fallen dramatically. In 1987, the incidence was below one percent per year. Combining these prevalence and incidence data gives a total prevalence of HIV infection in this cohort of about 50% by the end of 1987 (Stevens, Taylor, Zang et al. 1986; Stevens, Taylor de Cordoba et al. 1988). Most of the cohort subjects were volunteers for a hepatitis B vaccine study and may have had elevated risk for HIV infection.

In June 1982, patients entering the central Manhattan office of a general internist over four days were invited to participate in a small cohort study of homosexual/bisexual men in New York City (Goedert et al. 1984). The presence of HIV antibodies was detected in 35 (53%) of the 66 individuals who were tested at the time. Four additional subjects had seroconverted when tested a year later. Because these men came from the private practice of a single physician known to serve homosexual/bisexual men, however, they, too, may have been selected towards the higher risk category within the homosexual/ bisexual population and cannot be said to be representative.

A study of a much larger sample of 745 New York City homosexual/bisexual men, conducted by John Martin, Columbia University School of Public Health, found 34% seroprevalence in a subset of the cohort tested in early 1986. In subsequent testing, seroprevalence was found to have increased at an annual rate of 2.3% in 1986 and 0.04% in 1987 (Martin 1989).

While the incidence of new infections has clearly been decreasing in homosexual/bisexual men in the last three to four years, this declining incidence should have not effect on the number of AIDS cases until at least five to six years in the future, given the incubation period from infection to AIDS. Studies in New York, San Francisco, Baltimore, Chicago, and Los Angeles have shown this general slowing in the spread of HIV infection particularly among white homosexual/bisexual men. Declines reported in rates of rectal gonorrhea among white homosexual/ bisexual men at sexually-transmitted disease (STD) clinics in New York and San Francisco in recent years also indicate a reduction in high-risk sexual activity in this group. However, there is no evidence of this decrease in other risk groups. The rate of rectal gonorrhea has not shown a similar decline among black and Hispanic homosexual/bisexual men in New York, and sexual HIV transmission may have continued longer and may still be continuing at a substantial rate in these two subgroups (Fordyce et al. 1988).

Both the time course and other characteristics of the AIDS epidemic among gay/bisexual men in New York and San Francisco suggest that the epidemic is similar in these groups in the two cities (Drucker 1988; Osmond and Moss 1988). The ratio of the annual incidence of AIDS cases among homosexual/ bisexual men in New York and San Francisco, for example, has been approximately 2:1 since 1982.

While the size of the homosexual/bisexual population and its proportion of the total population in New York City are unknown, with a gross population ten times greater than that of San Francisco, New York could reasonably expect to have currently accumulated far more diagnosed AIDS cases among homosexual/bisexual men than have been reported to date. As of October 1988, the cumulative number of cases reported in this risk group in New York (8,705) is less than twice the number reported in San Francisco (4,609). The 5,456 AIDS cases reported cumulatively among white homosexual/bisexual men in New York City is only 40% higher than the 3,907 cases reported in the same group in San Francisco (San Francisco Department of Health, AIDS Monthly Surveillance Report, September 30, 1988). The reasons for this disparity are as yet unknown, but the lower than expected number of cases among homosexual/bisexual men in New York City may reflect a lower infection rate than in San Francisco.

Other comparisons and extrapolations from current caseloads and ratios of diagnosed AIDS cases to the number in infected pools also argue for either lower numbers of sexually active homosexual/ bisexual men or lower infection levels in New York City than previously supposed, or both. Although the number of homosexual/bisexual men in New York is not known (and cannot be extrapolated from any available AIDS or HIV infection data), studies and surveys in San Francisco have produced estimates of roughly 43-70,000 such individuals in that city, with a mean of approximately 56,000. A recently published report by the San Francisco Department of Public Health (1988) suggests that about 50%, or roughly 28,000 (range 22,500-35,500), of homosexual/ bisexual men in the city may be infected with HIV; this is a reduction from previous estimates of 33-35,000 infected. With 4,600 reported cumulative AIDS cases in this group, the ratio of AIDS cases to infected individuals would be roughly 1:6 (range 1:5-1:7). Given the apparent similarities in the epidemic among the respective homosexual/bisexual populations of New York and San Francisco, if we assume a comparable ratio of diagnosed cases to infected homosexual/bisexual men-one to six (1:6)—in New York City, a rough, round-figure estimate of the number of HIV infected homosexual/bisexual men in New York would be about 51,000, with a range of about 43-60,000, reasonably close to the New York City Department of 1. alth's estimated range of 46,000 to 70,000, as shown in Table 6.

It must be emphasized that the relationship between the number of AIDS cases and total current HIV infections in any risk group is not a constant and may differ for different risk groups. For example, early in the epidemic, the ratio of total HIV infection to AIDS cases had to be very high because very few of the infected would have passed through the incubation period to AIDS diagnosis. In a group with very few new infections, such as homosexual/bisexual men, the ratio should gradually decrease, eventually reaching 1:1.

If the epidemics of HIV infection in homosexual men in San Francisco and New York are parallel, it is probably not unreasonable to base projections/ estimates on data from San Francisco. However, the same kinds of projections may not apply to other risk groups, such as intravenous drug users, because of differences in the epidemic and continuing spread of infection. Therefore, the ratio of AIDS to HIV infection may differ for different risk groups and the ratio for one group may not be applicable to another group.

Since the revised HIV-infection estimates show a larger number of infected IVDAs (80-120,000) than infected homosexual/bisexual men (46-70,000) in New York City, the disparity between the number of AIDS cases reported in homosexual/bisexual men (8,705) and those reported among intravenous drug users (5,651) has raised questions about the accuracy of the infection estimates. Just as the larger general population of New York argues for a substantially greater number of cases among gay/bisexual men than reported thus far in San Francisco, so too the larger population of infected IVDAs argues for a greater number of AIDS cases in that group than the number reported among the smaller population of infected gay/bisexual men. While it is possible that IVDAs became infected in large numbers later than homosexual/bisexual men, the data seem to suggest a similar time course for infection in the two groups, with most infections occurring between 1982 and 1986 (Drucker 1988), but with infection already present in both groups as early as 1978. The more likely reason for this apparent disparity lies in underreporting and under-counting of AIDS/HIV-related illness and deaths among IVDAs, as mentioned above. More than 85% of AIDS cases among gay/bisexual men are reliably believed to be reported to AIDS surveillance, but AIDS surveillance may have greatly underestimated the impact of AIDS on IVDAs in New York City (Stoneburner et al.).

#### Women of Childbearing Age

Based on screening programs and seroprevalence studies of pregnant women and newborns, the city and state health departments have estimated that there may be about 23,000 HIV seropositive women among the 1.67 million women of childbearing age in New York City (Table 7). Many of these seropositive women are either IVDAs themselves or are the sex partners of male IVDAs. Although more studies of seroprevalence are being conducted, there is no current evidence to support higher numbers in this group.

#### Children under 13

At statewide study of neonates in November 1987, produced evidence that, citywide, 1.64% of infants were born with antibodies to HIV, with rates varying by city borough, from 2.34% in the Bronx to 0.76% in Staten Island (Table 8). About 40-50% of infants with antibodies to HIV are found to be actually infected with the virus itself by about 10 months of age. It is estimated that as many as 3,000 children under age 13 may be infected with HIV.

A factor that will have a continuing impact on the number of HIV infected children and newborns is IV drug abuse. Nearly 80% of AIDS in children in New York City is linked to IV drug abuse by one or both parents. Moreover, in recent years, births to drugabusing mothers have been growing. There were 794 reported births to substance-abusing women in 1980, and the total reported on birth certificates increased to 2,069 in 1986; this is considered to be an undercount.

#### Adolescents

While a significant amount of data has been collected about HIV seropositivity and antibody prevalence among newborns in the city, less is known about older children. According to the New York State Department of Health Bureau of Biostatistics, there are in the city 906,000 young people between the ages of 10 and 19. There have been relatively few cases of AIDS reported among adolescents, who account for about 0.3% of total cases in New Yorkers age 13 and older. However, the long incubation period of the disease may mask a larger problem of infection in this group, and some of the cases of AIDS seen in the 20-29 age group in the city probably reflect infection that occurred during adolescence. Among males in New York City, 16% of AIDS cases have occurred in the 20-29 age range (the majority among gay or bisexual men); among females, 29% of cases are found in that age range (80% of which are linked to personal drug abuse or sex with men at risk for HIV infection).

There are thought to be as many as 10,000 homeless

#### 20 NEW YORK CITY AIDS TASK FORCE

youths living on the streets of New York City. Many of these youths, male and female, support themselves—and, not infrequently, drug habits—by engaging in street prostitution; among males this means predominantly homosexual prostitution. Although many of the males self-identify as heterosexually-oriented, their homosexual behavior and drug use places them at a higher risk for HIV infection than that of adolescents in general.

Although no systematic seroprevalence survey of adolescents has been completed citywide, an official of the Covenant House crisis center for runaway teens, in the Times Square area of Manhattan, estimates that at least 10% of teenaged runaways there, and perhaps more, are infected with HIV. In the first five months of 1988, about 50 teenagers with AIDS, ARC, or HIV antibody seropositivity have reportedly been identified at the project. Only one such teen was identified in all of 1987. Because many of these teenagers may be involved in prostitution, they are at elevated risk for HIV infection. Only one of the seropositive teens at Covenant House was identified as an IVDA. The Covenant House crisis center currently provides nightly shelter to 250 to 300 homeless teens, a fraction of the total number known to be in the area.

It is thought that "crack" use is widespread among adolescents and young adults in some areas of the city, and that trading sex for drugs may be a frequent activity not only for male and female street youth engaged in prostitution but also particularly for females in so-called "crack houses," where sex with multiple partners is reported to occur. A study conducted in the Bronx indicated that adolescents there continue to engage in a range of behaviors that put them at increased risk for HIV infection (Hein 1987). Under these sets of circumstances, the potential for future spreading HIV infection and the development of HIV disease may be significant among street youth and some groups of adolescents in the city..

#### Hemophiliacs and Transfusion Recipients

Data about hemophiliac males is thought to be fairly accurate because members of this risk group are largely known to the medical establishment. There are estimated to be 475 hemophiliac males in New York City. Many of them became infected with HIV before 1985, when the blood products they depend on for clotting factor began to be treated to kill HIV. Seroprevalence is estimated to be 72 percent in this group.

There appear to be no precise estimates of the number of persons in New York who might have received transfusions of contaminated blood before screening of donated blood for HIV antibody began in 1985, so the size of this risk group and its level of infection remains unknown. Thus far, transfusionand blood-product-related AIDS cases in the city constitute less than 1% of the total.

#### Prostitutes

Because prostitution is illegal in New York City, collection of data about levels of HIV infection among prostitutes, many of whom support drug habits through prostitution, has not been sufficient to arrive at estimates of overall seroprevalence with any degree of certainty. The number of prostitutes in the city is unknown.

#### Non-IVDA Heterosexual Population

Most heterosexual transmission of HIV appears to be among IV drug abusers and their sexual partners in minority communities of the city. In the United States, 90% of known heterosexually-linked AIDS cases involve male-to-female transmission. Most of these cases are among the female sexual partners of male IV drug abusers. More than half of the female sex partners of IV drug-abusing males do not use IV drugs themselves. In the Bronx, for example, 25% of AIDS patients are women, 60% of those are IV drug abusers themselves, and most of the remainder are sex partners of IVDA males (E. Drucker, personal communication).

Female-to-male HIV transmission is known to occur, but to date appears to account for a very small number of reported cases in the city. Thus far, secondary or tertiary heterosexual transmission of HIV beyond the IVDA community does not seem to have been widespread. But it is known from studies done in Africa that there is a correlation between other sexually transmitted diseases (STDs), particularly chancroid and genital ulcers, and HIV transmission. Furthermore, increasing rates of STDs such as syphilis, gonorrhea, chancroid, chlamydia, and genital ulcers have been seen in recent years among New York City heterosexuals, suggesting the possibility that HIV transmission and the level of HIV infection may be increasing slowly in the larger "general" population. Tests of clients with these diseases at STD clinics reveal a high rate of HIV seropositivity. Since infectivity appears to increase over time in infected persons, the slow spread of HIV among heterosexuals to date may not remain the same in the future as the population contains more infected persons who have been infected for longer periods of time.

The rate at which bisexual men may be spreading HIV infection to their wives or other female sex partners is unknown. Such spread is known to occur, however, and 10-20% of female AIDS cases involving sexual transmission are in women who have had bisexual male partners, out, to date, only four of the 349 reported AIDS cases in infants born in the city have been linked to mothers with bisexual partners. Because there is virtually no precise data on the numbers of bisexual men in the city or on their patterns of sexual behavior, which may vary widely, neither reasonable assumptions nor projections can be made about their contribution to the spread of HIV infection in the non-IVDA heterosexual population.

# Projections of Future AIDS Incidence and Prevalence

As noted above, projections of AIDS incidence—the number of new cases diagnosed each year—and prevalence—the number of patients alive during the year—have to date largely been based on statistical extrapolations from historical data on the AIDS epidemic. While there are good reasons to question the degree of confidence one should have in such a methodology, it has proved quite reliable to date, and is not inconsistent with other emerging data.

The city's *Strategic Plan for AIDS* projects that the incidence of AIDS cases in New York City will increase from 5,614 new cases in 1988 to an estimated 8,833 new cases in 1991, with a range for 1991 of between 7,876 and 11,232 cases, and a cumulative total of about 43,000 cases by the beginning of 1992 (Table 9). It is estimated that there will be more than 10,000 living PWAs in the city in 1991. It is believed that these numbers will hold despite the lower estimate of infected persons.

The future incidence and prevalence of AIDS in New York will be affected by the level of infection in individual, but occasionally overlapping, groups of people whose behavior puts them at high risk for infection, by the rate of progression of infected individuals in these groups to AIDS diagnosis or other HIV-related illness; and by the rate of individual survival from diagnosis to death. Current infection levels among various population groups in the city have already been discussed; the level of infection in the future will be determined at least in part by the aggressiveness and success of programs of AIDS education and prevention in stemming the rise in new infections.

#### **Progression Rates**

Since AIDS was first identified as an infectious disease, estimates of the median incubation period from infection with HIV to AIDS diagnosis and of the percentage of infected individuals who ultimately develop AIDS have been continually revised upward. Once it was thought that most infected persons developed AIDS within two years of infection and that only 20-30% of the infected would actually develop CDC-defined AIDS, most of those within five years after infection. It is now believed that the risk for AIDS and other clinical manifestations of HIV infection increases with the duration of HIV infection (Hessol et al. 1987). While researchers disagree on whether 100% of infected persons eventually progress to AIDS, recent studies in San Francisco suggest that about 50% of the infected will develop AIDS within 10.8 years of infection and 75% (range: 65% to 100%) may have full-blown AIDS after 16 years (Lemp et al. 1988). In late 1987, the CDC published a range of progression rates based on some of these studies in San Francisco; rates in the "most likely" category are comparable to those more recently reported (Table 10).

Progression to HIV-illness and AIDS may vary among groups and individuals at risk for reasons not yet known. While the progression rate in newborn infants is high, the progression rate in teen-aged hemophiliacs, for example, is slower than in older ones. The influence of a variety of suspected cofactors in the progression from HIV infection to full-blown AIDS is not fully understood. More knowledge about progression rates and possible cofactors for progression is needed.

#### Survival Rates

Data about the survival of AIDS patients is still limited, but studies indicate widely varying rates and patterns of survival across patient populations. While there are a few persons who are known to have survived from 3 to 5 years from the time of an AIDS diagnosis, only about 40-50% of persons diagnosed survive for more than one year after diagnosis. In a study of a cohort of 5,833 patients with AIDS diagnosed in New York City through December 1985, the number of subjects surviving at one year was 2,494; at two years, 754; at three years, 233, at four years, 77; and at five years, 16 (Rothenberg et al. 1987).

In New York, females with AIDS appear to have significantly shorter survival times than males, for reasons that are not fully understood; likewise, IVDAs show shorter survival times than homosexual/ bisexual men. Apparent differences in survival rates from group to group may be in part artifacts of different times of diagnosis. IVDAs are often diagnosed later in the course of their illness and therefore survive for shorter times thereafter. Homosexual/bisexual men and others who seek medical care earlier in the disease process show longer survival times that may merely reflect earlier diagnosis, not a more favorable long-term prognosis.

#### 22 NEW YORK CITY AIDS TASK FORCE

Moreover, homosexual/bisexual men who present with Kaposi's sarcoma as a first diagnosis have been found to survive longer than those presenting with Pneumocystis carinii pneumonia or other opportunistic infections. Kaposi's sarcoma as an AIDS diagnosis has been rarely reported in IVDAs or in women. Age at diagnosis is an additional factor predictive of survival, with patients greater than 40 years of age having shorter survival times. More studies of survival with AIDS are needed to improve our understanding of factors affecting patient longevity.

Survival time for PWAs appears to be increasing, in part, because of more effective medical management of HIV-related diseases and the expanding use of AZT and other therapies and prophylaxes, such as aerosol pentamidine, and in part because of earlier diagnosis and treatment. Overall, guarded optimism around treatment for AIDS and HIV-related illness is warranted, but it is unclear whether increased survival times will result in more resource utilization per patient or merely spread the same amount of resource utilization over a longer time frame. AZT may succeed in at least some cases in substituting noninstitutional for institutional costs, but barring a dramatic reduction in the cost of AZT, it may not result in significant savings. It may, indeed, result in greater lifetime costs per case, spread over a greater period of time.

It is thought that 30-50% of PWAs on AZT increase their survival time by eight or more months. Since this observation applies to persons who begin AZT therapy after AIDS diagnosis, the administration of AZT earlier in the disease process, before progression to full-blown AIDS, may be even more effective. The long range impact of AZT therapy on survival time and mortality will not be known until more time has elapsed for study. The total number of persons getting AZT therapeutically or as prophylaxis in New York City is unknown, but the New York State AIDS Drug Assistance Program (ADAP) reportedly has funded AZT prescriptions for about 1,200 persons-90% of whom are said to be New York City residentssince the program began in September 1987. In September 1988, the New York City Health and Hospitals Corporation was supplying AZT to about 895 persons. Fifty-eight of the HHC AZT recipients have been approved for the ADAP program, and another 118 have applications pending. Other PWAs get AZT through Medicaid or the Veterans Administration, but their numbers are unknown.

# Effect of the Revised CDC AIDS Case Definition

The implementation of the CDC's revised case definition for AIDS, in September 1987, will increase

the number of AIDS cases reported in the future to some undetermined extent over previous projections based on the old case definition. In addition, the effect may be disproportionate in certain risk categories, especially IVDAs. In March 1988, the proportion of new cases attributable to the revised case definition was said to equal 29% of all new cases reported to the CDC, up from 22% in November 1987 (Curran and Morgan 1988). This complicates efforts to evaluate the performance of previous projections and epidemiological models, and the long-term effect on case projections remains to be determined. Many patients may be diagnosed with AIDS earlier, and survival rates from diagnosis to death may appear to increase, but the absolute numbers of persons needing care will not be affected by the revised case definition.

#### **Resource Needs Projections**

#### Acute care beds

Several projections of bed needs have been formulated based on what is known or thought to be known about the extent and nature of HIV infection and illness in the city at the present and what is expected in the coming years.

In October 1988, New York City voluntary and municipal hospitals reported an average daily census of about 1,603 AIDS and suspected AIDS cases, up 50% from March 1987, when the average daily census was first reported (Greater New York Hospital Association 1988). The New York State Department of Health has projected the average daily need for inpatient beds for AIDS patients in the city to increase to about 2,700-2,900 beds in 1991 (Table 11). The *Strategic Plan* of the Interagency Task Force on AIDS has projected inpatient bed needs to grow from 1,527 in 1988 to 2,703 in 1991. The most conservative estimates are that 1,200 to 1,300 additional acute care beds will be needed (New York State AIDS Advisory Council 1988).

Thus far, the projections of the city and state health departments of actual numbers of AIDS cases appear to be holding up, although it not unreasonable to assume that almost any estimate of future needs is likely to turn out to be an underestimate in this complicated disease.

#### **Outpatient and Alternate Care Service Projections**

The lack of methodology for projecting the need for services other than acute care beds hampers planning for outpatient care and services in alternate care settings. Patients with HIV-related conditions are said to make an average of 16 outpatient visits per year, with some making as many as 26 visits (Strategic Plan, D.1, page 8). The Strategic Plan estimates that the average number of patients currently enrolled in municipal and voluntary hospital outpatient services for HIV-related care is roughly five times the number of HIV inpatients. If effective anti-HIV therapies are developed and prescribed for the infected, asymptomatic population, the number of outpatient visits will increase dramatically.

Housing and Long-Term Care. Housing for PWAs and people with ARC and other HIV-related conditions will continue to be a problem in the epidemic and, given the general crisis in housing in New York City, almost by definition housing for this population will run behind needs, exacerbating acute care inpatient caseloads. The State Department of Health estimates a need for an additional 200-300 HRF beds in the next year. Meanwhile, the New York City Health and Hospitals Corporation projects that the need for sub-acute extended care beds for PWAs will grow from 460 in the second quarter of 1988 to over 1,000 beds by 1991.

## Complications in Planning for AIDS and HIV-related Illness

Our health care system clearly needs to be able to diagnose HIV disease earlier, to intervene sooner in the disease process. This will involve expanded voluntary testing and increased outreach to high-risk populations, with scrupulous attention to confidentiality as a necessary precondition. More information is needed on progression of HIV disease from infection to symptomatic illness in order to improve early intervention. As more medical complications of HIV are discovered, service needs may change and new models of care delivery will be needed in order to respond effectively.

Because of the potential for the development of new chemotherapies, similar and even more effective than AZT, which may substantially slow or even prevent progression to illness altogether, models of care for delivering maintenance medication and monitoring its effect on large numbers of people will need to be developed. Organizing the delivery of and paying for such medications may be very complicated and require substantial program development and support. It is possible that such a development appearing suddenly might result in a surge in demand for services beyond any currently envisioned.

There is a substantial lack of information on numbers of homeless PWAs and infected persons, and where they are in New York City. While the numbers of PWAs in hospitals can be counted, an unknown number of others are believed to reside in shelters for the homeless or on city streets.

Finally, although the AIDS epidemic will, like other epidemics, eventually plateau and slowly subside, how effectively we can intervene to prevent further HIV infection will be a significant factor in determining the shape of the future AIDS epidemic in New York City for the next decade and even into the next century.

# References

- Curran, J. W., and M. Morgan. 1988. AIDS case definition. Correspondence. Science 240:1263.
- Drucker E. 1988. AIDS estimates in New York City: Working Paper. September 23.
- Fordyce, E. J., M. R. G. Araneta, R. Stoneburner, S. Schultz. 1988 Disproportionate change in sexual behavior among minority gay/bisexual men in New York City, 1981-1986. Abstract. No. 6549. Program and Abstracts. IV International Conference on AIDS, Stockholm
- Frank, B., J. Schmeidler, B. Johnson, and D. S. Lipton. 1978. Seeking truth in heroin indicators: The case of New York City. Drug and Alcohol Dependence 3: 345-358.
- Goedert, J. J., R. J. Biggar, D. M. Winn, M. H. Greene, D. L. Mann, R. C. Gallo, M. G. Sarngadharan, S. H. Weiss, R. J. Grossman, A. J. Bodner, D. M. Strong, W. A. Blattner. 1984. Determinants of retrovirus (HTLV-III) antibody and immunodeficiency conditions in homosexual men. Lancet 2, 711-716.
- Greater New York Hospital Association. 1988. AIDS census survey results. GNYHA Bulletin, 21 October 1988.
- Hein, K. 1987. AIDS in adolescents: A rationale for concern. New York State Journal of Medicine 87:290-295.
- Hessol, N. A., G. W. Rutherford, P. M. O'Malley, L.S. Doll, W. W. Darrow, H. W. Jaffe, A. R. Lifson, J. G. Engelman, R. Maus, D. Werdegar, and J. W. Curran. 1987. The natural history of human immunodeficiency virus infection in a cohort of homosexual and bisexual men: A 7-year prospective study. Presentation at III International Conference on AIDS, Washington, D.C.
- Hessol, N. A., G. W. Rutherford, A. R. Lifson, P. M. O'Malley, L. S. Doll, W. W. Darrow, H. W. Jaffe, and D. Werdegar. 1988. The natural history of HIV infection in a cohort of homosexual and bisexual men: A decade of follow-up. Abstract No. 4096. Program and Abstracts. IV International Conference on AIDS. Stockholm.
- Interagency Task Force on AIDS. 1988. New York City strategic plan for AIDS. New York City. May, 1988.
- Kleinman, P. H., S. R. Friedman, D. S. Goldsmith, C. E. Mauge, and D. C. DesJarlais. 1988. HIV seropositivity in a population of street intravenous drug users in New York City in 1987. Abstract No. 8544. Program and abstracts. IV International Conference on AIDS, Stockholm.
- Lemp, G. F., N. A. Hessol, G. W. Rutherford, S. F. Payne, R. T. Chen, W. Winkelstein, J. A. Wiley, A. R. Moss, D. Feigal, and D.

## List of Tables

- Table 1
   AIDS Cases Reported in New York City through 12

   October 1988.
- Table 2
   Distribution of Adult and Adolescent AIDS Cases

   by Age and Sex: New York
   City, October 1988.
- Table 3Distribution of Adult and Adolescent AIDS Cases<br/>and Total Population byRace/Ethnic Group:<br/>New York City, October 1988.
- Table 4 Distribution of Reported AIDS Cases by Borough and Sex: New York City, October 1988.
- Table 5a. Distribution of Reported New York City Adult/Adolescent AIDS Cases by Sex, Exposure Category, and Race/Ethnic Group; October 1988.
- Table 5b. Distribution of Reported New York City Adult/Adolescent AIDS Cases by Sex, Race/Ethnic Group and Exposure Category; October 1988.

Werdegar. 1988. Projections of AIDS morbidity and mortality in San Francisco using epidemic models. Abstract No. 4682. Program and abstracts. IV International Conference on AIDS, Stockholm.

- Martin, J. 1989. Prevalence and incidence of AIDS, ARC and HIV infection in a gay New York City cohort. American Journal of Community Psychology. In press.
- New York City Department of Health. 1988a. AIDS Surveillance Update, October 26, 1988.
- New York City Department of Health. 1988b. Estimate of HIV-Infected New Yorkers. Working paper, July 1988.
- New York State AIDS Advisory Council. 1988. Report: Subcommittee on Projections on Bed Needs and Long-Term Care Services in the 1990s. New York City. 29 February.
- Osmond, D. and A. Moss. 1988. The prevalence of HIV infection in the United States: A reappraisal of the Public Health Service estimate. 1988 AIDS Clinical Review. in press.
- Rothenberg, R., M. Woelfel, R. Stoneburner, J. Milberg, R. Parker, and B. Truman. 1987. Survival with the acquired immunodeficiency syndrome: Experience with 5833 cases in New York City. New England Journal of Medicine 317:1297-1302.
- San Francisco Department of Public Health. 1988. AIDS in San Francisco 1987-88: Draft for Health Commission. March 15, 1988.
- Stevens, C. E., P. E. Taylor, E. A. Zang, J. M. Morrison, E. J. Harley, S. R. de Cordoba, C. Bacino, R. C. Y. Ting, A. J. Bodner, M. G. Sarngadharan, R. C. Gallo, and P. Rubinstein. 1986. Human Tcell lymphotropic virus type III infection in a cohort of homosexual men in New York City. Journal of the American Medical Association 255:2167-2172.
- Stevens, C. E., P. E. Taylor, S. R. de Cordoba, E. A. Zang, P. Rubinstein. 1988. Sexual activity and human immunodeficiency virus infection in a cohort of homosexual men in New York City. In press.
- Stoneburner, R. L., D. C. Des Jarlais, D. Benezra, T. Singh, L. Gorelkin, J. L. Sotheran, S. R. Friedman, G. S. Ross, W. Ewing, M. Marmor, D. Mildvan, R. Maslansky. 1988. Increasing mortality among narcotic users in New York City and its relationship to the AIDS epidemic: Evidence for a larger spectrum of severe HIV-1 related disease. Science. in press.
- Table 6New York City Department of Health Current<br/>Estimate of HIV-Infected New York City<br/>Adults, July 1988.
- Table 7Seropositivity in Pregnant Women/Women of<br/>Childbearing Age in New YorkCity,<br/>by<br/>Borough; November 1987.
- Table 8
   Seropositive Infants Born in New York City, by

   Borough, November 1987
- Table 9
   Actual and Projected Annual Incidence of AIDS

   Cases by Selected Risk
   Groups: New York City,

   1981-1991
   1981
- Table 10 Estimated Progression to AIDS Diagnosis from Year of Infection with HIV (Cumulative percent having developed AIDS by the end of each year).
- Table 11 AIDS Patient Acute Care Bed Needs Projections: New York City, 1988-1991

# AIDS Cases Reported in New York City, through 12 October 1988

	Cumulati	ve Totals	Since January 1, 1988		
Adolescents & Adults Transmission Category	Number	Percent	Number	Percent	
Homosexual/Bisexual Male	8.705	52.0%	1,187	40.7%	
Intravenous Drug Abuser	5,651	33.8%	1,249	42.9%	
Homosexual/Bisexual IVDA	728	4.3%	74	2.5%	
Persons from countries					
where risks are unclear	327	2.0%	43	1.5%	
Sex partner of person at risk*	485	2.9%	116	4.0%	
Transfusion	79	0.5%	18	0.6%	
Blood products	32	0.2%	6	0.2%	
No identified risk**	83	0.5%	0		
Other***	651	3.9%	220	7.6%	
TOTAL	16,741	100.0%	2,913	100.0%	
Total Male	14,710	87.9%	2,453	84.2%	
Total Female	2,031	12.1%	478	16.4%	
Pediatric	349		102 ^		
TOTAL	17,090		3,033		

\*Heterosexual transmission

\*\*Not reported since January 1988.

\*\*\*Includes persons who died before interview, who refused investigation, or whose doctor refused, persons still under investigation for risk,

and possible transfusion-associated cases awaiting verification.

^Number since 12/23/87.

SOURCE: New York City Department of Health, AIDS Surveillance Update, 26 October 1988.

Ś

2 C	All Adult/Adole	escent Cases	Males		Females	
Age Range	Number	Percent	Number	Percent*	Number	Percent*
13-19	32	0.2%	23	0.2%	9	0.4%
20-29	2,626	15.7%	2,123	14.4%	503	24.8%
30-39	8,086	48.3%	6,991	47.5%	1,095	53.9%
40-49	4,083	24.4%	3,807	25.9%	276	13.6%
50+	1,747	10.4%	1,611	11.0%	136	6.7%
Age Unknown	167	1.0%	155	1.1%	12	0.6%
TOTAL	16,741	100.0%	14,710	87.9%	2,031	12.1%

Distribution of Adult and Adolescent AIDS Cases by Age and Sex: New York City, October 1988

\*Percents in male and female columns are percents of male and female cases, except in TOTAL row.

\*\*\*Percents in TOTAL row are male and female percentages, respectively, of total cases.

SOURCE: New York City Department of Health, AIDS Surveillance Update, October 26,1988

Percent of		All AIDS Cases		Male AIDS Cases		Female AIDS Cases	
Group	NYC Population	Number	Percent	Number	Percent	Number	Percent
White	52.6%	6,828	40.8%	6,530	44.4%	298	14.7%
Black	23.9%	5,380	32.1%	4,322	29.4%	1,058	52.1%
Hispanic	18.9%	4,377	26.1%	3,713	25.2%	664	32.7%
Other	4.5%	156	0.9%	145	1.0%	11	0.5%
TOTAL		16,741	100.0%	14,710	100.0%	2,031	100.0%

# Distribution of Adult/Adolescent AIDS Cases and Total Population by Race/Ethnic Group: New York City, October 1988

SOURCE: New York City Department of Health, AIDS Surveillance Update, October 26, 1988

1.1

Percent of Adult/Adolescent AIDS Cases\* Males **Females Total A/A Cases** Pediatric\*\* Borough City Pop. Number Percent Number Percent Percent Number Percent Number 16.1% 13.7% 25.4% 2,384 15.2% 29.9% 1,883 100 Bronx 501 Brooklyn 31.5% 2,677 19.5% 577 29.2% 3,254 20.8% 31.1% 104 Manhattan 20.0% 7.201 52.6% 585 29.7% 7,786 49.7% 81 24.3% 27.0% 1,708 12.5% 273 13.8% 1,981 12.6% 12.0% Queens 40 5.3% 234 1.7% 37 1.9% 271 1.7% 2.7% Staten Island 9 SUBTOTAL 13,703 1,973 334 100.0% 100.0% 15,676 100.0% **Residence** Other or Unknown\*\*\* 1,007 6.8% 58 2.9% 1.065 15 4.3% TOTAL 14,710 2,031 16,741 349

Distribution of Reported AIDS Cases by Borough and Sex: New York City, October 1988

\*Percents are percent of all male or female cases respectively.

\*\*Excludes transfusion-associated cases.

\*\*\*Percents of Other/Unknown are percent of total cases.

SOURCE: New York City Department of Health, AIDS Surveillance Update, October 26, 1988
## Table 5.A

Distribution of Reported New York City Adult/Adolescent AIDS Cases by Sex, Exposure Category, and Race/Ethnic Group; October 1988

x						Race/Eth	inic Group	*	•	
Sex and Exposure Category	Total	Cases	WI	nite	Bla	ck	Hisp	anic	0	ther
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Male, Sex with Men at Risk	8,705	52.0%	5,456	62.7%	1,684	19.3%	1,470	16.9%	95	1.1%
Female, Sex with Men at Risk	478	2.9%	64	13.4%	187	39.1%	224	46.9%	3	0.6%
Male, Sex with Women at Risk	7	0.0%	2	28.6%	4	57.1%	1	14.3%	. 0	_
Male, Sex w/ Men & IV Drug User	728	4.3%	246	33.8%	266	36.5%	213	29.3%	3	0.4%
Male, Intravenous Drug User	4,445	26.6%	660	14.8%	1,932	43.5%	1,838	41.3%	15	0.3%
Female, Intravenous Drug User	1,206	7.2%	171	14.2%	653	54.1%	378	31.3%	4	0.3%
Male, Country where Risk Unclear	250	1.5%	1	0.4%	249	99.6%	0		0	
Female, Cntry where Risk Unclear	77	0.5%	0		77	100.0%	0		0	
Male, Transfusion	51	0.3%	25	49.0%	14	27.5%	11	21.6%	1	2.0%
Female, Transfusion	28	0.2%	10	35.7%	13	46.4%	4	14.3%	1	3.6%
Male, Blood Products	29	0.2%	22	75.9%	1	3.4%	6	20.7%	0	
Female, Blood Products	3	0.0%	1	33.3%	2	66.7%	0		0	
Male, No Identified Risk	53	0.3%	11	20.8%	17	32.1%	23	43.4%	2	3.8%
Female, No Identified Risk 4	30	0.2%	7	23.3%	15	50.0%	8	26.7%	0	_
Male, Other	442	2.6%	107	24.2%	155	35.1%	151	34.2%	29	6.6%
Female, Other	209	1.2%	, 45	21.5%	111	53.1%	50	23.9%	3	1.4%
TOTAL	16,741	100.0%	6,828	40.8%	5,380	32.1%	4,377	26.1%	156	0.9%
Racial/Ethnic Group Percent of								10.00		
Total New York City Population**				52.6%		23.9%		18.9%		4.5%

\*Percent in these columns is percent of exposure category cases. \*\*1985 population estimates (National Planning Data Corporation)

SOURCE: New York City Department of Health, AIDS Surveillance Update, October 26, 1988

## Table 5.B

## Distribution of Reported New York City Adult/Adolescent AIDS Cases by Sex, Race/Ethnic Group, and Exposure Category; October 1988

						Race/Et	hnic Grou	<b>D</b> *	9	
Sex and Exposure Category	Total Cases		White		Black		Hispanic		Other	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Male, Sex with Men at Risk	8,705	52.0%	5,456	79.9%	1,684	31.3%	1,470	33.6%	95	60.9%
Fernale, Sex with Men at Risk	478	2.9%	64	0.9%	187	3.5%	224	5.1%	3	1.9%
Male, Sex with Women at Risk	7	0.0%	2	0.0%	.4	0.1%	- 1	0.0%	0	
Male, Sex w/ Men & IV Drug User	728	4.3%	246	3.6%	266	4.9%	213	4.9%	3	1.9%
Male, Intravenous Drug User 4	4,445	26.6%	660	9.7%	1,932	35.9%	1,838	42.0%	15	9.6%
Female, Intravenous Drug User	1,206	7.2%	171	2.5%	653	12.1%	378	8.6%	4	<b>2.6%</b> ,
Male, Country where Risk Unclear	250	1.5%	1	0.0%	249	4.6%	0		. 0	_
Female, Cntry where Risk Unclear	77	0.5%	0		77	1.4%	· 0	-	<sup>1</sup> 0	
Male, Transfusion	51	0.3%	25	0.4%	14	0.3%	11	0.3%	1	0.6%
Female, Transfusion	28	0.2%	10	0.1%	13	0.2%	4	0.1%	· 1	0.6%
Male, Blood Products	29	0.2%	22	0.3%	. 1	0.0%	6	0.1%	0	
Female, Blood Products	3	0.0%	1	0.0%	2	0.0%	0	·	0	
Male, No Identified Risk	53	0.3%	11	0.2%	17	0.3%	23	0.5%	2	1.3%
Female, No Identified Risk	30	0.2%	7	0.1%	15	0.3%	8	0.2%	0	
Male, Other	442	2.6%	107	1.6%	155	2.9%	151	3.4%	29	18.6%
Female, Other	209	1.2%	45	0.7%	111	2.1%	50	1.1%	3	1.9%
TOTAL	16,741	100.0%	6,828	100.0%	5,380	100.0%	4,377	100.0%	156	100.0%

\*Percent in these columns is percent of racial/ethnic group cases by exposure category. \*\*1985 population estimates (National Planning Data Corporation)

SOURCE: New York City Department of Health, AIDS Surveillance Update, October 26, 1988

# Table 6 New York City Department of Health Current Estimate of HIV-Infected New York City Adults

july 1988

Risk Category	Estimated Number Infected
Intravenous drug-abusing men	60,000-90,000
Men who have sex with men	46,000-70,000
Intravenous drug-abusing women	20,000-30,000
Non intravenous-drug-abusing women	13,000-20,000
Non intravenous-drug-abusing heterosexual me	n 10,000-16,000
TOTAL	149,000-226,000

SOURCE: New York City Department of Health; Working Paper, July 1988: Estimate of HIV-Infected New Yorkers.

#### Table 7

### Seropositivity in Pregnant Women/Women of Childbearing Age in New York City, by Borough, November 1987

Borough	Percent
New York City	1.37
Bronx	2.25
Brooklyn	1.49
Manhattan	1.91
Queens	1.02
Staten Island*	0.00

\*Based on only a few samples.

SOURCE: New York State Department of Health

#### Table 8

Seropositive Infants Born in New York City, by Borough, November, 1987.

Borough	Percent
New York City	1.64
Bronx	2.34
Brooklyn	1.74
Manhattan	1.96
Queens	0.81
Staten Island	0.76

SOURCE: New York State Department of Health

4

## Table 9

Actual and Projected Annual Incidence of AIDS Cases by Selected Risk Groups: New York City, 1981-1991

Population Group*	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total
Gay/Bisexual Non-IVDA	105	278	587	1,037	1,450	2,094	2,522	3,121	3,720	4,319	4,918	24,151
IVDA	31	151	330	572	940	1,303	1,537	1,887	2,237	2,587	2,937	14,512
Female	10	38	101	154	253	432	576	771	965	1,159	1,354	5,813
Ages 13-24	2	16	4 1	62	90	176	253	359	466	573	679	2,717
Total Annual Incidence**	142	499	1,010	1,759	2,633	3,641	4,542	5,614	6,687	7,760	8,833	43,120
as of 12 October 1988 <sup>^</sup>	142	499	1,010	1,759	2,633	3,641	4,103	2,913				

Note: Categories are not mutually exclusive.

## SOURCES: NYC Interagency Task Force on AIDS

\*Strategic Plan, Figs. 4-7 \*\*Strategic Plan Fig. 3. \*NYC Department of Health AIDS Surveillance Update, October 26, 1988

## Table 10

### Estimated Progression to AIDS Diagnosis from Year of Infection with HIV (Cumulative percent having developed AIDS by the end of each year)

						Year f	rom In	fection				
Study/Model	0	1	2	3	4	5	6	7	8	9	10	11
CDC Slowest Prog.*	0.0%	0.0%	0.0%	0.0%	2.0%	5.0%	9.0%	17.0%	21.0%	26.0%	31.0%	36.0%
CDC Most Likely Prog.	0.0%	0.0%	0.0%	2.0%	5.0%	10.0%	15.0%	24.0%	30.0%	36.0%	42.0%	48.0%
CDC Fastest Prog.	0.0%	0.0%	0.0%	4.0%	8.0%	15.0%	21.0%	31.0%	39.0%	46.0%	52.0%	58.0%
San Francisco**	0.0%	0.0%	0.0%	4.0%	9.0%	14.0%	22.0%	34.0%	38.0%	42.0%	48.0%	

#### SOURCES:

\*USPHS, Centers for Disease Control,"Human Immunodeficiency Virus Infection in the United States: A Review of Current Knowledge"; Morbidity and Mortality Weekly Report, Vol. 36 (1987), Supplement S-6; p41.

\*\*Hessol, N.A., G. W. Rutherford, A. R. Lifson, P.M. O'Malley, L. S. Doll, W. W. Darrow, H. W. Jaffe, D. Werdegar. 1988. The natural history of HIV infection in a cohort of homosexual and bisexual men: A decade of followup. Abstract No. 4096. *Program and Abstracts.* IV International Conference on AIDS, Stockholm. June.

## Table 11

Year	N.Y.S. A.A.C.*	N.Y.C. 1988 Strategic Plan	N.Y.S. D.O.H.**
1988	1,675	1,527	1,675
1989	1,884	1,918	2,093
1990	2,266	2,306	2,518
1991	2,648	2,703	2,942

## AIDS Patient Acute Care Bed Needs Projections: New York City, 1988-1991

## SOURCES:

\*New York State AIDS Advisory Council projections, assumes a 10% reduction in needs 1989 onward, based on alternative care delivery.

\*\*New York State Department of Health. Assumes no adjustment for alternative care.

AIDS in New York State through 1987. New York State Department of Health.

## **Bibliography**

#### Materials Distributed to Members of the Data Work Group

#### At first meeting, on \$1 March 1988:

- Report of the New York State AIDS Advisory Council Subcommittee on Projections on Bed Needs and Long Term Care Services in the 1990s.
- Human immunodeficiency virus infection in the United States: A review of current knowledge. Supplement to Morbidity and Mortality Weekly Report, 1987, Vol. 36, No. S-6.
- Alderman, M., E. Drucker, A. Rosenfield, and C. Healton. 1988. Predicting the future of the AIDS epidemic and its consequences for the health care system of New York City. Bulletin of the New York Academy of Medicine 64(2): March 1988.

#### Distributed prior to 2nd meeting on 29 April 1988:

- Bacchetti, P., D. Osmond, R. E. Chaisson, and A. R. Moss. 1988. Bias in acquired immunodeficiency syndrome survival study. Correspondence. New England Journal of Medicine. In press.
- Cowell, M. J. and W. H. Hoskins. 1987. AIDS, HIV mortality and life insurance. Special report. Society of Actuaries. August.
- Drucker, E., M. P. Webber, P. McMaster, and S. H. Vermund. 1988. Increasing rate of pneumonia hospitalizations in the Bronx: A sentinel indicator for human immunodeficiency virus. Submitted for publication.
- Gibbs, J., G. Kaplan, and D. Schmidt. 1987. AIDS: The potential costs to Blue Cross and Blue Shield Plans—An initial projection. Blue Cross and Blue Shield Association. Product Management and Research. Chicago. Unpublished report.
- Landesman, S., H. Minkoff, S. Holman, S. McCalla, and O. Sijin. 1987. Serosurvey of human immunodeficiency virus infection in parturients. *Journal of the American Medical Association* 258:2701-2703.
- Military Recruit Applicant Data New York City and United States data 10/85-9/87. Data provided by Dept. of Defense & C.D.C.
- Moss, A. R., P. Bacchetti, D. Osmond, W. Krampf, R. e. Chaisson, D. Stites, J. Wilber, J-P. Allain, and J. Carlson. 1988. Seropositivity for HIV and the development of AIDS or AIDS related condition: Three year follow up of the San Francisco General Hospital cohort. *British Medical Journal* 296:745-750.
- NYC DOH Interdepartmental Memorandum of 11 March 1987 to Dr. Stephen C. Joseph from Dr. Pauline A. Thomas, Director of AIDS Surveillance. SUBJECT: Estimate of the number of HIVinfected individuals in New York City.
- Rabkin, C. S., P. A. Thomas, H. W. Jaffe, S. Schultz. 1987. Prevalence of antibody to HTLV-III/LAV in a population attending a sexually transmitted disease clinic. Sexually Transmitted Diseases 14(1): 48-51.
- Rothenberg, R., M. Woelfel, R. Stoneburner, J. Milberg, R. Parker, and B. Truman. Survival with the acquired immunodeficiency syndrome: Experience with 5833 cases in New York City. New England Journal of Medicine 317:1297-1302.
- Schoenbaum, E. E., D. Hartel, M. H. Alderman, A. Z. Rudavsky, M. Motyl, C. Schable. no date. HIV Antibody in Heterogeneous Sexually Active Populations in the Bronx, New York City. Unpublished report.

- Schoenbaum, E. E. and M. H. Alderman. 1987 (?). Antibody to the human immunodeficiency virus in women seeking abortion in New York City. Correspondence. Annals of Internal Medicine, October, 599.
- Snow, S. 1987. AIDS report. Blue Cross Blue Shield of Massachusetts, Actuarial Services, June 30, 1987. Unpublished.
- Stevens, C. E., P. E. Taylor, E. A. Zang, J. M. Morrison, E. J. Harley, S. R. de Cordoba, C. Bacino, R. C. Y. Ting, A. J. Bodner, M. G. Sarngadharan, R. C. Gallo, and P. Rubinstein. 1986. Human Tcell lymphotropic virus type III infection in a cohort of homosexual men in New York City. *Journal of the American Medical Association* 255:2167-2172.

#### Distributed at Meeting on 29 April:

Maier, D. B. 1988. Preliminary report on projections of AIDS cases based on extrapolations from known disease incidence. Unpublished data.

#### Distributed subsequent to 29 April meeting:

- Brookmeyer, R. and M. H. Gail. 1986. Minimum size of the acquired immunodeficiency syndrome (AIDS) epidemic in the United States. Lancet, 6 December; 1320-1322.
- Langmuir, A. D. 1988. AIDS: How bad can it get. Unpublished paper presented at annual meeting, Greater New York Hospital Association, 21 April 1988. New York City. [based on Langmuir, A. D., and D. J. Bragman. 1988. Farr's and Sartwell's laws for AIDS projections. Paper presented to the American Epidemiological Society, San Diego, Calif., 14 March 1988.]

#### Distributed at 13 May meeting:

- Brundage, J. F., D. S. Burke, L. I. Gardner, R. Visintine, M. Peterson, and R. R. Redfield. 1988. HIV infection among young adults in the New York City area. NY State Journal of Medicine 88:232-235.
- Joseph, S. C. 1988. Current issues concerning AIDS in New York City. New York State Journal of Medicine 88:253-258.
- Milberg, J., P. Thomas, R. Stoneburner. 1988. Geographic and demographic features of the AIDS epidemic in New York City. New York State Journal of Medicine 88:2527-232.
- Novick, L. F., B. I. Truman, J. S. Lehman. 1988. The epidemiology of HIV in New York State. New York State Journal of Medicine 88:242-246.
- Tuberculosis in San Francisco, 1987: Final Data. 1988. San Francisco Epidemiologic Bulletin 4(4): 15-16..

#### Distributed 9 June 1988

- Bacchetti, P., D. Osmond, R. E. Chaisson, and A. R. Moss. 1988. Survival with AIDS in New York. correspondence. New England Journal of Medicine 318:1464-1465.
- Curran, J. W., and M. Morgan. 1988. AIDS case definition. correspondence. Saima 240:1263.
- Eisenhandler, J. 1988. Patterns of AIDS utilization: Two sets of tables. Blue Cross and Blue Shield.
- Imrey, H. H. 1988. AIDS case definition. correspondence. Science 240:1263.

- Lui, K-J., W. W. Darrow, and G. W. Rutherford, III. 1988. A modelbased estimate of the mean incubation period for AIDS in homosexual men. Science 240:1333-1335.
- Mullin, G. E., A. L. Sheppell, and J. R. Masci. 1988. Survival with AIDS in New York. correspondence. New England Journal of Medicine 318:1464-1465.
- Rothenberg, R., R. Stoneburner, J. Milberg, M. Woelfel, B. Truman, and R. Parker. 1988. Survival with AIDS in New York. correspondence. *New England Journal of Medicine* 318:1464-1465.

#### Distributed 7 July 1988

San Francisco Epidemiologic Bulletin. 1988. Trends in human immunodeficiency virus antibody testing, San Francisco, 1985-1988. City and County of San Francisco, Department of Public Health, Bureau of Communicable Disease Control. May.

#### Distributed in July and August, 1988

Osmond, D. and A. Moss. 1988. The prevalence of HIV infection in the United States: A reappraisal of the Public Health Service estimate. 1988 AIDS Clinical Review. In press.

New York City Department of Health. 1988. Estimate of HIVinfected New Yorkers. Working Paper. July.

## Addenda of February 22, 1989

1. New AIDS Case Projections. New projections of AIDS incidence, prevalence, and mortality through 1993 in New York City have been issued by the New York City Department of Health. These projections supersede those previously presented in Table 9 of the Data Work Group Report (Revised, November 1988) and are shown in Table A.1, attached.

2. Symptomatically Ill Persons. In addition to those already diagnosed with AIDS, among the estimated 200,000 New Yorkers thought to be infected with HIV as of July 1988, 30,000 to 60,000 are estimated to be symptomatically ill, as of February 1989, with HIVrelated illnesses or disease that does not yet meet CDC criteria for AIDS diagnosis. These persons, it is now generally recognized, are currently using or need health care services. Moreover, as the epidemic progresses, the number of symptomatically ill HIVinfected persons without CDC-defined AIDS can be expected to increase in proportion to the number of AIDS cases.

Thus, for purposes of projecting service needs, incidence projections have been adjusted upward by 30%-40%, to compensate for undercounting of HIVsymptomatic non-AIDS cases, in accordance with the recommendation of the Report of the Expert Panel on HIV Seroprevalence Estimates and AIDS Case Projection Methodologies (New York City

Distributed in October, 1988

Aldrich, M.R. and J. Mandel. 1988. A spreadsheet for estimating IVDUs at risk for AIDS. Draft. 18 July 1988.

Drucker, E. 1988 AIDS estimates in New York City: Working paper. 23 September.

Stoneburner, R. L., D. C.Des Jarlais, D. Benezra, T. Singh, L. Gorelkin, J. L. Sotherna, S. R. Friedman, G. S. Ross, W. Ewing, M. Marmor, D. Mildvan, R. Maslansky. 1988. Increasing mortality among narcotic users in New York City and its relationship to the AIDS epidemic: Evidence for a larger spectrum of severe HIV-1 related disease. New England Journal of Medicine. In press.

Department of Health, February 1989, p. 31). These adjusted projections are shown in Table A.2.

3. HIV Infection among Non-Intravenous Substance Abusers. In addition to the estimated 200,000 intravenous drug abusers in New York City, of whom 60% are believed to be already infected with HIV, the Division of Substance Abuse Services estimates that there are 300,000 other heavy non-narcotic substance abusers and 200,000 regular substance abusers, including users of crack (a cocaine derivative), residing in the city. A substantial number of these additional substance abusers may engage in behaviors which put them at elevated risk for HIV infection. However, there is insufficient data to estimate either the level of seroprevalence or the number who may be currently infected with HIV in these last two groups.

4. Newly Infected Persons. The New York City Department of Health estimates that the number of HIV-infected persons in the city increases annually at an average rate of about 2% of the existing HIVinfected pool.

#### Table A.1

### AIDS Surveillance Projections: New York City, 1988-1993\* (Adult Cases Diagnosed Through 29 February 1988, Reported Through 30 June 1988.)

Year	Prevalence	Incidence	Mortality	Cumulative	Cumulative
	as of Jan. 1	During Year	During Year	Incidence	Mortality
1988	4,963	5,324	4,173	19,333	13,373
	(4,963—4,963)	(5,246—5,520)	(4,154—4,221)	(19,254—19,529)	(13,354—13,421)
1989	6,056	6,418	5,083	25,751	18,456
	(5,985—6,234)	(6,095—7,227)	(4,949—5,418)	(25,349—26,756)	(18,303—18,839)
1990	7,371	7,671	6,153	33,422	24,610
	(7,103—8,042)	(7,097—9,106)	(5,839—6,939)	(32,446—35,862)	(24,142—25,778)
1991	8,844	8,924	7,330	42,346	31,940
	(8,310—10,176)	(8,099—10,986)	(6,813—8,624)	(40,545—46,848)	(30,955—34,402)
1992	10,378	10,177	8,492	52,522	40,432
	(9,535—12,485)	(9,101—12,865)	(7,7404—10,374)	(49,6461—59,713)	(38,695—44,776)
1993	11,985	11,429	9,725	63,952	50,157
	(10,820—14,896)	(10,104—14,744)	(8,726—12,224)	(59,750—74,457)	(47,420—56,999)

\*Lower and upper limits are given in parentheses.

NOTE:

Prevalence is the number of persons alive with a diagnosis of AIDS on Jan. 1 of the given year.

*Incidence* is the number of new cases of AIDS that will be diagnosed and reported during the calendar year.

*Mortality* is the number of people who will die of AIDS during the calendar year.

Cumulative figures are since 1981, through end of calendar year.

SOURCE: New York City Department of Health; December 1988.

## Table A.2

## Adjusted AIDS and HIV-Related Disease Incidence Projections: New York City, 1988-1993\* (Based on Adult Cases Diagnosed Through 29 February 1988,

Reported Through 30 June 1988.)

Year	Projected Incidence During Year	Adjusted by 30%	Adjusted by 40%
1988	5,324	6,921	7,454
1989	6,418	8,343	8,985
1990	7,671	9,972	10,739
1991	8,924	11,601	12,494
1992	10,177	13,230	14,248
1993	11,429	14,858	16,001

\*Applying correction factor of 30%-40% recommended (for service planning purposes) for calculating the number of individuals with severe HIV-related disease, including those who do not meet the Centers for Disease Control case definition for AIDS.

SOURCE: New York City Department of Health;

Report of the Expert Panel on HIV Seroprevalence Estimates and AIDS Case Projection Methodologies, February, 1989.

## New York City AIDS Task Force

Section II

Models of Care

November 1988

## Models of Care Work Group Membership

#### Co-Chairmen:

Carol Raphael Executive Deputy Commissioner Income and Medical Assistance Program NYC Human Resources Administration

#### Members:

Rona Affoumado, Executive Director Community Health Project

Mario Andriolo, DDS, Director of Dentistry Chief of AIDS Dental Program St. Clare's Hospital & Health Center

Lawrence S. Brown, Jr., MD, MPH Senior Vice President, Research &, Medical Affairs Addiction Research & Treatment Corporation

The Right Reverend Monsignor James P. Cassidy, PhD Executive Director Catholic Charities, Archdiocese of New York Department of Health and Hospitals

William Frohlich, Executive Director Beth Abraham Hospital

Verona Greenland, Executive Director Morris Heights Health Center

Michael Grieco, MD Chief of the Division of Allergy, Clinical Immunology and Infectious Diseases St. Luke's/Roosevelt Hospital Center

Karen Hein, MD, Associate Professor of Pediatrics Director, Adolescent AIDS Program Montefiore Medical Center

Michael Hirsch, Director Body Positive

Gordon Hough, PhD, Administrator Bailey House

Stephen C. Joseph, MD, MPH, Commissioner New York City Department of Health

Support staff for the Models of Care Work Group: Suzan Carrington, Associate Director New York City AIDS Task Force

Glenna R. Michaels, Director New York City AIDS Task Force Rafael Tavares, MD\* President, Hispanic AIDS Forum Director, Community Psychiatry Columbia Presbyterian Medical Center

Mark Kator, Executive Director Coler Memorial Hospital James Knickman, PhD, Professor and Director Health Research Program, New York University

Damien Martin, EdD, Executive Director Hetrick-Martin Institute

Michael R. McGarvey, MD Corporate Vice President, Health Affairs Empire Blue Cross Blue Shield

Leonard McNally, Director of AIDS Program Village Nursing Home

Paul Moore, MSW, Director, AIDS Initiative New York City Health & Hospitals Corporation

Robert G. Newman, MD Technical Advisory Group on Substance Abuse Health Systems Agency of New York City *President*, Beth Israel Medical Center

Brian Novick, MD, Assistant Professor of Pediatrics Albert Einstein College of Medicine

Roger Parris, Director of Health Services New York City Department of Corrections

Richard Schwarz, MD, President Associated Medical Schools of New York

Tom Stoddard, *Executive Director* Lambda Legal Defense and Education Fund, Inc.

Timothy Sweeney, Deputy Executive Director Gay Men's Health Crisis

Peter Ungvarski, MS, RN, C *Clinical Nurse Specialist* - HIV Infection Visiting Nurse Service of New York

Ginger Knox Assistant to Exec. Deputy Commissioner New York City Human Resources Administration

\*Dr. Rafael Tavares died suddenly during the final stage of preparing this report. His deep concern for those underserved by society and his love of humanity are deeply imprinted in this report. The work group is indebted to him for his wisdom, hard work and cheerful tenacity during its deliberations.

## **Executive Summary**

F it is to meet the urgent needs of the everincreasing number of HIV-infected persons, the health care system in New York City cannot continue to function as if it were business as usual. There will have to be fundamental changes in the way health care is delivered and the changes will have to occur with some speed to avert both a health care and social crisis. The health care and social service systems in New York City must be developed in three ways by a) expanding existing services, b) creating new services, and c) coordinating these programs and services into a multi-tiered, integrated system

The service model for HIV-infected persons presented in this report was developed by the Models of Care Work Group of the New York City AIDSTask Force. The service model describes the HIV care and services that should be available, recognizing that they will be costly to implement and will require a significant increase in government funding. From the beginning, the work group was keenly aware of the need to balance the enormous demand for services with the recognition that there will probably always be insufficient resources committed to address that demand. Therefore, the group believes that services such as primary care and mental health services should be available to everyone from the time of HIV infection, whereas other services such as social support services, home care, housing and long-term care should be appropriately allocated based upon degree of illness and need.

The main points of the service model are that:

- 1.HIV-related services should be provided in a community-based setting, as much as possible. They should help persons with HIV illness to achieve the most independent level of living of which they are capable.
- 2.Services for the HIV-infected should be mainstreamed into the general medical and social service delivery systems, whenever possible.No service delivery model for the HIV-infected can be developed without recognizing the severe lack of drug treatment services in New York City. Moreover, the HIV epidemic will increasingly be centered around substance abusers, their sexual partners and offspring. Therefore, the service model proposed urges a rapid expansion of drug treatment services of all types. The health care sector and traditional substance abuse programs must work collaboratively to attract the majority of substance abusers into treatment programs and provide them with the coordinated drug treatment and primary care services they need.

#### **Primary Care**

The cornerstone of the proposed service model is ambulatory care. The main source of routine care for the HIV-infected should be provided by neighborhood primary care centers, private practitioners, substance abuse treatment programs and hospitalbased clinics. These programs need to provide a coordinated range of medical and psychosocial support services and be able to link the HIV-infected to other service organizations.

#### Acute Care

Whenever possible, the focus of HIV-related care should be shifted away from the acute care sector to alternative care settings. However, the number of hospitalized patients with HIV disease will probably continue to increase as the number of persons with the disease rises. The need for establishing additional HIV-related acute care bed capacity should be closely monitored.

#### Long-term Care and Residential Alternatives

Persons with HIV illness should be supported in their efforts to live independently in the community. To this end, programs that enable these persons to remain in their current housing arrangements need to be expanded.

For homeless persons with HIV illness, several types of residential options need to be greatly increased such as scatter-site apartments and congregate housing.

To enable persons with HIV illness to receive care at home, the volume of home health care and homemaker services will have to be expanded further. In addition, medical services provided in the home, e.g. infusion therapy and total parenteral nutrition, need to become more available.

Respite care (both institutional and in the home) and adult day care must be developed in all boroughs. Both of these programs provide caregivers short-term relief and help those with HIV disease to remain at home.

The current institutional long-term care capacity for persons with HIV disease is practically nonexistant and needs to be greatly expanded throughout the city.

Although the concept of hospice care is unacceptable to some patients with HIV disease, others do choose the program. Hospice services need to be made available to all who wish to choose this type of care.

#### 42 New York City AIDS Task Force

#### Social Services

The HIV-ill require assistance with a broad range of psychosocial and human services to enable them to live and function with their disease. Examples of these services are: mental health counseling, peer support groups, concrete social services, transportation, nutritional counseling, food programs and buddy services. These wide-ranging services are needed to maintain persons with HIV illness in the community.

#### **Case Management**

In our fragmented service delivery system, the HIVill often require the help of case managers to obtain the services they need. Case management is the "glue" that will link the various inpatient, out-patient and community-based services to each other. Case managers at various public and private agencies and health care facilities will have to work closely together to ensure that those with HIV disease receive the services they need and to which they are entitled.

#### **Counseling and Testing**

HIV-antibody testing and counseling services must remain accessible to all New Yorkers. However, testing may only be performed after explicit written consent has been given. Strict confidentiality of test results as provided under the New York State AIDS confidentiality statute must also be observed.

#### **Special Population Groups**

In addition to the basic services that all HIVinfected persons need, there are certain HIV-related services that should be developed for special population groups such as adolescents, gay/bisexuals

and lesbians, minorities, persons with developmental and/or chronic psychiatric disabilities, prisoners, substance abusers and women and children. These groups require additional or modified HIV-related services.

#### Financing

The economic impact of the HIV epidemic on the City of New York is and will continue to be enormous. Most HIV-infected individuals are in age groups that traditionally have had low rates of health care utilization and expenditure. Consequently, most HIVrelated costs are additions to, rather than reallocations of, total health care dollars.

The Federal government must increase substantially its financial support for AIDS services. For example, it should provide block grants to those areas hardest hit by the HIV epidemic, reduce the 24-month waiting period for Medicare eligibility and provide funds to pay health insurance premiums for those HIVinfected persons who are unable to continue to work and who cannot afford to pay their health insurance premiums under COBRA.

The report concludes by urging the public and private sectors to develop innovative approaches to financing the cost of HIV-related services. A proposal for how this may be done is presented.

Although the recommendations in this report are geared toward providing a rational network of services for persons who are HIV-infected, it is the belief of the work group that, if implemented, they will improve the health care delivery system to the benefit of all New Yorkers.

## Introduction

The AIDS epidemic has harshly exposed the many weaknesses that are inherent in our health care system. It is a fragmented system which emphasizes acute inpatient care and where primary, acute care and long-term care are usually provided by different organizations. This degree of specialization has produced some services of high quality, but sometimes at the expense of availability, access and continuity of care.

Early in its deliberation it became apparent to the Models of Care Work Group that with the prospect oflarge numbers of HIV-infected persons needing a complex array of services within the next few years, the health care system could not continue to function as if it were "business as usual." There would have to be fundamental changes in how health care is delivered and the changes would have to occur with speed to address the wide-ranging needs of those affected by the epidemic.

As the work group investigated the resources available to the HIV-infected, it discovered that many home-grown programs and services exist and are functioning well in spite of tight budgets, shortage of staff and lack of alternative care settings. The work group would like to see these efforts expanded and duplicated on a much larger scale and integrated into a coordinated, multi-tiered system.

In planning for the medical and social service needs of the HIV-infected, one must look at the full spectrum of services that are needed through the whole course of illness. The Presidential Commission on the Human Immunodeficiency Virus Epidemic put it aptly in their in their report: "The term AIDS is obsolete. 'HIV infection' more correctly defines the problem. The medical, public, health, political, and community leader-ship must focus on the full course of HIV infectionrather than concentrating on later stages of the disease (ARC and AIDS). Continual focus on AIDS rather than the entire spectrum of HIV disease has left our nation unable to deal adequately with the epidemic."

The Institute of Medicine, National Academy of Sciences also endorses this broader definition of the disease. For their statement, see Appendix A.

Given this definition of the disease, it is important to balance the enormity of need with the recognition that there will probably always be insufficient resources committed to address that need. It is the view of the work group that certain services such as primary care and mental health services should be available from the time of HIV infection. Other services such as social services, home care, residences and long-term care should be appropriately allocated based upon an individual's degree of illness and need.

People infected with the AIDS virus have complex medical and psychosocial needs that require many different types of services that traditionally have not been provided within the health care system. When the services do exist, they are often difficult to access in a coordinated fashion. Services for HIV-infected persons need to be integrated into a well-defined network where individuals can easily be referred from one medical or service agency to another, and where prevention and intervention are integrated into the medical and social services rendered.

Although HIV disease is not yet curable, many of its clinical manifestations are treatable or even preventable. It is important that persons engaging in high risk behavior and those who perceive themselves at risk be encouraged to enter the health care system early for appropriate assessment and primary care. For this to occur, the health care system must be structured in such a way that persons can easily access it. Early assessment and primary care can also promote behavioral changes to reduce risk behavior, allow for early medical intervention, have a positive impact on health and reduce the risk of spreading the disease to others.

Many consider the state of being HIV positive as terminal without realizing that it can be many years before symptoms appear and several more years before the diagnosis of AIDS is made. Even after that, approximately 13 percent live beyond two years. HIV disease can, therefore, be viewed as a subacute or long-term condition rather than a terminal illness. This means that persons who are HIV positive must learn how to live with their condition. To help individuals lead normal and fulfilling lives in their communities for as long as possible, a variety of services must be available throughout the disease process. The services needed in the early stages of the infection tend to be primary care and psychosocial services, while in the later stages acute medical services, home care and long-term care are more commonly needed.

A major obstacle to obtaining appropriate medical treatment and services for HIV-infected persons is discrimination. The severity of HIV-related fears which often lead to bias and discrimination should not be underestimated and must be addressed directly and forcefully. It is necessary to meet the often unique and complicated health care and service needs of the HIV-infected without compromising their human rights. Where discrimination impedes or

bars access, it must be remedied through education and backed up, when necessary, by decisive legal action.

The service model that the work group has designed for HIV-affected persons is comprehensive and the services are coordinated by case managers. If the proposed community-based model is put into place, the work group believes that several outcomes will result. First, it is likely that with appropriate alternatives available, the length of hospital stays will be reduced. Second, with a flexible range of options available to meet demand, resources will be allocated in a more cost-effective manner. Third, the quality of services will improve, since these services will be tailored to match individual need. And finally, persons with HIV illness will remain productive members of society longer than they would in the absence of these services.

The model of care developed by the work group is based on the following principles:

- 1. The care of HIV-infected persons should be integrated into the general health and social services systems to the fullest extent possible.
- 2. Services should help persons with HIV illness to maintain the most independent level of living of which they are capable.
- 3. Persons with HIV illness spend most of their time in the community and outside of the hospital setting. Therefore, the major emphasis should be on the development of community-based services.
- 4. Early intervention should be an integral part of the

health care and social services systems for HIVinfected persons. Early primary care can change the course of the disease, extend wellness and help to avoid hospitalizations. Early identification and resolution of social problems can also keep families intact and prevent loss of housing. Therefore, early intervention both improves quality of life and is cost-effective.

- 5. Since early intervention relies on HIV-infected persons coming forward willingly for diagnosis and treatment, persons with HIV illness must be guaranteed protection from all aspects of discrimination.
- 6.Case management is vital if HIV-ill individuals are to gain access to multiple services in a coordinated fashion. At every stage of HIV illness an individual should have access to a case manager who is accountable for the management of care and services provided.
- 7.Health and social service programs should be tailored to meet the special needs of population subgroups, for example, IV drug users and children.
- 8. Services should be provided in ways that are culturally sensitive and that take into account the variety of family structures and lifestyles of the HIVinfected.
- 9. The responsibility for providing and paying for HIVrelated services should be shared by the private and public sectors.

## Service Components

#### **Primary Care**

Three year from now, in 1991, it is expected that New York City will have one third more persons alive with diagnosed AIDS (11,000 vs. 7,300) and maybe 100,000 persons with varying degrees of HIV-illness. Our hospitals, clinics and social services agencies are already strained to the limit and many HIV-infected persons are not receiving adequate care. How is the system going to manage in the future?

Primary care is the centerpiece of the model of care the work group has designed. Ideally, it should be the main entry point for the HIV-infected into the health care system. It is clear that the ambulatory services currently available must be greatly expanded if this model to become a reality.

Our model of primary care includes the following components: a multi-disciplinary medical approach, psychosocial support services (individual and group counseling and self-help groups), dental services, HIV prevention and education, nutritional counseling and concrete social services (e.g., help with accessing entitlement programs, receiving emergency food, drug and rent assistance).

Finding out that one is HIV positive may cause an individual to become deeply depressed, anxious and alienated from society. It is important that the primary care system provide integrated, multidisciplinary support during this stressful period. HIVinfected persons should be linked into supportive environments early in the discase process, preferable while they are still asymptomatic. Early intervention for persons who face long-term stress is likely to be more effective and result in greater emotional wellbeing. Therefore, mental health services are particularly important, not only for those with HIV illness but also for their families and significant others.

Community-based primary care is underdeveloped in many areas of the City, particularly in poor neighborhoods. Very often, people in these communities rely on hospital emergency rooms for their routine care because there are few or no primary care physicians practicing there. Due to insufficient numbers of health care professionals the Federal government has declared several areas of the City to be Health Manpower Shortage Areas.

Neighborhood primary care centers are well suited to be the main source of routine care for most persons, regardless of their HIV status. They are usually conveniently situated and ethnically and culturally sensitive to their communities' needs.

The City's Health and Hospitals Corporation has

established three primary care centers for HIV-related care (the Community Health Project in Manhattan, the Belvis Center in the Bronx and the Bushwick Center in Brooklyn). While these clinics provide much needed care, the work group believes that, in general, services for HIV-infected personsshould be integrated into existing ambulatory care programs.

In the future, it can be expected that the demand for preventive care will expand rapidly as therapeutic interventions that can greatly delay or even prevent the onset of symptomatic HIV infectionbecome more available. This will make early intervention even more important than it is today. Not only new drugs, but high technology therapeutic procedures will change the course of the disease. In fact, this has already started. Those HIV-positive individuals who can afford it are receiving a wide variety of prevention and intervention services. The challenge for the future is to ensure that these services be made available to all persons with HIV illness who can benefit from them.

#### Constraints

The work group identified the following constraints to expanding primary care services for HIV-infected persons:

- a. The health care system has traditionally given low priority to health prevention and primary care services.
- b. Physicians working in primary care clinics often have difficulty obtaining admitting privileges at local hospitals which makes continuity of care and referral arrangements difficult.
- c. Due to low reimbursement rates, it is estimated that only 15 percent of private practitioners accept Medicaid which causes access problems for those who depend on Medicaid to pay for medical services.
- d.For a variety of social, legal, discriminatory and financial reasons, certain populations do not always have access to primary care services.
- e. Medical and social services are not always provided in a manner that attracts high-risk populations.
- f. As the New York State reimbursement system is currently structured, only ambulatory services affiliated with Designated AIDS Centers are reimbursed at a higher rate for services rendered to HIV-infected persons. This may discourage some ambulatory centers from providing HIV-infected patients with the full range of services they need.
- g. HIV-infected persons have difficulty obtaining dental services.

#### Recommendations

Both institutional and community-based primary care services must be greatly expanded in the City of New York to better take care of those who have HIVrelated illnesses as well as to relieve hospitals of some of the patients currently receiving care in emergency rooms and in acute care beds. To enable this to occur, the work group supports the following recommendations:

- 1. Neighborhood Family Care Centers (which are under the auspices of the Health and Hospitals Corporation) are located in areas which have high incidence of HIV infection. These primary care centers should greatly increase their HIV-related services.
- 2. New York City has 19 federally-funded Community Health Clinics and four state-funded diagnostic and treatment centers scattered around theboroughs of the Bronx, Brooklyn, Manhattan and Queens. Most of these health centers are uniquely qualified to provide primary care and treatment services to persons with HIV infection and are for the most part an untapped resource. State and Federal funds should be allocated to enable HIV-related services to be provided at these centers.
- 3. New York State Department of Health should develop incentives to encourage acute care hospitals to establish neighborhood primary care centers which would also provide services to HIVinfected persons. Due to the urgent need for these centers, the certificate-of-need approval process for their establishment should be expedited.
- 4. More substance abuse treatment programs should develop formal agreements with primary care centers. This will improve access to health care for substance abusers. For the same reason, primary care centers should link-up with other communitybased service organizations such as alcohol and substance abuse programs, youth programs and child day care centers.
- 5. Hospitals must linkup more closely to communitybased primary care services. They should provide staff appointments and admitting privileges to those physicians working in primary care settings who meet qualification standards.
- 6. In general, outpatient services to HIV-infected persons are more resource intensive than routine primary care. Therefore, primary care programs should receive an enhanced reimbursement rate for providing HIV-related services. Formal AIDS Center designation or affiliation with such a center should not control access to enhanced reimbursement for these types of services.
- 7. To reduce hospital admissions, the HIV-infected should be provided with outpatient services such as

infusions, diagnostic services and therapeutic procedures. Appropriate reimbursement rates should be negotiated for these services.

- 8. Dental care should be integrated into the primary care treatment plan for HIV-infected persons.
- 9. Private practitioners are significant providers of health care services to the HIV-infected. They should be encouraged to continue to expand their clinical knowledge of the treatment of HIV-related illnesses, and be discouraged from off-loading HIV patients onto public or institutional providers.
- 10.Efforts to provide outreach and follow-up of high risk populations should be made in a manner that is sensitive to race, gender, ethnicity and sexual orientation.
- 11.Information concerning the legal rights of the HIV-infected should be made available to all health care providers and community-based organizations that are involved in providing HIV-related services.

#### Acute Care

In New York City, the acute care sector is bearing the brunt of caring for persons with HIV disease. As of September 1988, approximately 1,700 hospital beds are filled each day with AIDS and HIV-infected patients and by 1991 New York State Department of Health estimates than an additional 1,200-1,400 acute care beds will be required in the City to meet the needs of patients with HIV disease.

In keeping with the principle of helping individuals to stay as independent as possible, persons with HIV disease should receive as much of their treatment and care as possible on an outpatient basis and only when alternative care options do not suffice should they be admitted to ahospital. The focus of care for persons with HIV disease needs to be shifted from the acute care sector to alternate treatment sites. Nevertheless, the need for acute care beds for patients with HIV illnesses will become even greater over the next few years regardless of any expansion of primary care and alternative care services mainly because the number of persons AIDS will continue to increase and because the hospital will often remainthe only acceptable place to care for certain patients with HIV disease.

With an insufficient number of inpatient beds to take care of the current volume of HIV-ill persons, it is in the best interest of the City's health care system to ensure that no hospital has an overload of HIV-related cases and that the cases be distributed throughout the boroughs in such a manner that hospitals can continue to provide a full range of services to non-HIV patients. Providers who have unused acute care capacity should be identified and urged to use this space for HIV-related services.

Since it is possible that New York City hospitals

might have an average daily AIDS census of 2,900 patients or more by 1991, some have suggested the need for dedicated AIDS hospitals. In light of the current shortage of health care workers, such facilities would be difficult to staff. In addition, because persons with HIV-related illnesses require the full range of high technology services of an acute care hospital, there would be no cost savings in developing dedicated AIDS hospitals. Instead, the work group recommends that AIDS services be mainstreamed into the acute care services of all hospitals. However, the issue of creating single purpose hospitals for HIVinfected persons will need to be re-examined periodically as the epidemic evolves.

The work group also examined two models of inpatient care—clustering HIV-infected patients on dedicated nursing units and scattering them among other units. Advocates of clustering believeit to be an efficient use of staff and a way to help patients support one another emotionally. Supporters of scattered beds believe that HIV-illness should be treated like any other disease and that scattering will reduce staff burnout. The work group believes that either setting can providegood quality care and that the decision of which model to choose should be left to each hospital.

The work group supports the Designated AIDS Center concept developed by the New York State Department of Health as an innovative approach that facilitates access to and insures quality of services to HIV-infected persons. However, it should not represent the only model for providing acute care services to HIV-infected persons. If hospitals meet the standards of care required for designation as an AIDS Center, they should apply for designation under the State's program. However, equitable and adequate inpatient DRG rates for HIV-related cases must also be assured regardless of AIDS Center designation in order to encourage facilities to continue to treat individuals with HIV illnesses. Securing adequate reimbursement for HIV-related services will provide incentives for facilities to expand treatment capacities in these areas.

#### Constraints

The work group has identified the following issues and constraints as they relate to the acute care sector:

- a. The acute care system is already stressed and overcrowded because there is a dearth of alternative care options for all in-patients. Home health care is currently the only program that relieve hospitals to any extent.
- b. There is a severe shortage of housing and residential alternatives, particularly for the homeless with HIV illness, resulting in difficulties in

discharging these patients and causing long hospital stays.

- c. Labor shortages make it difficult to expand the volume of HIV-related services.
- d. There is a lack of treatment programs for HIVinfected persons who have severe psychiatric disorders and/or who are substance abusers.
- e. Many hospital staff are not sufficiently familiar with how to treat substance abuse on an inpatient basis.

#### Recommendations

- 1. Hospitals in New York City must take a responsible stand and develop appropriate strategies to share the burden of the HIV epidemic.
- 2. The State Department of Health should develop an expedited certificate-of-need process to approve the expansion of HIV-related services.
- 3. Inpatient reimbursement rates should continue torecognize the increased costs associated with the treatment of HIV-related diseases including, but not limited to, the costs of pharmaceuticals, supplies, therapies and staffing.
- 4. The New York State Department of Health togetherwith the New York State Office of Mental Health should develop a medical/psychiatric certified bed category. This would facilitate the treatment of patients, including those who are HIVinfected, who have severe concomitant psychiatric and medical disorders.
- 5. Hospitals should develop more comprehensive treatment programs for HIV-infected substance abusers.
- 6. Upon admission, hospitals should identify and attempt to resolve disposition problems that may prevent or delay timely discharge.
- 7. Unused inpatient capacity at New York City hospitals, including Veteran Administration hospitals, should be evaluated to determine if it is suitable to use for HIV-related health care services.

#### Long-Term Care and Residential Alternatives

Just as primary care dominates the model in the early stages of HIV illness, long-term care and residential alternatives are critical to appropriate care in the later stages of the disease.

The onset of HIV illness frequently makes it difficult for individuals to maintain their former housing arrangements. Some are physically able to remain in their homes, but require income assistance to be able to do so. Others need long-term care, which can be defined as the need for health care, social and other support services over an extended period of time. Traditionally, this has meant providing these services in a nursing home or if the patient is less debilitated, in the patient's home.

Individuals with HIV illness may need assistance with their housing arrangements for a variety of reasons:

- Some lose their jobs and are unable to continue to pay rent;
- Some have tenuous living arrangements with family and friends which dissolve once they become ill;
- Some experience housing discrimination;
- Some are homeless before the onset of the disease;
- Some have homes but can no longer care for themselves; and
- Some are in housing that does not meet minimum health and safety standards.

To address these problems, the public and private sectors have begun to develop a spectrum of services, from programs designed to support people living in their own homes to residences that provide more structured round-the-clock care. However, if the overreliance on acute care settings to be reduced, two types of service development must occur.

First, the supply of residential alternatives and institutional long-term care programs must be greatly expanded. In New York City there is a severe housing shortage, particularly for those with low or moderate incomes. In addition, elderly New Yorkers needing institutional care already face a shortage of long-term care beds. These problems are exacerbated for persons with HIV illness. The scarcity of housing and long-term care services causes backlogs of patients ready to be discharged from hospitals and delays the admission of others waiting for hospital beds.

Second, persons with HIV illness will continue to experience housing crises and hospital stays that are longer than medically necessary unless their housing needs are identified when they are first admitted to the hospital. Through early intervention, existing housing arrangements often can be preserved and plans can be made for long-term care should it be needed.

**RENT SUPPORT.** Rent support helps persons with HIV illness to remain in their own homes. This type of financial assistance is provided to individuals who can no longer afford to pay their rent, often because the illness has caused them to deplete their financial resources. Currently, approximately 800 persons with AIDS receive rent assistance.

SCATTERSITE APARTMENTS. Under contract with HRA, the AIDS Resource Center (ARC) maintains 18 apartments for persons with AIDS. On average, the apartments cost \$1,700 per month, including support services and maintenance. Although the program appears expensive, it is cost-effective compared to a hospital cost of \$700 or more per day. In the future, a contract with Volunteers of America will expand this program by 20 units. However, the City must attract additional community organizations to manage this type of program if it is to expand further.

SINCLE ROOM OCCUTANCY HOTELS (SRO'S). Due to the acute housing shortage the City has helped some persons with HIV illness to find rooms in SRO's until more adequate housing is available.Since the buildings often lack elevators, kitchen facilities and private bathrooms, SRO's are temporary housing of last resort.

HOME CARE. Home care is a relatively well-developed service for persons with HIV illness, currently serving an estimated 700 patients with HIV disease each day. Home care services can range in levels of care from a few hours of home attendant services per week to the around-the-clock nursing services of a registered nurse. Occasionally, these programs have difficulties meeting the needs of this population, since it is younger, more likely to be substance abusing and often has more intensive clinical needs than the average elderly recipient of home care. The relative difficulty of serving this population has exacerbated the problems of recruiting and retaining home care workers, especially those who hold entry level positions.

Home care services cannot substitute for inpatient hospitalization, but they can reduce the length of hospital stays, sometimes significantly. However, except for Medicaid, most third party payors provide limited coverage for home care services.

RESPITE CARE AND ADULT DAY CARE. Respite care and adult day care are two services that enable some individuals to remain in their homes instead of moving to institutional settings.

Respite care is provided to relieve the caregiver of responsibilities for a few hours or days. It can be designed as an inpatient services in a hospital or longterm care facility, as periodic home care, or as a day care program. At present these options are not widely available in New York City.

Adult day care provides therapeutic, counseling, social and rehabilitative services outside of the home for about eight hours a day, three to five days a week. The Village Nursing Home operates a day treatment program for persons with HIV illness who are also affected by dementia or neuropsychiatric problems. This program is certified by the Department of Mental Health.

(An Article 28, New York State Department of Healthlicense is also being sought.) In the City, there are no day care programs certified by the Department of Health that specifically serve persons with HIV illness. One reason for this is that the State Department of Health requires adult day care programs to be located on the campus of a hospital or long-term care facility. SUPPORTED CONCREGATE FACILITIES. For individuals who are unable to live independently, but who are ambulatory, specialized residences can offer a variety of services to support different levels of functioning. The aim of any residential care program should be to adapt the level and type of services provided to residents' physical status and needs.

A congregate facility which serves as a model for future residences of this type is Bailey House. Funded by HRA and other organizations and managed by AIDS Resource Center, Bailey House is a 44-bed supervised residence located in the West Village. Occupants have their own bedrooms but share meals in a common dining room. The residence provides substance abuse counselors, social workers, recreational therapists, and a nurse.

Another group of individuals with HIV illness who need innovative, congregate arrangements are those who have multiple service needs, (such as treatmentfor drug and alcohol abuse and mental health problems) in addition to behavioral problems. They require a more structured environment than Bailey House can provide. Although they may be regarded by some as individuals who reject services and present management problems to providers, they are often in severe crisis. Like many other persons with HIV illness, this group requires creative, coordinated residential/medical programs that our highly fragmented and specialized care delivery system is not yet equipped to provide.

INSTITUTIONAL LONG-TERM CARE. There are two types of institutional long-term carefacilities in New York State. In a health related facility (HRF), the residents are ambulatory, at least upon admission, and need only a minimal amount of nursing and medical care. In a skilled nursing facility (SNF), residents need continuous and skilled nursing and medical care.

The only long-term care facilities in New York Citythat currently accept AIDS patients are two municipal hospitals, Coler and Goldwater Memorial Hospitals. The level of services provided to these patients is similar to chronic care although New York State does not have such a service category. The reimbursement, which is exempt from the DRG payment system, is unique in that is is higher than a skilled nursing facility rate but less than an acute care rate. As the demand for long-term/chronic care for AIDS patients is great, additional long-term care capacity must be developed expeditiously throughout New York City.

The clinical status of AIDS patients fluctuates more rapidly than that of the typical long-term care patient. Therefore, AIDS patients should not have to be transported to a hospital each time their condition worsens. Existing long-term care facilities will have to make substantial outlays for staff and equipment before they are able to serve AIDS patients appropriately. This high cost together with an acute shortage of long-term care beds has discouraged providers of residential health care facilities (RHCF's) from serving those with HIV illness.

In response to this problem, the State Department of Health has recently increased the reimbursement rates and developed a new capital financing mechanism for RHCF's serving individuals with HIV illness. This is an important step toward making longterm care available for those who need it. It remains to be seen whether these rates are sufficient to encourage long-term care facilities to accept persons with AIDS.

HOSPICE CARE. Hospice is a mode of care that places particular emphasis on the psychosocial and spiritual needs of patients and their families. It can be provided on an inpatient basis or in a patient's home. To be accepted by a hospice program a patient must have a life expectancy of six months or less and agree to receive only palliative treatment. Due to their youth (53 percent are 30-39 years old and 25 percent are 20-29 years old), many AIDS patients want to continue to receive aggressive medical intervention even during the end stages of the disease. Hospice care is therefore unacceptable to some individuals with HIV illness.

Federal legislation enacted in December 1987 removed one barrier to hospice care for those with HIV illness, namely the requirement that 80 percent of a person's hospice care be provided at home. However, this legislation did not remove the restrictions on medical intervention and the lengthof life expectancy.

Hospice services are provided to those with HIV illness by three certified hospices in New York City. In addition, one supported care unit provides similar services without the formal hospice designation and another agency provides counseling on death and dying and other support services through its home care program, without imposing the requirements described above.

#### Constraints

The following constraints hamper the development of a full range of residential and extended care options for persons with HIV illness:

- a. Currently, no funding source exists for capital and operating costs of congregate housing models. At \$426 per month for a single individual, SSI benefits are inadequate to cover the operating costs of most residential options.
- b.It is difficult to attract community-based organizations to manage housing units for persons with

#### 50 New York City AIDS Task Force

HIV illness. Few organizations are experienced at both managing residential facilities and providing social and therapeutic services.

- c. Community opposition may make it difficult to site congregate housing for persons with HIV-illness.
- d.In New York City's tight housing market, it is difficult to find suitable structures for congregate housing.
- e. Excluding Medicaid, few third party payors provide adequate coverage for long-term care and community-based HIV-services.
- f. Current funding streams for adult day care make it difficult to establish day care programs that meet the complex needs of those with HIV illness.
- g. There is a lack of appropriate physician supervision of Medicaid patients in home care programs. This results in unnecessary emergency room visits and hospital admissions.
- h.Despite recent wage increases, low pay levels are an obstacle to attracting workers to the home care industry.
- i. Traditional long-term care providers remain reluctant to serve patients with AIDS. This is partly due to uncertainty about the adequacy of reimbursement rates, as well as the need to develop an array of complex services that they have not previously provided.
- j. Existing capital construction caps for residential health care facilities may be inadequate to cover the cost of the high level of technology that must be available to AIDS patients in long-term care facilities.

#### Recommendations

- 1. The State Legislature should continue the appropriation of HRA's rent support program for persons with HIV illness.
- 2. New York State and City should agree upon a model for congregate housing with social and medical support services for persons with HIV illness. This model should be used to revise existing regulations and to develop new regulations for congregate housing.
- The Federal Department of Housing and Urban Development together with the State and City should develop legislation for funding these facilities. The financing mechanism should be flexible enough to cover models that serve relatively independent persons with HIV illness, as well as those with multiple medical and social service needs.
- 3. The State and City should develop strategies to recruit community-based organizations to manage scattersite, congregate and other residential options. Some education and technical assistance may be required.

- 4. New York State and City should offer tax incentives to real estate developers who set aside apartments for persons with HIV illness in new or renovated buildings.
- 5. Persons with HIV illness should only be placed in SRO's temporarily as a last resort, while more suitable housing is being arranged.
- 6. The Federal and State governments should develop innovative approaches for ensuring financing of home care, day care and respite care, particularly for persons ineligible for Medicaid.
- 7. State, City and provider organizations should develop strategies to recruit and retain home care workers by improving the wage and benefits structures.
- 8. The State Departments of Health and Mental Health and the Division of Substance Abuse Services should encourage community-based organizations to develop adult day care programs for persons with HIV illness by providing adequate reimbursement for these services.
- 9. Hospitals, long-term care providers and community groups should develop respite care programs for caregivers, to assist persons with HIV illness to remain in their own homes. The reimbursement for HIV-related respite care should be increased.
- 10. To reduce unnecessary hospital utilization, a mechanism should be established to provide medical supervision of Medicaid patients in homecare programs.
- 11. The number of long-term/chronic care beds for persons with HIV disease should be expanded. As far as possible, these persons should be cared for in the communities in which they live.
- 12. The State Department of Health should waive caps on per-bed capital costs for long-term care facilities accepting AIDS patients, if all other cost estimates are reasonable and the need require-ments are met.
- 13. The new reimbursement rates for HRF's and SNF's should be monitored to determine whether these rates adequately cover costs.
- 14.Upon admittance to a hospital or enrollment intoa program, community-based organizations, social service agencies and hospital discharge planners should assess the housing and long-term care needs of person who are HIV-infected and if needed, intervene in order to prevent housing crisis.
- 15.Referral routes should be established to enable individuals with HIV illness on Medicaid to be admitted to long-term care facilities directly from their homes or residences rather than from an acute care facility his can be accomplished by developing the capacity to perform the necessary medical assessments in patients' homes.
- 16.Acute care facilities should be required to readmit HIV-infected patients transferred to long-term care

facilities, when their condition requires it.

17.Long-term care facilities should discharge HIVinfected patients to community-based programs, if their condition improves sufficiently.

#### Social Services

HIV disease not only makes major demands on the health care system but also creates additional demands for social and human services. Persons with HIV-illnesses require assistance with a broad range of social and human services to enable them to live and cope with their situation. In the beginning of the epidemic, when the number of AIDS cases was relatively small, the needs of those persons were taken care of by existing service organizations and emerging self-help groups. As the number of HIV-infected persons has increased, the service needs have become more varied and complex and more difficult to meet. It is now apparent that in order to care for persons with HIVdisease in their communities and to keep them out of institutional settings there must be a major expansion of social and human services.

Persons who are HIV infected use programs that have been developed in direct response to HIVspecific needs, as well as local, State and Federal programs that serve all persons in the City who qualify on the basis of their financial, medical or social needs.

Many HIV-infected persons lose their jobs due to disability and discrimination. An increasing number are indigent even before becoming ill. Individuals who are disabled may qualify for SocialSecurity (SSI) or Social Security Disability Income(SSDI) depending on their work histories. Those who have CDC-defined AIDS receive expedited processing of their SSI applications, reducing the time between filing and the first payment. Personswith AIDS may also qualify for Medicare, although the two-year waiting period that is currently mandated makes this program of little use since most persons with diagnosed AIDS do not live beyond two years. Low income individuals may qualify for Aid to Families with Dependent Children (AFDC) or Home Relief, depending on their financial and family status. In addition, many low-income persons or those who are indigent once their medical bills are taken into account qualify for Medicaid with expedited processing.

Public agencies provide a range of social services for those who need them. Many persons with HIV illness have complicated medical and social needs and have difficulty accessing entitlements and social services for which they are eligible. Even when they are eligible, there can be long waiting periods before benefits begin. To address these problems, New York City's Human Resources Administration (HRA)

created the Case Management Unit (CMU). It helps eligible individuals obtain expedited entitlements, home care, housing and long-term care as well as supportive counseling.

Important social services are also provided by HRA's Special Services for Children. This office administers the foster care program as well as services that are critical to keeping families together. Counseling, homemaking, and legal services are among the services provided to families in which parents and/or children have HIV illness.

Vital legal services are provided by both New York City's and New York State's commissions on human rights to those affected by HIV-related discrimination in employment, housing or in the provision of services.

In the early 1980's, self-help groups sprang up in areas with the highest HIV infection rates to provide the social and emotional services that were needed. The groups existed mainly through donations and volunteer effort and laid the foundation for the community-based service organizations (CBO's) that now provide a range of HIV-related services. CBO's are particularly adept at reaching out into the communities they serve and being in touch with local needs. Their services, size and expertise vary, but they provide such programs as: a telephone hotline, buddy services, referrals to health care institutions and other social service agencies, case management, AIDS education, legal services and nutritional counseling. Some CBO's also provide food and cooked meals to the HIV-infected.

The services offered by CBO's need to be expanded to all HIV positive persons. The epidemic is taking a great toll on people's emotions and private lives. Therefore, there need to be local neighborhood programs where the HIV-symptomatic, the asymptomatic and the worried well can receive sympathetic support and counseling.

Since more and more persons with HIV disease are being cared for in community settings, there is a growing need for additional food programs and transportation services. These programs require significant funding and coordination with other services. However, they are vital links in the chain of services that need to be available in order to provide a comprehensive ambulatory-based service model.

#### Constraints

a. Social service providers suffer from inadequate funding levels. This problem is exacerbated for CBO's whose funding is often uncertain and sporadic. Strained financial situations render many CBO's unable to make long range plans.

b.Many social service providers lack formal linkage

- agreements with health care providers, drug treatment programs or other social service providers.
- c. The availability and funding for transportation services is limited for those non-institutionalized persons with HIV illness who need to access healthrelated services.

#### Recommendations

- 1. Governmental and private funding agencies should provide support to existing CBO's to expand and/or develop HIV-related social services.
- 2. In areas which have high rates of HIV infection, but no appropriate organizations to provide HIVrelated social services, new community agencies should be established to meet this need.
- 3. In addition to funding, community-based organizations should be provided with other types of assistance to encourage expansion of services to those with HIV illness. For example, established CBO's that already provide a wide range of services could provide workshops that encourage other CBO's to begin or expand programs. Because existing CBO's are already experiencing funding problems, such projects would require new funds dedicated to this purpose.
- 4. Funding agencies should negotiate multi-year contracts with established CBO's.
- 5. Food programs such as "meals-on-wheels" should be expanded for those with HIV illness who are home bound.
- 6. To enable home-bound persons with HIV disease to receive ambulatory care, transportation services should be expanded. Funding sources and reimbursement mechanisms for this service should be developed.
- 7. Formal linkages should be developed between community-based social service agencies, health care providers and drug treatment programs.

#### Case Management

Few diseases cause so much turmoil in a person's life as does HIV disease. The health and psycho-social needs are so complex and the effects of HIV illness are so debilitating that many persons are unable to cope with the bureaucratic realities of seeking social assistance and medical care. Experience has shown that special case management services are needed to help individuals obtain the entitlements for which they are eligible and to help them access the services they need. However, case management has become one of the most problematic issues in organizing HIVrelated services because there is little agreement about what it should entail and how it should be organized. It also requires a high degree of cooperation between institutions. In the decentralized service model that the work group advocates, case management is the coordinating mechanism or "glue" that will link the various service components. Ideally, it will enable those in need to receive a broad range of services via an interconnected referral network.

The case manager's responsibility is to determine the need for medical and psychosocial services, arrange for these services to be provided and determine how they should be paid for. The case manager also promotes efficient use of resources and cost containment by arranging for appropriate levels of care, preventing crises from occurring and reducing duplication of services.

The stage of illness determines what specific case management services a person requires. In the early stages of HIV disease, before major symptoms appear, the needs of patients are predominantly driven by social and emotional concerns such as how to deal with the disease, how to change risky behavior, where to get emotional support and how to tell loved ones. Issues that case managers might become involved with during this period are: housing and financial concerns, discrimination and to some extent the provision of medical care. During the symptomatic and end stages of the disease process, case management is mainly concerned with coordinating medical care and arranging for needed social services and financing these services. Although the need for psychological support services may still exist, it is overshadowed by medical concerns.

In most areas of the country a single organization is designated to perform the case management function. For example, in New Jersey case management is performed mainly by home care agencies. Nowhere in the country does there seem to be the number of case management services that there are in New York City. Here, some form of case management is being provided by: Designated AIDS Centers, the Case Management Unit of the Human Resource Administration, home care providers, substance abuse treatment programs, commercial insurance companies, community-based organizations (such as Gay Men's Health Crisis) and primary care providers (such as the Community Health Project).

One of the largest providers of case management in New York City is the HRA's AIDS Case Management Unit (CMU). Most referrals come from hospital social workers and discharge planners who want to ensure that when Medicaid-eligible AIDS patients leave the hospital they will receive appropriate care at home or in the community. Human Resources Administration is also developing a Family Unit that will coordinate services for the entire family of an individual with HIV illness, addressing foster care, risk reduction, day care, and other issues that families face, in addition to the services the CMU provides to all its clients.

Given the current organization of case management in the City and the large number of persons with HIV illness, the work group believe that, for the most part, it is not possible for one case manager to handle all the needs of an individual. Rather, it is better to have several case managers at different service agencies connected to the same case. Together they can coordinate the services needed and provide their special expertise when appropriate. Most medical and social needs are so varied that few case managers can effectively assist an HIV-infected patient on an inpatient and ambulatory basis over an extended period of time.

This proposed multi-agency case management approach should have:

- An established system within and between agencies to assure that people receive the services they need.
- An agreement between agencies about methods of communication, documentation of services rendered and authority to make decisions about the allocation of resources.
- The ability to appoint a lead case manager in cases where several agencies are involved.
- A formal process to evaluate, on a regular basis, the need for services and services rendered.
- A method to document gaps in services, for use in planning and advocating for expansion of services.
- Trained staff who are identified as "case managers" (nurses, social workers, counselors or others).
- Flexibility in designing coordinated networks between agencies to reflect the changing needs of infected individuals. Such a system will improve access to services and provide quality and continuity of care.

#### Constraints

- a. Case management services are rarely offered until a patient is diagnosed with CDC-defined AIDS.
- b. Case management services are usually not available to persons with HIV disease who seek care at non-AIDS Centers.
- c. Community health centers that provide case management are not reimbursed for these services.
- d.Effective case management is hampered by an inadequate range of services to which persons with HIV disease can be referred.
- e. Communication channels between case managers and other service providers are not always wellestablished.

#### Recommendations

1. Based on need and the degree of illness, case management services should be provided as early as possible.

- 2. Case managers and service providers should continue to improve their communication linkages.
- 3. Reimbursement regulations should be restructured to encourage the provision of case

#### **Counseling and Testing**

HIV-antibody counseling and testing services are important components in the spectrum of HIVrelated services that need to be available to the citizens of New York City.

There is considerable public debate and controversy concerning when to recommend or require HIV-antibody testing. The work group believes that testing should only be performed after the person to be tested has given explicit informed consent inwriting as required by state law, except in the case of organ or body fluid donations. Access to appropriate health care should not be contingent on HIV testing or knowledge of a person's HIV sero-status. However, persons who engage in high risk behavior and those who perceive themselves at risk should be encouraged to have their HIV status evaluated. In addition, as prophylactic treatment of HIV infection becomes more available, it is likely that there will be an increased demand for HIV-testing in order to receive early intervention services.

The work group wishes to underscore the need for strict confidentiality of HIV-test results and the need for the continued availability of anonymous testing in conformity with the AIDS confidentiality statute enacted by the New York State Legislature in the summer of 1988.

All testing should be preceded by extensive pre-test counseling and be followed by counseling at the time the test results are given. The post-test counseling should be tailored to suit the person receiving the counseling. For example, the information given to an IV drug user regarding the prevention of the spread of the disease would be different from the information given to a gay male.Further, all counselors should be appropriately trained and receive adequate supervision and support to prevent staff burnout and to ensure that the counseling provided is of high quality.

HIV testing and counseling services cannot be provided in a vacuum. For most persons, HIV counseling and testing causes great emotional turmoil and frequently individuals need not only follow-up medical services but further counseling and other support services. Counselors must therefore be linked into a referral network in order to offer a variety of medical, mental health and social services. Thus, counseling and testing programs greatly increase the demand for medical and support services.

#### Constraints

- a. There is an inadequate number of trained counselors. As a result, some counseling and testing programs are understaffed and inadequately supervised.
- b. There are insufficient funds for HIV counseling and testing services.

#### Recommendations

- 1. Additional health counselors need to be trained in HIV counseling and testing procedures. Additional training programs need to be developed for physicians to provide counseling and testing services.
- 2. Funding for counseling and testing services should be expanded by Federal, state and local governments.
- 3. Post-test counseling should also include what a person's legal rights are, how to deal with HIV-related stigma and discrimination and where legal recourse can be sought.

#### **Clinical Trials**

Since the beginning of the HIV epidemic in the early 1980's, clinical trials have been performed to determine what drugs or combination of drugs might be effective against the AIDS virus and its many associated infections. To date, only a few drugs have proven to be efficacious and have received preliminary or final FDA approval. Studies are also in progress to determine if drug interventions during the asymptomatic stages of HIVinfection might delay or prevent the onset of symptoms. However, most drugs that show promise are still in the experimental trial stages and their efficacy has not yet been fully determined.

Usually drug trials take place in academic medical centers and research institutions. They have not been readily available to large segments of the HIV-infected population since many receive care in communitybased settings or community hospitals. Moreover, some clinical drug trials have specifically excluded certain population groups, such as women (due to potential for fetal harm), children, substance abusers and prisoners. It is important that experimental drugs be tested on all segments of the HIV population since, for example, substance abusers and children might react differently to a drug or a combination of drugs. The Community Reasearch Initiative (CRI) in New York City was formed to address this problem. It has developed its own institutional review board and protocols for community-based physicians to test and dispense experimental drugs in community settings. Most of these physicians do not categorically exclude certain population groups. For this reason, many formerly excluded HIV-infected individuals are now enrolled in experimental drug trials.

To expeditiously and adequately test the efficacy of a large number of drugs, clinical trials must be vastly expanded both in scale and scope. Only by including significant numbers from all segments of the HIVinfected population can meaningful findings be produced. It is therefore necessary that many private practitioners become involved in assessing new drug therapies for HIV-related symptoms.

#### Constraints

- a. Access to legitimate experimental drugs is limited to approved clinical trials which are most often conducted by medical research institutions. Consequently, many HIV-infected persons do not have access to the potential benefits these drugs might provide.
- b. Certain segments of the HIV-infected population such as women, children and prisoners have been categorically excluded from many clinical trials.
- c. Many community-based physicians treating HIVinfected persons are not sufficiently informed about experimental drug protocols and experimental drugs.

#### Recommendations

- 1. The model established by CRI for testing drugs in community-based settings should be expanded and supported by pharmaceutical companies and the Federal government.
- 2. Pharmaceutical companies and the Federal government should develop training to access healthrelated services.
- 3. The research community should conduct outreach efforts to widen the avilability of experimental drug treatments among minority populations.
- 4. Clinical trials should be made more readily available to women, children, prisoners, minorities and substance abusers.

## Service Needs of Special Populations

HIV-related services should be incorporated into the general provision of medical and psychosocial services. However, there are certain population groups for whom special services should be provided.

#### **Adolescents**

Once HIV infection is introduced into the sexually active teenage population it is likely to spread quickly. Currently only one percent of the total reported AIDS cases in New York City are among adolescents 13-19 years of age. However, given the eight-to-ten-year average estimated latency from infection to disease, many of the people diagnosed with AIDS in their 20's (accounting for 21 percent of cases) were actually infected during adolescence.

The profile of the epidemic in adolescents differs from adults. Heterosexual spread accounts for 52 percent of female adolescent cases compared to only 22 percent of adult female cases in New York City. The prevalence of HIV-infection in adolescents is unknown. However, rates among Job Corps applicants and military recruits point to a higher female to male ratio than among adults and confirm the presence of the virus among adolescents under 21 years of age. Even from the crude measure of reported AIDS cases, there is evidence that 1)HIV has entered the adolescent population; 2) heterosexual spread is more common among teenage females than adults; and 3) given continued high rates of other sexually transmitted diseases (STD's) in adolescents, the number of asymptomatic but HIV-infected youths is likely to increase silently but quickly in the years to come.

Contrary to the public's perception, most "street kids" in New York City are not runaways, but throw-aways. According to Covenant House, 3/4 of the young people housed in their facilities here in the City are from the New York metropolitan area and most have been pushed out of their homes by their natural or foster care families. Thus, nobody wants them. To survive, many resort to pushing drugs or prostituting themselves. Either way they are at high risk of becoming HIV-infected and passing the infection on to others.

Issues of consent for testing, partner notification and confidentiality are yet to be clarified for minors even where guidelines have been developed for adults.

Adolescents pose special problems for health care and social service providers. If their families may not or cannot be contacted, there is no way to pay for their medical care since most do not have access to their parent's insurance and have no money of their own. With a few exceptions, adolescents below the age of 18 are not eligible for Medicaid and even when they are, it is extremely difficult for them to produce the documentation needed.

Unique biological, psychological and social features distinguish adolescents from young children and adults. Therefore, special HIV-related treatment programs for adolescents need to be created.

#### Constraints

Work group members have identified the following constraints to providing HIV-infected adolescents with the services they need:

- a. Health care facilities are usually organized to provide care for young children and adults. Adolescents are not well accommodated in either setting. The few existing adolescent health services do not have staff to accommodate new or additional HIV-related services.
- b. Homeless adolescents and adolescents who want "confidential" medical care do not have access to public or private health insurance. Even when they are able to obtain medical care, they may be unable to afford pharmaceuticals and other medical necessities prescribed for them.
- c. Alienated youth are difficult to coax into treatment programs given the difficulties they have in paying for services and their fears regarding confidentiality.
- d.A few providers in the City are waiving their fees for treating adolescents. This cannot be expected to continue as the number of infected and sick youths increases.
- e. There is a shortage of housing options for homeless youths and HIV positive adolescents.
- f. Existing drug treatment facilities (such as methadone maintenance programs) usually exclude minors under 18 years of age.

#### Recommendations

To address these constraints, the work group recommends:

1. New York State and New York City should establish special funding for purposes of providing medical care and psychosocial support services to HIVpositive youth. The programs should provide HIV risk reduction and education programs as well as a full range of coordinated medical and social services. Funding should also cover prescription drugs and medical supplies (e.g., crutches and eye glasses) for those without any financial means.

2. Outreach must be expanded to bring adolescents at

high risk into caring and supportive youth programs.

- 3. In order to provide appropriate medical and psychosocial care in communities with a large number of youths at risk, storefront clinics should be established. Transportation should be made available to link teenagers with hospital-based health programs.
- 4. Increased financial support is needed for existing adolescent health programs so they can expand evaluation, treatment and follow-up of high risk and HIV positive adolescents.
- 5. The Board of Education should explore innovative ways to provide primary health care services to its student population.
- 6. Specific funds are needed to enable health care organizations serving adolescents to form links with other groups serving youths, such as the Board of Education, social service agencies and community groups.
- 7. New York State and New York City should work with community-based providers to develop group homes for multi-problem, homeless youth (under 18 years of age). Residences and shelters for homeless older youth (18 to 21 years of age) also need to be developed.

#### Gay/Bisexual and Lesbian Community

Sexually transmitted diseases among gay white males in New York City has decreased significantly. However, the decrease in the gay black and Hispanic communities has been much smaller. In the gay community, special education efforts that have been included as part of the community-based service delivery system, have been extremely successful in changing high-risk behavior. However, they may not have had the same impact on gay/bisexual men of color, and gay and lesbian adolescents as they have had on gay white men.

For gay/bisexual men of color, there is a need to incorporate educational outreach into the provisionof primary care services so that high risk behavior can be reduced. In New York City, many gay/bisexual men of color live within their own ethnic communities and do not have access to appropriate HIV/AIDS education and information.

There have been few efforts to address the special needs of HIV-infected gay and lesbian adolescents, especially those who are alienated from their families. They have limited access to health care and psychosocial support services and no access to housing. Gay and lesbian adolescents who remain with their families often feel alienated, isolated and secretive. Within school settings and community organizations, gay/lesbian sexuality is often a taboo topic. This often lowers self-esteem and contributes to high risk behavior.

Some lesbians currently use or have a prior history of drug and alcohol abuse and some are bisexual. Both factors put lesbians at risk for AIDS. HIV/AIDS educational efforts for lesbians are almost nonexistent except in gay-identified community-based service organizations. There are also lesbians of color who remain invisible in their ethnic communities and who are unaware of their risk for AIDS.

An additional health-related issue for the gay and lesbian community, besides AIDS, is alcoholism and chemical dependency. It is well known that these are co-factors for transmitting HIV and speed up the progression of HIV disease. Few, if any alcoholism and drug treatment programs address the special needs

#### Constraints

- a. Some service providers are not sufficiently sensitive to gay issues and do not understand the special needs of their gay and lesbian clients.
- b. Some men who have sex with men do not think of themselves as gay and therefore do not believe they are at risk for HIV infection.
- c. Some members of the gay and lesbian community are economically impoverished which adds to the problem of accessibility to all types of services.

#### Recommendations

- 1. Health care and social service programs should be developed for the gay/bisexual and lesbian community and should include special AIDS education programs for hard-to-reach gays/ bisexuals and lesbians, particularly those of color.
- 2. Service providers should be educated about the special needs of the gay/bisexual and lesbian community.
- 3. Service providers should be sensitive to and accept the varied family structures of gays, bisexuals and lesbians.
- 4. Educational efforts in schools should be responsive to the needs of gay and lesbian adolescents.
- 5. Alcoholism and substance abuse treatment programs that are sensitive to gay and lesbian issues should be developed.
- 6. Access to health care and psychosocial services for gay and lesbian adolescents should be greatly improved.
- 7. Residences should be developed to meet the special needs of homeless gay and lesbian youth.

#### Minorities

In New York City the AIDS epidemic has hit the minority populations particularly hard. Approximately 24 percent of the city's population is black, but 32 percent of reported AIDS cases have been among blacks; 19 percent of the City's population is Hispanic but 26 percent of reported AIDS cases have been among Hispanics. In addition,90 percent of children and 85 percent of the women with AIDS in the City are either black or Hispanic.

New York City AIDS surveillance data and serological studies in STD clinics suggest that AIDS and HIV infection among racial and ethnic minorities is still rising, whereas among the white population the infection rate has stabilized, particularly among white, gay men. In the future, HIV illness is going to be increasingly linked to substance abuse which is most relevant among poor and minority populations. These are the same disadvantaged groups that historically have had little or no access, both financially and geographically, to health education and primary care services. Thus, they lack the necessary services and resources to slow the spread of the disease. This indicates an urgent need to establish effective prevention programs coupled with accessible primary care services in poor and minority communities.

#### Constraints

- a Many minorities live in communities that are designated Health Manpower Shortage Areas and therefore have poor access to health care service.
- b. Many health and social services programs have not reached large segments of poor and minority populations they are supposed to serve.
- c. Because of poverty, many minorities at high risk of HIV infection cannot afford to pay for, or have difficulty accessing, health education and primary care services even when they are available.
- d. In proportion to their numbers in the population, a disproportionately low number of minorities are trained in the health care professions.
- e. The curricula of health care training programs do not sufficiently address the cultural and ethnic differences that affect medical and health perceptions and practices.

#### Recommendations

- 1. High quality health education programs and primary care services should be established in neighborhoods that are Health Manpower Shortage Areas and that have a high incidence of HIV infection.
- 2. In those communities that have a high incidence of HIV infection, the public and private sectors should support out-reach programs to engage those who are at high risk in health education careers in health care fields by offering assistance to financially disadvantaged students.

3. Whenever possible, staff for these programs and services should have ties to the communities they serve.

4. The State and Federal governments should aggressively encourage minorities to choose careers in health care fields by offering assistance to financially disadvantaged students.

5. The curricula of health care training programs should cover cultural and ethnic differences in health care practices.

6. Health care programs and services for minority populations should be sensitive to cultural and ethnic differences.

## Persons with Chronic Mental Disorders and/or Developmental Difficulties

Often overlooked in the HIV epidemic are those who have chronic mental disorders and/or are developmentally impaired. Many of these individuals reside in institutions, supervised small group homes or community residences. Some may live with their families. Some are intensely supervised while others receive minimal supervision. Many lead active and productive lives and are also sexually active. Most of them do not have the same access to AIDS information as the general population. Since they often have impaired judgement and are vulnerable to abuse, they should be taught how to safeguard themselves from becoming HIV-infected.

#### Constraints

- a. Persons with chronic mental disorders and/or developmental disabilities must rely on others to provide them with the AIDS education and information they need.
- b. Staff working at group homes and residences are not always sufficiently aware of the sexual behavior and drug use of the residents to be able to identify those who might be at risk of becoming HIVinfected.

#### Recommendations

- 1. All staff and residents of residential facilities for the mentally ill or retarded should receive appropriate AIDS education.
- 2. When individuals in group homes are found to be HIV positive, policies should be in place to ensure that their rights are not violated, confidentiality is enforced and that they are protected from discrimination.
- 3. HIV-infected persons who have chronic mental disorders and/or who are developmentally disabled should have the same access to HIV-related programs and services as other HIV-infected persons.

#### Prisoners

The Department of Correction (DOC) has experienced rapid growth in the number of inmates affected by the AIDS epidemic. Given the extent of intravenousdrug use among inmates prior to incarceration, the Department of Health estimates that 20 to 25 per-cent of the more than 110,000 individuals admitted to DOC's custody each year are HIV positive. With this level of infection in the population, DOC projects that approximately 25,000 HIV positive individuals will pass through its system in 1988. In addition, a considerable proportion of the remaining inmate population will have engaged in other high risk behavior.

The turnover in DOC's prisons is rapid. Half of the inmates stay less than two weeks and the average length of stay is 44 days. During this short period, DOC attempts to provide the inmates with AIDS services. All newly admitted inmates receive AIDS prevention and education information and upon release they are provided with AIDS kits which consist of drug treatment information, AIDS information brochures, a card with an AIDS hotline number and condoms.

Health care services in DOC facilities are either provided by the New York City Department of Health or by acute care municipal hospitals. Inmates showing symptoms of HIV-related conditions are treated in prison clinics, general infirmary beds, in an AIDS infirmary unit and on prison wardsin HHC facilities at Kings County, Bellevue, Elmhurst and Goldwater Hospitals. AZT treatment isalso available to inmates.

In response to the rapidly rising number of HIVinfected prisoners that are exhibiting symptoms of HIV infection, DOC and the Department of Health are expanding their HIV-related services in ambulatory, acute and long-term care. However, due to the rapid turnover rate, many HIV-infected inmates are not receiving the medical attention they need and there are often difficulties in transferring inmates to acute care facilities outside of the prisons. In addition, the linkages between medical services and the services that inmates will require in the community upon release are not well developed. The result is that for many inmates with HIV-related illnesses, the care provided is inadequate.

#### Constraints

- a. Due to the rapid inmate turnover rate and the rise in the number of HIV-infected inmates, the full spectrum of service needs of the HIV-infected inmates have not been met.
- b. The lack of suitable housing for homeless inmates who are terminally ill with AIDS often prevents inmates from being released early (compassionate release).

- c. The prison system is not sufficiently linked to community-based support and treatment programs thus making it difficult for many inmates to receive the services they need when released.
- d.Fear of and prejudice against HIV-infected prisoners may impact the provision of medical and human services.

#### Recommendations

- 1. Criminal justice and prison staff should receive ongoing training to sensitize them to issues related to HIV infection and to enable them to detect signs of opportunistic infections.
- 2. DOC, together with the New York City Department of Health, should continue to expand HIV-related medical and social services.
- 3. For those inmates with known HIV illnesses, DOC should provide referrals to community-based service agencies early enough so that the inmates can obtain the medical and social services they need immediately upon release.
- 4. AIDS education programs for all staff and inmates should be continued and expanded.

#### Substance Abusers

Curbing substance abuse and particularly intravenous drug use (IVDU) must become a top priority for our city and nation if the spread of the HIV epidemic is going to be slowed and stopped.

The New York State Division of Substance Abuse Services estimates that in New York City there are approximately 200,000 IVDU's of which 75 percent are men and 57-60 percent are HIV positive. Intravenous drug use is also the primary mode of transmission of HIV into the heterosexual population. Since April 1988, there have been morenewly diagnosed AIDS cases among IVDU's than there have been among gay/bisexuals. This trend is expected to continue. Further, it is known that drug use of all kinds leads to high risk sexual behavior that may spread the infection further into the heterosexual population.

In the City of New York there are only about 35,000 drug treatment slots for all types of substance abuse, a pitifully small number compared to the number needed. In some areas substance abusers have to wait months to enter a treatment program. There is also a severe shortage of drug detoxification beds and few outpatient detoxification services.

According to the National Association of State Alcohol and Drug Abuse Directors, the yearly costs of substance abuse treatment range from \$2,300 per person for drug-free outpatient services to \$3,000 for methadone maintenance treatment. Long-term residential treatment programs which are designed to keep patients for 18 months can cost as much as \$17,000 per year. These programs are cost-effective compared to the human and financial costs of allowing the AIDS virus to continue to spread.

Substance abusers usually have a multitude of interrelated problems such as unemployment, poverty and lack of decent housing. A recent study conducted in five New York City hospitals of 174 IVDU's newly diagnosed with AIDS (Drucker, 1988) shows that:

- IVDU's with AIDS have, on the average, one child under 18 years of age (most under 10 years);
- female IVDU's with AIDS usually have two or more children under 18 years of age, half of whom are in their custody;
- 40 percent of IVDU's at the time of their diagnosis with AIDS are homeless, precariously housed or living in shelters; and
- 80 percent of IVDU's at the time of initial diagnosis with AIDS were not enrolled in any drug treatment program.

This limited study points out not only the enormous number of services needed by substance abusers with AIDS but also the needs of their extended families who require family support and child care services, housing, financial assistance and possibly substance abuse treatment services.

It is known that HIV infection among substance abusers causes a general deterioration in their overall health status even before the onset of AIDS, leading to increased incidence of tuberculosis, pneumonia, endocarditis and other opportunistic infections. To address these problems, as well as the general health needs of their clients, substance abuse programs should be integrated with or arrange easy access to medical and mental health services. A greater emphasis needs to be placed on addressing all of the problems of these persons, including their social and medical needs. Affected family members should be included in these services.

#### Constraints

- a. Many communities have lobbied strenuously against opening drug treatment programs in their neighborhoods. As a result, no new methadone maintenance treatment programs have opened in the City in the last 15 years.
- b. Substance abuse and alcoholism services have historically and administratively been separated from the provision of medical and mental health services making it more difficult to combine the services at one site.
- c. Reimbursement rates for substance abuse services do not allow for the inclusion of other services such as medical and mental health care.
- d.Most health care curricula and training programs do not adequately cover the treatment and care of substance abusers.

#### Recommendations

- 1. The State must greatly expand drug treatment programs of all kinds throughout the boroughs of New York City. A sufficient number of treatment slots should be developed to enable the immediate enrollment of every substance abuser who seeks treatment (treatment on demand), regardless of HIV status.
- 2. Health professionals as well as public and private organizations should take an active role in educating the public on how these programs limit the spread of HIV infection and reduce the crime rate in communities.
- 3. There should be a vigourous outreach program to encourage all IVDU's to enter treatment.
- 4. Substance abuse programs should be encouraged to develop linkages with medical and mental health programs and work with these providers.
- 5. Reimbursement levels should be adjusted to enable substance abuse treatment programs to provide primary care services.
- 6. The State and City governments should develop innovative programs to reduce the transmission of the AIDS virus among substance abusers.
- 7. All substance abuse treatment programs should integrate HIV risk reduction and education into their treatment protocols.
- 8. The State Board of Education should require that alcohol and substance abuse treatment be emphasized in the curricula of all health care training programs.
- 9. Hospitals and other traditional health care providers must beome much more involved with the identification and treatment of substance abuse. They should link up with and provide support to local substance abuse programs as well as develop their own drug treatment programs.
- 10.Programs should be developed to reach the large number of substance abusers in the prison system and link them directly into treatment programs upon release from prison. This will ensure continuity of treatment for substance abusers and early treatment of HIV disease for those who are HIV-infected.

#### Women and Children

The New York State Department of Health estimates that 1.3 percent of women of childbearing age in New York City are HIV positive and in some pockets of the City the prevalence is much higher. As of August, 1988, 12 percent of all reported AIDS cases in the City have been among women, 85 percent of whom are black or Hispanic.

The natural history of HIV infection in women is poorly understood due to the fact that women were infected later than men and only recently have there

been large numbers of women with AIDS to study. There is some evidence to suggest that the infection in women might take a somewhat different and more virulent course than in men. For example, women and particularly black female IV drug users have significantly shorter survival times than males.

One of the tragedies of HIV infection among women is that the infection can be easily passed on to their unborn children. Studies conducted by the New York State Department of Health suggest that about 30-40 percent of the children born to HIV-infected women will be truly infected. To date, New York City has reported 349 cases of pediatric AIDS, one third of all cases in the nation. It is estimated that there are 1,000 HIV positive children under 13 years of age in the City—80 percent of whom are linked to IV drug use.

According to a recent study, the majority of female IVDU's with newly diagnosed AIDS have two or more children under the age of 18 and more than half of these children are in their mothers' custody (Drucker, 1988). Those children not in their mothers' custody are most often in the custody of family members. The social, emotional and financial strains of AIDS on the mothers, the children and their extended families are enormous. To assist these mothers to maintain the family structure and a semblance of normal family life, considerable support and intervention are needed from the medical, mental health and social services systems.

Based on findings in this study, over the next few years a minimum 60,000-70,000 children in New York City will lose at least one parent to AIDS. Of these, maybe 10,000 will lose both parents to the disease. The implications of these figures are staggering. Systems and services must be put in place to assist and encourage extended family members and willing care givers to provide a home for the surviving children. One step in this direction is the Family Case Management Program recently developed by HRA's AIDS Division. This program is designed to help families stay together throughout the illness and after the loss of one or both parents.

To help place children with HIV illness in foster homes, HRA has contracted with two community agencies to actively recruit foster parents for these children. In recognition of the extra care required, foster parents receive for each HIV-ill child over \$1,100 in enriched reimbursement, socialsupport services, any equipment needed for the child and Medicaid coverage for the child. This effort by Special Services for Children has significantly reduced the number of boarder babies in hospitals.

#### **Constraints**

a. The lack of sufficient drug treatment slots limits

women's access to drug treatment. In addition, many women are reluctant to enter into drug treatment programs because they are afraid they will lose their children to foster care.

- b.Substance abuse programs do not adequately address women's issues such as family planning and pregnancy diagnosis.
- c. Efforts to slow the spread of HIV infection to unborn children are hampered by inadequate prenatal care for women. Many women do not discover that they are HIV-positive until childbirth.
- d.Long-term care and respite services for children are severely limited.
- e. There are tremendous difficulties recruiting foster parents, particularly for children who are HIV infected.
- f. There is community resistance to group homes for HIV-infected children.

#### Recommendations

- To address the special needs of women and children, the work group has the following recommendations:
- 1. In those communities with high incidence of maternal and infant HIV infection, special primary care services should be developed where the infected family can be treated as a unit by a multidisciplinary team.
- 2. Drug treatment programs should be sensitive to the special needs of women and provide easy access to family planning, pregnancy diagnosis and pre- and post-natal care. State regulatory agencies should work out agreements to ensure adequate funding for these services.
- 3. Particular attention should be given to the provision of bereavement services and the psychological impact of AIDS on children. Mental health services should be routinely offered to women and children affected by HIV infection. Where appropriate, the extended family should also receive these services.
- 4. Homemaker services should be made available to support the family unit and not only be available to the sick parent or child.
- 5. Long-term care and respite care services for children should be developed in neighborhoods with high need.
- 6. Regulations should be changed to make it easier for extended family members to assume the custody of abandoned or orphaned children of parents with HIV disease.
- 7. The City should continue to provide financial incentives to attract more foster care parents. The aim should be to place every abandoned or orphaned HIV-infected child who cannot be placed with relatives in a foster home. Foster parents should be assured of access to a multi-disciplinary

health care team, respite care, day care, home health care and homemaker services, when they are required.

- 8. To encourage natural families to care for their HIVinfected children and keep the natural family intact, parents should be provided with cash assistance so that they can purchase additional items specifically related to their care (e.g., washing machine, medical supplies). In addition, natural families should have access to the same support systems as foster parents.
- 9. While waiting for foster home placement, HIVinfected children should be cared for in familyoriented group homes. Group homes should be monitored to ensure they continue to seek permanent placements for these children.
- 10.Residential drug treatment programs should be developed that allow women to be with their children.
- 11.Transportation services should be provided for children with HIV disease to enable them to receive necessary services and treatments.

## **Financial Considerations**

As of October 1988, there are about 7,300 persons alive in New York City with AIDS. This number does not include an estimated 70,000 individuals with HIVrelated illnesses. The economic implication of the epidemic for the City are enormous. Most individuals with HIV-related illness are in age groups that have traditionally had low rates of health care utilization. Thus, most HIV-related costs are additional rather than reallocations of total health care costs.

Many of the financing problems faced by persons with HIV disease are shared by persons with other chronic illnesses. Thus, it is difficult to discuss issues of equitable financing for persons with HIV illness without addressing the needs of other patient groups. Nevertheless, the work group limited its scope of inquiry to those services that will directly affect HIVinfected individuals.

Estimates of the lifetime cost of caring for an individual with AIDS have varied widely from \$27,500 to \$150,000. As treatment modalities have improved and availability of ambulatory and home care services have expanded, recent cost estimates have moderated. Empire Blue Cross Blue Shield estimates their lifetime costs to be \$55,000-\$65,000. This includes surgery, home care, hospice care, physicians' fees, drugs and medical equipment. In comparison, the average cost of caring for persons with end-stage renal disease hasbeen estimated at \$158,000 and the cost of a heart transplant is approximately \$83,000, according to the Presidential Commission on the HIV Epidemic.

What impact the introduction of drug therapies such as AZT, which costs about \$8,000 per year for the drug alone, will have on total costs remains to be seen. There is insufficient experience to determine whether the cost of AZT and other drug interventions will be offset by a reduced need for medical services or whether the drugs only postponethe need for extensive medical care.

The cost of HIV-related services are shared by a mix of private insurers, Medicaid and other state, local and private payors. Increasingly, the financial burden of providing care for persons with HIV illness is falling on public and voluntary hospitals, state and local assistance programs, andMedicaid. Medicaid is the largest payor, as is reflected in the payor mix for HIV-related inpatient admissions in New York State from 1983 to1987:

Medicaid	47.1%
Blue Cross	26.5%
Self-Pay	9.1%
Commercial	7.1%
Medicare	2.5%
No Charge	1.7%
Other	6.0%

The reimbursement rates provided by both private and public third-party payors are based on the expected cost of providing a service. The State has recognized the unusually high cost of caring for people with HIV illness by increasing reimbursement rates for HIV-related care and by adjusting nursing home capital financing. However, the recent downweighting, by 27 percent, of the severity index weights (SIW's) for HIV-related DRG's is a discouragement for those hospitals that are not designated AIDS Centers.

When an individual has no health insurance or has inadequate coverage, the amount that has not been reimbursed by third party insurers must be paid out of the individual's pocket or by the health care provider. To address this problem, the New York State Department of Health has established a bad debt and charity pool to cover uncompensated care in hospitals. However, the pool has not expanded in line with the increasing number of underinsured and uninsured, including HIV-infected persons. Consequently, the result is mounting losses in the acute care sector.

New York State is unusual in that it has a generous Medicaid program which provides a wide range of services including ambulatory and acute care, nursing home care and home care. In addition, Blue Cross and commercial insurers cover most acute care. Open enrollment for Blue Cross hospital and basic medical insurance has maintainedaccess to insurance for those with financial resources to purchase policies. However, as discussed below there are many constraints to be overcome before all persons with HIV illness receive insurance coverage for the full range of services that they need.

#### Constraints

a. The range of services needed by HIV-infected individuals is not fully covered by private health insurers. Coverage for the ambulatory services needed in the early stages of illness (e.g., monitoring of physical status, drug treatment and psychosocial services) as well as well as the supportive services needed in the later stages (e.g., home care, respite and day care) is particularly limited.

b.Most Blue Cross and commercial insurance policieslimit the amount of covered services (e.g., a maximum of 200 home care visits or 30 inpatient psychiatric days). Also, only minimal sub-acute and long-term care services are included in these policies.

c. Uninsured individuals whose income or assets exceed financial limits must pauperize themselves

62

before they become eligible for Medicaid benefits.

- d.Medicare, which provides comprehensive hospital services and moderately broad ambulatory services, plays a very small role in the financing of HIVrelated care. While Medicare is not a means-tested program, its 24-month waiting period for benefits is a significant barrier for most individuals.
- e. Individuals who receive health coverage through their jobs may lose their insurance once they become too ill to work. Despite workers' eligibility for an 18-month extension of insurance upon losing their job (COBRA), many cannot afford to pay the premiums. Individuals with CDC-defined AIDS who are able to pay the premiums still face a six-month gap between the end of their insurance coverage and becoming eligible for Medicare.
- f. There is insufficient data on the potential costsavings that can be gained from providing patients with alternatives to acute care hospital care.
- g. There are few operating or capital funding-streams for supportive housing for persons with HIV illness.

#### Recommendations

- 1. Considerable additional financial resources will be needed to expand the health and social services systems to cover the full spectrum of care for HIV illness. The Federal government should take a leading role in developing a comprehensive plan forfinancing these services.
- 2. The Federal government should provide targeted assistance in the form of block grants to those areas hardest hit by the HIV epidemic.
- 3. Federal funds should be made available to pay thehealth insurance premiums for those HIVinfected persons who are unable to continue to work and who cannot afford to pay the health insurance premiums under COBRA.
- 4. The Social Security Administration should increase SSI payments to more accurately reflect living expenses.
- 5. The Federal Government should reduce the 24month waiting period for Medicare eligibility.
- 6. The Health Care Finance Administration (HCFA) should increase the Federal Medicaid matching rate for states that provide higher reimbursement rates to promote such services as long-term care, comprehensive home care, outpatient services and case management for those with HIV illness. HCFA should fund studies that evaluate the costeffectiveness of these services.
- 7. The New York State Department of Health should increase the size of its bad debt and charity pool to cover the mounting losses of uncompensated care.
- 8. The Department of Housing and Urban Development, New York State and City agencies and private

organizations should work together to develop financial incentives for supportive housing programs for HIV-infected persons.

9. Innovative methods of combining public and private funds for insurance should be developed. One model the work group considered has the following elements:

Create a reinsurance pool that would be financed by a combination of funds from insurance companies and public sources. When an individual is diagnosed as being HIV positive, his or her insurance carrier would deposit into the pool a payment equal to the expected lifetime cost that would have been paid by the policy for a person with AIDS. Private insurance companies would need to obtain the approval of experience-rated and selfinsured accounts before making such a contribution to an AIDS funding-pool on behalf of an eligible employee. In order to make the contribution, the confidentiality of the employee would have to be protected.

After the one-time payment is made, the person would be covered by the new public/private policy. Any costs above the prepaid amount would be covered by public funds. Patients lacking insurance coverage would be eligible for the public/private plan, but no private payment would be made. Persons who are eligible for Medicaid would continue to be covered by Medicaid.

Such an approach would provide stability for the insurance industry while ensuring that the private sector shares an appropriate proportion of the cost of the epidemic. It would also provide comprehensive coverage soon after diagnosis for individuals who have no insurance or inadequate insurance.

- 10. Another possible method of public/private funding would be to extend private coverage for individuals who have lost their jobs to the point at which they would become eligible for Medicare.
- 11. Private health insurers should encourage the use of cost effective alternatives to hospital care. They can do this by expanding the amount of alternative care services they reimburse and by providing enough reimbursement to encourage providers to establish these services.

## References

- Drucker, Ernest, et al. "IV Drug Users with AIDS in New York City: A Study of Dependent Children, Housing and Drug Addiction Treatment." Report developed for the New York City AIDS Service Delivery Consortium, July, 1988.
- New York City Department of Health. "AIDS Surveillance Update" October 26,1988.
- New York City Department of Health. "Estimate of HIV-Infected New Yorkers," Working Paper, July 1988.
- New York State Department of Health. "AIDS in New York State, Through 1987," March 1988.

## Appendix A The Spectrum of HIV Infection

National Academy of Sciences

In grappling with a new disease, especially one that quickly assumes epidemic proportions, terminology and definitions become vital for clinical management of patients, data gathering and research, and decisions about coverage and reimbursement. In 1982 CDC developed a definition of AIDS for surveillance purposes that relied on the presence of opportunistic infections and malignancies; in August 1987 the definition was revised to incorporate two other syndromes indicative of AIDS: dementia and wasting syndrome. Yet fairly early in the epidemic, it became apparent that many infected

individuals who suffered from clinical symptoms and laboratory abnormalities signalling the presence of HIV infection did not meet the CDC criteria for the disease. For example, persistent generalized lymphadenopathy (PGL) was thought to be associated with an increased risk of developing AIDS, especially when combined with oral candidiasis and certain laboratory abnormalities. Even so, these patients did not fit what had become the standard definition of the disease although some of them seemed to develop AIDS at a rapid pace. They were described as having AIDSrelated complex (ARC), and the ARC clinical syndrome was eventually incorporated in a CDC definition (although it was never used as a basis for case reporting). Clinicians noted, however, that even this definition failed to include some patients who appeared to be at high risk for progressing to AIDS. A third, more broadly defined syndrome was termed the AIDS-related condition.

Today, with a better understanding of the natural history of HIV infection and with more precise laboratory assessments of disease progression, the committee believes that the term ARC is no longer useful, either from a clinical or a public health perspective, and the HIV infection itself should be

- Report of the Presidential Commission on the Human Immunodeficiency Virus Epidemic. U.S. Government Printing Office, June 1988.
- Rothenberg, R. M. et al. "Survivial with the Acquired Immunodeficiency Syndrome: Experience with 5,833 Cases in New York City," New England Journal of Medicine, 317: 1297-1302.
- U.S. Department of Health and Human Services. "AIDS Weekly Surveillance Report," October 10, 1988.

considered a disease. It is more accurate to describe, HIV infection as a continuum of condition, ranging from the acute, transient, mononucleosis-like syndrome associated with seroconversion, to asymptomatic HIV infection, to symptomatic HIV infection, and finally, to AIDS, a spectrum that encompasses a great variety of clinical symptomatology. The terms ARC and PGL do not have the precise prognostic implications they were once thought to have. For instance, it is now known that the presence of persistent, generalized lymphadenopathy in and of itself does not imply a worse prognosis than HIV seropositivity. For clinical (treatment or research) purposes, a patient can be more accurately described by a combination of a description of symptoms and laboratory evidence of immune dysfunction rather than by terms such as ARC or PGL.

Experience with cohorts of infected individuals indicates that a majority of HIV-infected individuals shows some evidence of progressive immunodeficiency and is likely to develop AIDS in the absence of effective therapy. AIDS, a dramatic and devastating syndrome, caught the attention of physicians and public health officials earlier than the milder manifestation of HIV infection, but it is now clear that AIDS is end-stage of HIV infection. Like many other progressive disease processes, both infectious and noninfectious, HIV has an asymptomatic period that varies in length.

Viewing HIV infection as a disease is important because it may eventually be amenable to treatment. The drug zidovudine (i.e., AZT) has been shown to prolong the life of AIDS patients; it and other drugs are currently being tested to determine whether they also halt or slow disease progression in infected asymptomatic individuals. If an effective therapy is
found, HIV infection will need to be treated early, just as diseases such as gonorrhea are often diagnosed and treated in asymptomatic infected patients. Even though no treatment is available, diagnosing HIV infection is still important now so that opportunistic infections and malignancies can be recognized as early as possible. Many treatments for these complications are more effective and less toxic when initiated early.

Considering HIV infection a disease is important to other aspects of the AIDS crisis. From a public health perspective, the population of most interest is the group infected with the virus because these persons are capable of infecting others. In addition. medical care coverage should be based on symptoms coverage should be based on symptoms associated with HIV infection rather than on arbitrary definition of when "disease" begins. A terminology that reflects the progression of the disease from the initial, acute stage of infection to asymptomatic HIV infection and finally to symptomatic HIV infection and AIDS would be useful for clinical treatment and for society's management of the disease. CDC has developed a classification system...that might form the basis for such a terminology.

**Source:** Institute of Medicine: National Academy of Sciences, *Confronting AIDS, Update 1988*, National Academy Press, Washington, D.C. 1988, pp 36-38.

•

## New York City AIDS Task Force

Section III

# Needs Assessment

### Needs Assessment Work Group Membership

#### Co-Chairmen:

Raymond J. Baxter, Ph.D. Senior Vice-President New York City Health and Hospitals Corporation

#### Members:

Lawrence D. Brown, Ph.D. Professor and Head, Division of Health Administration Columbia University School of Public Health

Lawrence S. Brown, Jr., M.D., M.P.H. Senior Vice President, Research and Medical Affairs Addiction Research and Treatment Corporation

Thomas Chardavoyne, Director of Program Development Catholic Medical Center of Brooklyn and Queens Inc.

Raymond Cornbill, Executive Vice President North General Hospital

Don DesJarlais, Ph.D. Assistant Deputy Director, Research and Evaluation Narcotic and Drug Research, Inc.

Rose Dobrof, Executive Director, Brookdale Center on Aging Hunter College

Jon Eisenhandler, Ph.D., Project Manager Empire Blue Cross/Blue Shield

Gerald Friedland, M.D., Professor of Medicine Montefiore Medical Center

Jerome Goldsmith, Ph.D., Executive Director Jewish Board of Family and Children Services

David Gould, Ph.D., Vice President for Program United Hospital Fund Chairperson of Scenarios Subgroup

Caroline Greene, Vice President for Planning Cabrini Medical Center

Kathryn Haslanger, Assistant Executive Deputy Commissioner Income and Medical Assistance Administration New York City Human Resources Administration

Craig Harris, AIDS Education Specialist and Consultant Gay Men's Health Crisis

Neil Heyman, Vice President, Long-Term Care Division Greater New York Hospital Association

Gordon Hough, Ph.D., Administrator Bailey House

#### Support staff for the Needs Assessment Work Group:

Regina Neal, Assistant Director, Office of Planning Services New York City Health and Hospitals Corporation

Suzan Carrington, Associate Director New York City AIDS Task Force

Glenna Michaels, Director New York City AIDS Task Force David L. Ginsberg Executive Vice-President, Planning & Program Development Columbia Presbyterian Medical Center

Mark Kator, Executive Director Coler Memorial Hospital

Sally Kohn, Executive Director AIDS Services Delivery Consortium

Gerald Landsberg, D.S.W., Assistant Commissioner, Manhattan Borough Office/Special Assistant to the Commissioner for AIDS Services, New York City Department of Mental Health, Mental Retardation and Alcoholism Services

Eugene McCabe, President and Chief Executive Officer North General Hospital

Leonard McNally, Director of AIDS Program Village Nursing Home

Frank Oldham Assistant Director of Education for Community Outreach Gay Men's Health Crisis Chairperson of Population Subgroup

Carol Raphael, Formerly: Deputy Commissioner Medical Assistance Program, Human Resources Administration

Ellen Rautenberg Assistant Commissioner, Division of AIDS Program Services New York City Department of Health

Marvin Roth, Director, Capital Planning Division Department of City Planning

Timothy Sweeney, Deputy Executive Director Gay Men's Health Crisis

Robert Thompson, Executive Director New York County Medical Society Chairperson of Resources Inventory Subgroup

Peter Ungvarski, M.S., R.N., C. Clinical Nurse Specialist - HIV Infection Visiting Nurse Service of New York

Martha Wolfgang, Vice President for Planning St. Luke's-Roosevelt Hospital Center Chairperson of Needs Model Subgrou

Tracy Green Roman, Office of Planning Services New York City Health and Hospitals Corporation

Andrew Mosso, Office of Planning Services New York City Health and Hospitals Corporation

### **Executive Summary**

HE Needs Assessment Work Group of the New York City AIDS Task Force was established to determine the resources needed to care for HIV-infected individuals in New York City through the year 1993. Our 30 appointed members, and at least that many more individuals who contributed to the work as consultants and subgroup members, represented a broad array of public and private health and human service providers, insurers, clinicians and advocacy organizations.

The needs assessment that follows is built on the foundation laid by the preceding Work Groups of the Task Force, which have issued reports on Data, Models of Care, Health Care Personnel and Prevention and Education. This work is in turn being used by the Cost Assessment Work Group to estimate the cost of providing these services.

We organized the Work Group into four Subgroups to project future resource needs. The Resource Inventory Subgroup compiled information on current resources and their utilization as a base for estimating future needs. To inform the Work Group's projections, the Population Subgroup evaluated the differential effects of HIV-infection on current service utilization among different parts of the City's population, and evaluated future population trends. The Scenarios Subgroup investigated possible changes in behavior, treatment interventions, and service delivery that could significantly alter the course of the epidemic or the currently observed patterns of service utilization. The Needs Model Subgroup reviewed existing data sources and service projection models, developed the methodologies to estimate resource need, and conducted the analytic work of forecasting future service requirements. The Work Group as a whole evaluated the products of each Subgroup as they were developed and directed their integration into the projections presented in this report.

The Work Group sought to establish an integrated approach that linked the need for acute care and long term care beds, housing, home care and other related long term care services, in keeping with the principles set forth by the Models of Care report adopted by the Task Force. Ambulatory care could not be estimated as part of this integrated model both because of the way ambulatory services are provided and because of the scarcity of data on ambulatory care utilization. This resulted in a decision to make an estimate of need only for physician visits using estimates of the total number of HIV-infected individuals as the population base. The Work Group undertook first to establish a "base case" forecast for each service category; that is, resource projections that assume increasing prevalence of HIV-illness and consequently, increasing need, but no significant change in current patterns of service use, organization, and financing of care. The Work Group then used the findings of the Population and Scenarios Subgroups to adjust the base case projections or to indicate the likely direction of change.

Because of the limitations of both the existing data, and the time available to complete its work, the Work Group could not fully realize all of its objectives and we had to concentrate on a limited array of highimpact services, and base the needs projections more on "expressed demand" than on a more pure measure of "need." However, we were able to develop detailed resource projections for five critical resources -acute care beds, long term care beds, housing, home care services and physician visits-that we are confident are the most accurate and comprehensive produced to date and indicate the tremendous magnitude of need for all types of services. However, there is much work that remains to be done: with the exception of the acute care bed projections, which include pediatric bed need, projections have not been done for pediatric resource and service needs. In addition, much more work remains to be done on projecting the needs for mental health, substance abuse and testing and counseling services, among others.

For acute care, the Work Group projects that the base case need for beds will increase from 2,420 in late 1989 to 4,990 beds by late 1993. (The most recent Greater New York Hospital Association survey counted an average daily census of 1,740 during the first week of January 1989.) These projections include beds needed to care for all persons hospitalized for HIV-related illnesses, not just those hospitalized with CDC-defined AIDS. These are the highest estimates of bed need produced to date by a group comprised of public and private sector experts, and reflect in large part the Work Group's conclusions about past undercounting of hospitalizations occasioned by HIVillness. Even when these estimates are adjusted to reflect future availability of the long term care, housing and home care resources called for in this report, a total of approximately 4,020 beds will still be needed in 1993.

For housing and long term care, the Work Group projects that in 1989, 4,450 HIV-ill individuals will require these resources. This will increase to 9,180

individuals by late 1993. Using estimates for length of stay the Work Group concludes that by late 1989, there will be a need for 1,280 housing units, 290 beds in health related facilities (HRFs) and 310 beds in skilled nursing facilities (SNFs). By late 1993, the needed units will increase to 2,640, 590 and 630 respectively.

For home care, the Work Group estimated the days of enrollment in a home care program needed by HIV-ill individuals at intermediate and high levels of service need. Using these estimates, we have projected the number of periodic nurse visits, the number of continuous hours of LPN and RN service and the number of hours of paraprofessional service. We project that in 1989 the average daily enrollment in home care programs to meet the need for services will be approximately 1,700 individuals. By 1993, this will increase to 3,400.

For *physician visits* on an ambulatory basis, which include visits to outpatient clinics and physician private offices, we estimate the need for 934,480 visits in late 1989. This base case estimate includes not only HIV-ill persons, but the asymptomatic HIV-infected as well. This need will increase to over 1,000,000 visits by late 1993.

Table I which follows summarizes the system-wide requirements for resources from 1989-1993. In 1989 and 1990, the number of acute care beds shown is the base case estimate, while the bed need shown from ~ 1991 through 1993 has been adjusted based on an assumption that the required housing, long term care and home care services will be available.

We believe that these base case estimates are sound,

and that if anything may be too low. Critical social and demographic trends including poverty, homelessness and substance abuse are converging, and have the greatest effect on those groups also at greatest risk for HIV-infection. This will only serve to increase the pressure on resources. Desirable changes in service delivery and medical practice, including prophylaxis, treatment, prevention and education will also increase resource demands, particularly for ambulatory care and social services.

The Work Group recognizes that existing resources fall far short of even the base case projections of need. In fact, these extraordinary levels of need occur in the face of dramatic overcrowding of existing health care facilities and a critical shortage of service personnel. All of this is taking place in an environment of deteriorating financial conditions, that has led to cutbacks in some services when expansion is most needed. All of these problems must be addressed if projected needs are to be met.

Finally, the Work Group urges immediate and continuing attention to three issues: (1) the development, consistent definition and dissemination of data on HIV-related service needs and utilization; (2) the continued assessment of service requirements not only in the areas we addressed but for many others, particularly social services, non-physician ambulatory care, substance abuse, mental health, and services for special target populations (e.g., women, adolescents, children, the developmentally disabled and the chronically mentally ill); and (3) the evaluation of the extent to which certain settings of care might be substituted for others.

### **Report of the Needs Assessment Work Group**

#### The Context of Need

The AIDS epidemic in New York City will continue to demand an increasingly broad number and range of services over the next five years and, in all likelihood, for the balance of this century. The Data Work Group's report and subsequent updates of incidence and prevalence by the New York City Department of Health establish the basic dimensions from which service needs have been estimated.

It is projected that at least 25,750 cases of Centers for Disease Control (CDC-defined) AIDS will have been diagnosed and over 18,450 deaths will have been reported in New York City by the end of 1989. By 1993, this will grow to at least 64,000 reported cases and 50,000 deaths.

By the end of 1989, 7,300 people will be living with CDC-defined AIDS. Approximately 13,700 people will be living with AIDS by the end of 1993.

The number of symptomatic HIV-infected people has been estimated by the Data Work Group of the New York City AIDS Task Force to be between 30,000 and 60,000 in each of the next five years. Moreover, as the epidemic progresses, the number of symptomatically ill HIV-infected persons without CDC-defined AIDS is expected to increase in proportion to the number of AIDS cases.

The New York City Department of Health estimates that the number of HIV-infected persons in New York City increases annually at an average rate of about 2%.

Projections of CDC-defined AIDS cases based on statistical models have proven to be remarkably accurate in the near term (2-3 years); however, it is acknowledged that there is underreporting of AIDS cases, and undercounting of AIDS especially among intravenous drug users with HIV-related illnesses that do not meet the CDC definition for AIDS. Therefore, AIDS case projections are more likely to be too low than too high.

As suggested by the above, estimates of future need may be too low because of the limitations of the prevalence projections.

Figure 1 illustrates the relationship of three stages of HIV-infection used in this report. It is important to note that the adjusted prevalence estimates, which are developed to reflect the population of individuals who are seriously ill due to their HIV infection, will not always be calculated using the same adjustment factor. For example, in the acute bed model that was developed by the Needs Assessment Work Group, prevalence estimates were used that had been adjusted by 40% to reflect the *citywide* distribution of individuals with CDC-defined AIDS and HIV illness in New York City acute care hospitals. However, the ratio of CDC-defined AIDS to serious HIV illness will likely vary from one hospital setting to another and would require a different adjustment factor for use with prevalence

Better data are needed with respect to all aspects of HIV-disease in order to develop better projection methods. The determination of the level of need for future health and social services for HIV-infected persons must be evaluated in the context of changing demographic and social circumstances in the City as a whole. While the rate of new infection is decreasing among men who have sex with men, and this group is decreasing as a proportion of total new cases, the gay community has been and will continue to be ravaged by the epidemic. Furthermore, the City's population is growing, and that growth is concentrated among Blacks and Hispanics, who are already disproportionately affected by the AIDS epidemic. Finally, the demand for and configuration of services will be affected by the extent to which poverty, drug abuse and homelessness continue to grow.

#### Current Resources and Utilization

As a foundation for its efforts, the Needs Assessment Work Group began by assembling the available data on existing resources and the patterns of utilization related to HIV-infection. The complete services inventory—which presents a picture of the range of existing clinical, social, mental health, and counseling and testing services—is outlined in detail in Appendix 2.

Although the acute care hospital setting and some private physician offices have to date been the principal locus of treatment for HIV-related illness in New York City, it is evident that a wide range of health and social services are also being provided in many other settings and under a variety of auspices throughout the City. It has proved difficult to describe and quantify these services, but what we know about the services that currently exist, and how they are used, is an important component of a plan to meet future need.

The resource inventory is a compilation of the services provided to individuals with HIV-infection and HIV-illness, but it is by no means a complete picture. Hospital utilization data may undercount actual use, long term care data are incomplete, and ambulatory care utilization data are very limited. In addition, there are tremendous gaps in available information on a significant range and scope of

#### 72 New York City AIDS TASK Force

services provided by private physicians and voluntary and community-based organizations.

The following summarizes the major services currently provided to persons with HIV-infection or illness in New York City for which projections of need were developed by this Work Group.

#### Acute Care

In 1987, according to the most recent New York Statewide Planning and Resource Cooperative System (SPARCS) data, there were 17,289 discharges for HIVrelated illnesses in New York City. These discharges accounted for 343,951 patient days. The average length of stay was 19.9 days.

The Greater New York Hospital Association (GNYHA), in conjunction with the New York City Health and Hospitals Corporation (HHC) and the Veterans Administration Medical Centers (VAMC) of New York City, conducts a survey of the average daily census of AIDS and suspected AIDS patients on a quarterly basis. The most recent survey was completed during the week of January 8, 1989. The average daily census measured during that survey period was 1,740. Sixty-two percent of the census was in voluntary hospitals, 34% in HHC hospitals, and 4% in VAMC facilities. Comparison of these figures with results of earlier surveys indicate that there has been an overall increase of almost 56% in the number of persons hospitalized for AIDS and suspected AIDS since the initial survey of March 1987.

#### Institutional Long Term Care

Until very recently, Coler Memorial Hospital and Goldwater Memorial Hospital, both HHC facilities on Roosevelt Island, have been the only long term care facilities in New York City providing services to persons with AIDS. Coler and Goldwater together currently provide 84 beds for the care of AIDS patients. In addition, the Terence Cardinal Cooke Center has recently opened 44 SNF beds for persons with AIDS, bringing the citywide total to 128 designated AIDS long term care beds.

#### Housing

The New York City Human Resources Administration (HRA) has developed or provides support for a number of programs to keep persons with AIDS from losing their apartments and to provide housing to those who are homeless. Chief among these programs are Rent Support (which as of September 1988 was being provided to 1,178 people), Bailey House (a 44 bed residence for homeless persons with AIDS), "scattersite" apartments (16 were available as of September 1988) and units in SROs and YMCAs (approximately 315 as of September 1988)

#### Home Health Care

Home health care services for AIDS patients have been provided by several agencies with the greatest volume provided by the Visiting Nurse Service (VNS) of New York City. In calendar year 1987, VNS provided direct services to 283 non-Medicaid cases and from January 1988 to September 1988 they have provided care to 264 non-Medicaid cases. Through HRA's AIDS Home Care Program, the VNS, from December 1985 through October 1988, provided services to 1,843 Medicaid cases. The VNS current case load as of October 1988 was 377 Medicaid cases.

#### **Ambulatory Care**

Data on the types and volume of ambulatory care services and utilization are very limited. Other than data on physician visits from Empire Blue Cross and Blue Shield (EBCBS), there is no other organized, comprehensive data source for ambulatory care that measures how much and what kind of ambulatory care is provided, by whom and in what ambulatory setting. To supplement the data from EBCBS, efforts were made to identify patterns of ambulatory care utilization based upon interviews with clinicians.

#### Models for Projecting Future Resource Needs

At the outset, the Needs Assessment Work Group adopted several objectives for its resource projections:

- To develop integrated, dynamic models to project resource needs, i.e., to develop approaches that reflect "real world" patterns of utilization and the interaction, and potential substitutability, among different types and forms of care;
- To use the principles established in the Task Force's "Models of Care" report to determine what services should be provided to meet particular kinds of need;
- To address the needs of all HIV-infected persons, not just those with CDC-defined AIDS;
- To project need for a full range of health and social services;
- To determine "incremental need," that is, projected need less existing capacity; and
- To identify, and if possible quantify, the impact of possible changes in the course of the epidemic, in risk behavior, and in service interventions on the base case projections.
- The data, time and resources available to the Work Group did not permit us to realize these objectives fully. We did, however, use them as a guide as much as possible, noting when we fell short, and we believe the resulting models and projections represent a significant advance over previous

attempts at resource needs projection. Specifically, the Work Group did:

- Develop a model that uses the projected discharges from acute care hospitals to develop projections for housing, long term care and home care resources; and develop a model for estimating ambulatory physician visits for all HIV-infected individuals.
- Apply the Models of Care principles and address the broadest spectrum of HIV-infected or HIV-ill populations permitted by the data available;
- Project detailed year-by-year needs for five highimpact services: acute care, housing, long term care, home care and physician services;
- Develop a base case that assumed increasing prevalence of HIV-illness and consequently increasing need, but no significant change in patterns of service use, organization and financing of care;
- Adjust the base case projections for acute care beds to reflect the effect of the availability of needed housing and long term care, and identify other factors that could change the "base case."

For the reasons cited earlier, the Work Group report does not specify estimates of "incremental" need and does not include detailed projections for a number of very important services, such as substance abuse treatment, HIV testing and counseling, mental health, foster care and social services, and ambulatory care services other than physician visits. These areas remain in need of attention. The Work Group's methodologies and projections are summarized in the following sections of this report. (Details of the methods are contained in Appendix 4.)

#### Acute Care

The current lack of alternatives to hospitalization for the provision of services to people with AIDS is not consistent with the model of care that is recommended for providing care to chronically ill individuals. However, the acute care hospital has been and will remain an essential element in a comprehensive service delivery system. Therefore, projection of the level of need for acute care resources is critical, and is a key element in the development of needs projections for housing, homecare and institutional long term care.

In order to estimate the number of acute care beds that will be needed from 1989 through 1993 to treat HIV-ill individuals in New York City, the Needs Assessment Work Group decided first to calculate future bed need using the base case model. This method estimates future need based on the assumption that while prevalence of HIV-illness will increase, patterns of service use and the essential organization of the delivery system will remain the same.

Developing the base case model for projecting bed need required positing the relationship over time between the number of people with AIDS and serious HIV-illness and the use of hospital resources. The Work Group assessed both statistical and epidemiological approaches previously used to establish this relationship, and selected a statistical approach.

The model developed by the Work Group to estimate future bed need makes three fundamental assumptions: (1) the number of discharges for HIVrelated illness is related to the prevalence of AIDS and HIV-illness; (2) the increase in the number of discharges for HIV-related illnesses over time is a linear function of the number of persons alive with AIDS and HIV-illness (prevalence) over the same period of time; and (3) that the past, generally linear, relationship between discharges and prevalence will continue into the future.

The model uses a linear regression method in which HIV-related hospital discharges during a twoyear period, 1986 through 1987, are regressed against estimates of the prevalence of AIDS and HIV-illness during the same period. The resulting regression equation is then used with estimates of future prevalence to calculate the expected number of discharges per year.

In choosing the prevalence base to use for the bed projections, the conclusions of the Data Work Group were used as a guide. The Data Work Group Report reviewed estimates of incidence and prevalence and determined that the AIDS case projections developed by the New York City Department of Health were reasonable based on the accuracy of the projections to date. For planning purposes, it is necessary to account for any underestimate of prevalence that may result from underreporting of AIDS cases and undercounting of HIV-related illness. To address this issue, the New York City Department of Health prepared a set of adjusted prevalence projections, in which the base prevalence has been increased by 40%, for use in service projections. This adjustment is based on a two-year study of persons hospitalized with suspected AIDS, which concluded that the prevalence of HIV-illness not embraced by the CDC case definition is in the range of 30 to 40 percent.

The model uses discharges as a measure of the use of hospital resources. The primary source of discharge data is New York Statewide Planning and Resource Cooperative System (SPARCS) discharge database. HIV-related discharges from New York City acute care hospitals were selected from all 1986 and 1987 discharges recorded in SPARCS. However, it is

widely acknowledged that the SPARCS database undercounts actual discharges, and that while the undercount occurs for discharges in all diagnostic categories it is particularly problematic for HIVrelated discharges. This is attributable to the limited number of diagnostic fields in the discharge abstract, the non-specific coding of HIV-related diagnoses during most of 1986, and desire on the part of providers in some instances to maintain confidentiality for the patient.

To correct for the undercount in SPARCS, adjustments to the SPARCS data were made independently and from different data sources for HHC and non-HHC hospitals. HHC SPARCS discharges were adjusted using information from an internal HHC discharge database. SPARCS discharge data for non-HHC hospitals were adjusted based on information contained in the quarterly AIDS survey conducted by the GNYHA and HHC. The final set of discharge data that was used to calculate the regression equation for estimating future acute bed need was, therefore, adjusted for undercounting in both HHC and non-HHC hospitals by 37% overall.

The output of the regression is the expected number of discharges for each year from 1989 through 1993. To determine the number of beds needed to accommodate this level of demand, the model uses a length of stay (LOS) of 19.9 days and assumes an average inpatient occupancy rate of 90%. presents the estimated number of discharges, days, and beds needed each year from 1989 through 1993 to serve the projected average daily census (ADC) of hospitalized HIV-ill individuals.

As the base case, these projections assume that recent hospital utilization patterns will continue into the future. Two interrelated factors—length of stay and availability of post-hospital resources—are central to hospital utilization patterns. Therefore, these projections can be adjusted to account for the potential future availability of alternative levels of care, particularly housing, home care and institutional long term care. The impact of such an adjustment will be described after the discussion of the need projections for these alternative care services.

#### Housing and Long Term Care

The model to estimate housing and long term care service needs uses information about hospitalized adults with HIV-related illness to project both the number of persons in need of such services and the nature of the services they require. Given the very limited information available on the housing and long term care service needs of the HIV-ill population, we had to construct a model which

assumes that these needs are "expressed" (or "observed") at the time of a hospitalization, and that all HIV-ill adults in need of such services will, during a given calendar year, enter an acute hospital and have at least one stay of ten days or longer. While we recognize that this does not reflect the way in which service needs always occur in the real world, the available evidence indicates that this assumption is appropriate for modeling purposes, and is an improvement on other means available to estimate housing and LTC needs.

The information which describes the housing and long term care needs of hospitalized adults with HIVillness is derived from the New York State (NYS) AIDS Institute study of post-discharge needs (referred to as the AIMS survey), which is the most detailed information currently available. This survey was conducted in mid-1988, at the request of the NYS AIDS Institute and the NYS Department of Health, in the twenty New York City hospitals with the largest number of HIV-related discharges. Post-discharge needs were described in the AIMS survey based on a combination of observable patient characteristics which included: the ability of the patient and/or the support person to direct care; the functional status of the patient; and the availability and adequacy at discharge of the patient's living arrangement. Based on this combination of characteristics, placement settings were recommended.

The model developed by the Work Group assumes that the results of the AIMS survey are representative of the housing and long term care service needs of adult HIV-infected individuals who have at least one hospitalization of 10 days or more in a calendar year (the group surveyed). This assumption, which is central to the model, makes use of the best information available (AIMS survey) on housing and long term care service needs; allows us to link the housing and long term care needs projections to the discharges projected by the acute care model; and builds upon the base case assumptions that service delivery patterns will remain unchanged and that the relationships between prevalence and discharges and between discharges and the need for housing and long term care services, will remain constant over the life of the model.

However, it is very important to note the limitations of this approach. First, the application of the above assumption may result in service estimates that will likely lag behind actual need, since demand is expressed only at the time of hospitalization, while need may develop before hospitalization. Second, and related, it does not enable us to estimate the posthospital housing needs for people at the time of short (less than 10 days) hospitalizations, although this is presumably small since short stays suggest the absence of housing needs that would complicate discharge, and hence extend hospital stays. Third, it does not allow us to estimate housing needs for hospitalized children, or for the dependents of hospitalized adults. For these reasons, the model yields an underestimate of total HIV-related housing need.

To project the number of individuals who need housing or long term care, the model uses discharges projected by the acute care bed model that are adjusted to make them comparable to the AIMS survey population. (See Figure 2.)

Information from the AIMS survey was then used to develop five levels of service need based on a combination of (1) a patient's or the support person's reported ability to direct care; and (2) the level of support services required, as measured by the patient's functional status, i.e., the degree of assistance needed in activities of daily living (ADLs) and with instrumental activities of daily living (IADLs). (See Figure 3.)

Following this, the Work Group identified two categories of setting for providing post-acute care: housing, which includes homes, apartments and congregate housing facilities; and institutional long term care facilities, which include Health Related Facilities (HRFs) and Skilled Nursing Facilities (SNFs). The information on patient characteristics and on housing status was then used to construct a matrix to distribute individuals in need of post-acute care to settings for care. (See Figure 4.)

Clearly, in this model housing status is a critical determinant of placement options. The data from the AIMS survey suggest that 50% of the total population whose post-discharge needs were assessed had a home to which they could return at discharge.

Another 25% have been categorized by the Work Group as "precariously housed." They were admitted to the hospital from their homes but, for a variety of reasons-which include increasing clinical needs, exhaustion of the support person, rejection of the patient by the support person, eviction, failure to pay rent, or abandonment of the building-their previous living arrangement was not available at discharge without some form of intervention, such as rent support and/or other social or medical services. Based on the Models of Care report we have focused on the importance of services these people will need to remain in their previous living arrangements. Therefore our projections for housing need do not include this group, although they are included in the projection of need for home health care services presented later in this section. This group of precariously housed individuals will require other services as well, such as rent support and other social services to enable them to maintain their housing. While the amount of these services that is needed has not been estimated, we have indicated the number of people who could need these additional services. It is critical to note that failure to provide the range of services needed by this large population could *double* the estimated needs for housing that we have projected below.

The remaining 25% of the hospitalized adult HIV-ill population have been identified by the AIMS survey and by the Work Group as in *need of housing*. It is from this group alone that housing projections have been made. Figure 4 shows that housing projections are made for those who need housing *and* who are selfdirecting. Those individuals who are both in need of housing and in need of an institutional long term care placement (non-directing category) are not counted in the estimates of housing need; their need is used in the estimates of HRF and SNF beds alone.

To estimate the number of housing and long term care units needed in each of the five years of the forecast, an average length of stay (ALOS) in each category—HRF, SNF, and housing—had to be assigned. Each length of stay (LOS) estimate was derived from assumptions about the average survival of individuals at each level of service need, and on available information on LOS in existing housing and long term care settings.

The average length of stay in each category was then adjusted to account for the fact that not all individuals will enter housing and long term care placements at the beginning of each year. The adjustment results in the "average days of care per person per year." The average days of care are then used with the estimate of the number of persons in need of housing, HRF and SNF beds each year, and with assumed occupancy levels to calculate the number of housing units and long term care beds needed. The calculation of housing and long term care beds assumes an occupancy of 100%. Table III contains the ALOS, average days of care per person per year, and the number of individuals in need of HRF beds, SNF beds and housing units. Table IV summarizes the model and the projections for housing units and long term care beds for each year of the forecast

In making decisions about the appropriate setting for providing post-acute care, the Work Group used the principle recommended in the Models of Care Report: to maintain people in the most appropriate but least restrictive setting. For this reason, the Work Group's placement decisions have differed somewhat from those made in the AIMS survey report, where more individuals are placed in institutional settings.

While the Work Group has based its projections on

the recommendations contained in the Models of Care Report, we recognize that implementing them (for example, favoring housing settings in combination with homecare for self-directing individuals with intermediate and high level service needs) may not always be feasible. Certain individuals, particularly those with "high" level service needs, might choose to be placed in an HRF or in a SNF. For those self-directing individuals who need housing and who are identified in the AIMS survey as selfdirecting by virtue of the availability of a support person to direct care, logistical difficulties (e.g., finding housing near the support person, or having to provide housing for both the HIV-ill individual and the support person) may be so great as to make placement in a home setting impractical.

Within the health and social service sectors, there is as yet neither a regulatory framework nor an adequate reimbursement mechanism to support the development and operation of housing options. In addition, even at the level of institutional long term care for the HIV-ill, the regulatory framework and reimbursement mechanisms are only now in the process of being developed. Consequently, while the demand for housing and long term care has already exceeded available resources, the lag in the development of a regulatory and reimbursement framework continues to limit providers' ability to meet needs for all types and settings of post-acute care

#### **Home Health Care Services**

The home health care projections are, once again, based on the Work Group's analysis of the AIMS survey data. In keeping with the recommendations contained in the Models of Care report, and consistent with the approach described in the preceding section of this report, we assumed that all self-directing individuals will return to their home or be provided with housing at discharge. This assumption may overstate the need for housing and home health care, because: 1) certain self-directing individuals may choose to be placed in an HRF or in an SNF setting, and 2) in some cases, logistical problems associated with housing placement could make placement in a home setting impractical.

All self-directing individuals who were classified as having intermediate or high level service needs based on information from the AIMS survey, are projected to need home health care support.

People who have been categorized as self-directing and requiring a low level of service support, as a group are assumed to have no functional deficits as measured by ADL and IADL scores. Therefore, this group does not need in-home services for either personal care or chore services. (e.g., shopping, housekeeping or meal preparation.) However, it is recognized that some people in this group may require case management and intermittent nursing visits for clinical assessment to coordinate the range of services they will require. The housing and long term care model allows one to produce an estimate of the number of people who could require such case management support. Furthermore, it is assumed that the on-going clinical needs of this group will be met in an ambulatory setting.

An intermediate level of home health support is defined as the need for, at a minimum, periodic nurse monitoring, for an average of one visit every two weeks, and/or assistance with activities of daily living (up to 60 hours of paraprofessional care per week).

A high level of home health care support is defined as the need for 61 or more hours of paraprofessional service per week, and periodic visiting nurse visits for an average of one visit per week, and/or anywhere from two to twenty-four hours of continuous RN or LPN service per day. This group includes individuals in need of high technology home care services.

The model developed by the Needs Assessment Work Group projects the number of home health care program enrollment days, and the number of nursing visits and hours of paraprofessional service per year. Each measure has a different use for the purposes of planning to meet service need for home care. A home health care program enrollment day is as a day during which an individual is enrolled in a home health care program. As is suggested by the definitions outlined above, services need not be provided on each home care day. The number of home care enrollment days assumes the enrollment period in a home care program at an intermediate level of service will approximate the estimated HRF LOS and that the home care period of enrollment for persons needing a high level of service will be consistent with the estimated LOS for HIV-ill individuals placed in an SNF. Thus, for individuals classified as needing an intermediate level of home care support, enrollment is approximately 180 days; for individuals classified as needing an high level of service enrollment is estimated to be 120 days. Application of the assumption that HIV-ill individuals in need of housing and long term care services will enter the "system" at a constant rate during the year suggests that there will be an average of 136 days of home care enrollment needed per year for each individual at the intermediate level and 100 days of enrollment needed for each person in need of high level service. (This is analogous to the approach underlying the calculations upon which Table III is based.)

Table V displays the number of individuals, home

care enrollment days and average daily enrollment of HIV-ill persons projected to need home care services from 1989 through 1993.

Table VI illustrates the projected home care activity per year. It includes the number of periodic nursing visits, hours of continuous LPN or RN service and hours of paraprofessional service

#### **Ambulatory Care**

Ambulatory care services are an important part of the continuum of care for people with HIV-illness. As more is known about the course of HIV-illness and as new patterns of care emerge, services delivered in outpatient settings are likely to play an increasingly significant role in caring for people with AIDS and HIV-illnesses. This premise, which was highlighted in the Models of Care Report, establishes the context for our ambulatory care projections. The projections of need for ambulatory care take into account the needs of *all* HIV-infected individuals, including those who are asymptomatic, those who are symptomatic, and those with CDC-defined AIDS.

In order to forecast need for ambulatory care services for the full spectrum of the HIV-infected population, it was necessary first to estimate the number of HIV-infected asymptomatic and symptomatic individuals, and the number of those with CDC-defined AIDS for each of the forecast years. Based on data provided by the New York City Department of Health, it was assumed that as of the end of 1988 there was a cumulative total of 200,000 HIV-infected persons in New York City. This estimate was adjusted to account both for expected mortality and for the estimated rate of new infection in each of the five forecast years to arrive at the total number of HIV-infected individuals in each year from 1989 to 1993. Prevalence, as projected by the New York City Department of Health, was then used

to estimate the number of CDC-defined AIDS cases in each year.

The number of symptomatic individuals was estimated by using the projected incidence of CDC AIDS cases for each year from 1989 through 1993, and by assuming that the symptomatic phase of HIVillness begins three years prior to identification with CDC-defined AIDS. This assumption was based on utilization data from EBCBS that shows a discernable pattern of increased use of services during each of the three years prior to diagnosis with CDC- defined AIDS. Finally, the number of HIV-asymptomatic individuals was calculated for each year from 1989-1993 as the difference between the total number of HIV-infected, and the sum of the CDC-defined AIDS cases and HIV-symptomatic cases. Table VII contains the estimated number of individuals at each stage in the progression of HIV-illness for the years 1989-1993.

The relative lack of information on ambulatory care utilization by HIV-infected persons at each stage of the illness required that we use available information on utilization by the symptomatically ill HIV-infected to establish use rates for both the symptomatically ill and for those who have CDC-defined AIDS. While levels of utilization as measured by the available data may undercount the actual need for ambulatory care services particularly in the asymptomatic and early symptomatic stages of HIV-infection, it is assumed that the correlation between expressed demand, as measured by utilization in visits, and need improves as the disease progresses and a person becomes sicker.

Data on the utilization of physician services over time by patients with HIV-illness were obtained from Empire Blue Cross and Blue Shield (EBCBS.) These data were used to establish use rates for outpatient physician care measured in visits per person over time. A cohort technique was used to develop the data and this made it possible to establish use rates for the years pror to identification of CDC-defined AIDS (i.e., the symptomatic phase) as well as use rates for the years subsequent to identification with AIDS. These data established an unambiguous pattern of more and earlier treatment of the HIV-ill for the most recently diagnosed cohorts, which reflects recent changes in medical knowledge and treatment practices.

Little is known about the actual utilization of physician services by asymptomatic HIV-infected persons, and the EBCBS data does not establish use rates for this group. Therefore, an estimated use rate was developed based on information from clinicians directly involved in the care of people with HIVillness. It was assumed that while many asymptomatic HIV-infected persons may not now be getting care, under optimal circumstances services would begin to be delivered almost immediately after identification of HIV-infection.

A profile of use rates for physician visits was established using the EBCBS data and clinician estimates. The profile encompasses use rates for each stage in the spectrum of HIV-disease. It assumes 4 visits per person per year for HIV-asymptomatic cases; 4, 4 and 7 visits per person per year in the symptomatic stage (years 3, 2 and 1 prior to AIDS diagnosis); 18 visits per person per year for CDCdefined AIDS cases in the year of identification; and 27 visits for each year subsequent to AIDS diagnosis. The total number of physician visits projected in each year is a function of these stage-specific use rates applied to the numbers of people who are asymptomatic, symptomatic or who have CDC-defined AIDS.

It was assumed that the future pattern of utilization of physician services will be identical for each new cohort of HIV-infected persons. Therefore, these projections represent a conservative estimate of need. The Work Group acknowledges the possibility of underreporting of the use of physician services to EBCBS early in the disease. Moreover, these data may not adequately reflect patterns of treatment and intervention that have evolved in the past year, although use rates are based on the most recently measured data. In addition, they do not reflect the possibility that earlier identification of HIV-infection may result in higher levels of utilization during the asymptomatic and symptomatic phases than we used to develop our projections.

In addition, it should be noted that this methodology produces a forecast only for expected physician visits only, and does not encompass the full array of services that might be rendered in the outpatient setting. (See Table VIII)

#### **Effect of Availability of Sufficient**

#### Alternate Care Settings

The base case projections for each service assume that utilization patterns in the future will reflect those of the recent past. But clearly the development of new services and expansion of others will change those past utilization patterns.

The most obvious case of interactions among services involves acute hospital utilization. The base case acute care projections assume that current utilization patterns will continue into the future, and that the organization of services will remain essentially unchanged. In effect, it is assumed that there will not be any more long term care resources available than currently exist.

However, if housing, long term care, and related services are developed in sufficient numbers to meet the level of need projected in this report, people will be discharged sooner to more appropriate levels of care, and acute care length of stay will decrease. Consequently, the number of acute care beds needed will also decrease.

An adjustment was made to the acute care model to estimate the impact of providing the full complement of needed housing and long term care resources by the end of 1991. Non-acute days (based on analysis of alternate level of care data and long stay cases) were removed from the base projections of acute utilization. This adjustment resulted in an acute average length of stay of 16 days, and reduced the number of beds needed by the end of 1991 (the earliest date by which the projected alternative institutional care resources could realistically be in place) from 3,660 to 2,940. The continued expansion of the required alternative care resources to the levels required in 1993 will permit the reduction of the base case acute projections for that year from 4,990 beds to 4,020 beds. (See Table IX)

To put it another way, the impact of not producing the needed housing and long term care resources is roughly one thousand hospital beds. Similarly, the impact of not producing sufficient housing and home care resources may also be quantified in terms of the additional demand for institutional long term resources

#### What Could Change Impacts on Resource Estimates

In addition to the changes created by interaction of new and expanded services, other predictable changes in the composition of the City's population, in the populations affected by HIV-illness, in the treatment of HIV-illness, in testing and counseling for HIV-infection, and in education and prevention services will all have an affect on the future delivery and use of health and human services. Some of these are more or less outside the direct control of policymakers, while others are directly susceptible to intervention. All of these possible future scenarios, however, appear likely to increase rather than to diminish our estimates of required resources.

#### **Poverty and Health**

An increasing proportion of the City's population is poor. The economic profile of New York City in 1989 is one in which 25% of all New Yorkers and 40% of New York's children live in poverty. The problem of providing appropriate health care services is exacerbated by poverty. In general, persons living in poverty are more frequently ill. Moreover, they have well documented difficulty in gaining access to primary health care services due to financial or other obstacles. As a result, they are compelled to rely on the most expensive forms of care—emergency rooms and inpatient hospital services.

AIDS has already amplified these long-standing patterns. In order to avoid further reliance on the acute care system, financial and organizational mechanisms must be established to facilitate access to appropriate levels of care.

#### Substance Abuse

The number of substance abusers in New York City is increasing. They are a diverse group who share a common characteristic—addiction. The group includes ethnic minorities, gay and bisexual men, the homeless, the urban poor, youths, and both men and women. The dual diagnosis of substance abuse and HIV-infection places a special burden on the resources of the health and human service systems.

The predicted growth in the substance abusing population that is HIV-infected is significant. Early diagnosis and treatment of HIV-illness rarely occurs in this population. To date, ambulatory services have neither been effectively provided nor provided in sufficient quantity to this group, nor do prevention and education campaigns appear to have had any major impact.

As AIDS increases among substance abusers, more women are likely to be infected—either as a result of their own use of I.V. drugs, or through sexual transmission. In either case, higher numbers of infected women mean higher numbers of infected children. This heightens the need for more effective and creative prevention and education services and increases the demand for family-oriented direct care services.

Expanding drug treatment programs and counseling services may have a positive effect on reducing the incidence of new HIV-infection among drug users in the future. IVDUs have reportedly been more likely to reduce high- risk drug-related behaviors, such as injecting drugs and sharing needles, than to alter high-risk sexual behavior, or to use condoms. Therefore, the secondary sexual spread of HIV by IVDUs, even by those in treatment, will continue to be a problem. Appropriate counseling and preventive education, with long-term follow-up, must be greatly expanded to encourage positive behavioral change with regard to sexual behavior among IVDUs and to reduce future spread of HIV-infection.

#### Housing

Poverty is often associated with substandard housing and homelessness, and the needs of the homeless are in many ways more complex than those of some of the other at-risk AIDS populations. Much like the substance-abusing populations, the homeless and poorly housed often develop more acute HIVrelated illness and are less easily treated on an ambulatory basis.

In summary, some HIV-infected persons have preexisting conditions that affect their ability to direct their care. HIV-infection often exacerbates these conditions. Drug and alcohol abuse and mental disability are prominent pre-existing conditions in the epidemic to date. Very serious shortages in treatment capacity for drug and alcohol abuse and for mental illness have already complicated care for HIV-infected individuals with these conditions, because they need higher levels of service than those required by the HIV-illness alone. A commitment to provide the home care and ambulatory services called for by both the Models of Care and Needs Assessment reports will require a commitment of additional resources that will be needed by health care personnel to serve these seriously ill individuals with multiple health and social needs.

#### Interventions

As we respond to the HIV epidemic, several basic types of intervention—medical treatment, HIV testing and counseling, and preventive education—need to be expanded or improved, which, in turn, will affect the need for and use of other services.

#### Medical Treatment

Currently, most medical researchers believe that a substantial majority of HIV-infected persons, if not all, will develop symptomatic illness and ultimately be diagnosed as having AIDS; thus all infected individuals will have medical service needs sooner or later. Enhanced knowledge of the HIV-related disease process and more effective interventions in the medical sequelae of HIV-infection are increasing patient longevity. For example, there is increasing awareness that patients can benefit from early intervention and it is almost certain that there will be increased use of AZT and aerosolized pentamidine for patients in the earliest stages of the disease. This will increase the demand for ambulatory services by a population for whom, until recently, there was no treatment. This increase in demand is not incorporated in the base projections. Moreover, increased longevity will likely translate into increased case prevalence and increased service needs. As patients survive longer, new medical manifestations of HIV-infections may appear that are more complicated and expensive to treat than those commonly seen today, and secondary HIV-related epidemics, of tuberculosis, for example, may also emerge and require additional social interventions, treatments and financial resources.

#### HIV Testing and Counseling

Both anonymous and confidential HIV testing will likely increase in New York City. The benefits of expanded testing will include the gathering of additional epidemiological data, which will better facilitate both caseload and service needs projections, as well as provide increased opportunities for early intervention, counseling and preventive education. Expanded testing will also increase the need for counseling programs, primary care, personnel and support groups for the infected. New and more sensitive testing procedures will likely result in earlier diagnosis of HIV-infection and increase the need for earlier interventions.

While expanding appropriate counseling will likely be beneficial in curtailing high-risk behaviors and reducing the rate of new HIV-infection, earlier counseling and identification will also increase the need for services.

#### **Prevention and Education**

Prevention and education programs developed and implemented by the gay community have succeeded in reducing the spread of HIV-infection among gay white men. However, the need for effective programs in other high risk groups is paramount. Unless innovative and effective education and prevention programs are developed for minorities, adolescents and substance abusers and their sexual partners, the HIV epidemic will continue unabated with a sustained demand for HIV-related services into the next century. Similarly, HIV-related discrimination will continue to mount unless the public and the entire medical establishment recognize both the need for preventive education designed to reduce discrimination and the impact that uninformed social opinion places upon the HIV- infected individual.

It is clear that what could change in the HIV epidemic is *everything*. And nearly all foreseeable changes suggest that the demand for all types of service will increase, not decline, beyond the levels projected in this report. This underscores the need for more creative organization, and for the commitment of more financial resources to meet these pressing needs

#### Future Planning Agenda

As noted previously, limitations in time, resources

and data prevented the Work Group from accomplishing all of its original objectives. It is essential that planning continue along the lines initiated here. In particular, it is imperative that work continue on refining the projection methodologies so that they are dynamic, integrated and comprehensive. Projections are particularly important for social services, pediatrics, testing and counseling, substance abuse and mental health. For this to occur, data collection and standardized reporting must be vastly improved and information disseminated to the broadest possible audience.

Finally, both City and State and voluntary providers, individual clinicians, advocates and consumers must work together closely and openly in an atmosphere of mutual trust not only to assess and predict needs, but most importantly, to devise and implement the strategies that will produce the needed services.

A recent report (February 1989) by an expert panel on AIDS case projection methodologies confirms the results of this study, and states that the proportion of hospitalized individuals not meeting the CDC AIDS case definition has remained constant, despite the expansion of that definition. The panel recommends that a correction factor of 30% to 40% be used in case projections used for planning for services.

### System-Wide Requirements 1989-1993

	End of: 1989	1990	1991	1992	1993
Acute Beds	2,420 (base)	3,020 (base)	2,940	3,470	4,020
Housing Units	1,280	1,590	1,930	2,280	2,640
Health Related Facility Beds	290	360	430	510	590
Skilled Nursing Facility Beds	310	380	460	550	630
Home Care Average Daily Enrollment	1,670	2,080	2,520	2,980	3,450
Physician Visits	934,480	958,840	979,250	993,940	1,003,620

### Relationship of the "Stages" of HIV-Infection\* and Other Terminology As Used in the Report of the Needs Assessment Workgroup



These stages are not CDC stages of HIV-infection and illness. They represent the relationship of the three stages of HIV-infection as used in the report of the Needs Assessment Workgroup.

"HIV-related conditions fall on a continuum of progressively more serious disease. With a long latency period, HIV-related disease develops as a low level, chronic infection that...progressively expresses itself over a period of years. In the later stages of HIV-infection, the individual has his or her immunological capabilities diminished to the point of becoming highly susceptible to serious opportunistic infections and tumors. 'AIDS' as defined by the Federal Centers for Disease Control, covers many of the serious conditions that develop in the later stages of HIV-infection." (NYC AIDS Case Projections, 1989-1993. NYC DOH, March 1989)

Figure 1

### Base Case Projections for Acute Care Discharges, Days and Beds 1989-1993

	Discharges	Days	Beds
End of: <b>1989</b>	39,970	795,340	2,420
1990	49,780	990,600	3,020
1991	60,370	1,201,340	3,660
1992	71,350	1,419,820	4,310
1993	82,450	1,640,730	4,990

- The base case assumes an increase in prevalence but no changes for the period 1986-1993 in LOS, occupancy level, or organization and utilization of acute and non-acute services.
- Model combines information about prevalence with data about use of inpatient service (discharges).
- Who's counted: all persons hospitalized for AIDS or HIV illness (determined by SPARCS discharge diagnostic codes).
- Discharge base is adjusted for underreporting in SPARCS using HHC discharge data for HHC hospitals; GNYHA quarterly census data for non-HHC hospitals.
- Bed need is estimated using observed 1987 LOS: 19.9 days.



84



Figure 3

### Housing, Institutional Long Term Care and Home Care Services Based on Level of Service Needed and Current Housing Status

### **Current Housing Status**

	Level of Service Need	Have a Home (50%)	Precariously Housed• (25%)	Need Housing∗ (25%)
Institutional Needs (14%)	Non-Directing Intermediate	HRF	HRF	HRF
	Non-Directing High	SNF	SNF	SNF
Non-	Self-Directing Low			Housing
Non- Institutional Needs (86%)	Self-Directing Intermediate	Home Care	Home Care	Housing Home Care
	Self-Directing High	Home Care	Home Care	Housing Home Care

\* For those who do not require institutional care, other forms of assistance may also be required. For example, those who are precariously housed will need rent assistance and/or social services to help maintain their housing. Those who need housing may also need social services.

....

#### Figure 4

### Number of Individuals, ALOS, Average Days of Care\* and Beds\*\* for HRF, SNF and Housing 1989 - 1993

	HRF		SM	NF	Housing		
	ALOS (days):	182	ALOS (days):	120	ALOS (days)	365	
	Avg. Days of (	are: 136	Avg. Days of	Avg. Days of Care: 100		Avg. Days of Care. 182	
	Individuals	Becs	Individuals	Beds	Individuals	Beds	
1989	760	290	1,120	310	2,560	1,280	
1990	950	360	1,390	380	3,190	1,590	
1991	1,150	430	1,690	460	3,870	1,930	
1992	1,360	510	2,000	550	4,580	2,280	
1993	1,580	590	2,310	630	5,290	2,640	

\* Average Days of Care is the average number of days in a calendar year that an individual will spend in a given setting. It is derived from the average length of stay assumed for each setting. The adjustment reflects the fact that not all individuals will enter a setting for care early enough in the year to complete the average length of stay.

\*\* Beds are calculated using an occupancy rate of 100%.

87

Table IV

### Base Case Projections for Housing Units and Institutional Long Term Care Beds 1989 - 1993

	Housing Units	Health-Related Facility Beds	Skilled Nursing Facility Beds
End of: 1989	1,280	290	310
1990	1,590	360	380
1991	1,930	430	460
1992	2,280	510	550
1993	2,640	590	630

- Model uses discharges projected in acute care model to determine the number of individuals each year who need housing or long term care placement.
- Who's counted: hospitalized HIV-III adults.
- Information from AIMS Survey is used to distribute people into level of service needs.
- Placement settings are determined based on a combination of level of service need and housing status.
- Length of stay for each setting is used in combination with the number of persons who require the placement setting to calculate the number of housing and long term Care resources needed:

### Home Care Enrollment Days and Average Daily Enrollment for Individuals Requiring an Intermediate or High Level of Home Care Service 1989 - 1993

		Level of Service	Number of Individuals*	Home Care Enrollment Days''	Home Care Average Daily Enrollment***
End of:	1989	Intermediate High	3,400 1,475	462,400 147,500	1,267 404
	1990	Intermediate High	4,235 1,837	576,960 183,700	1,578 503
	1991	Intermediate High	5,136 2,228	698,496 222,800	1,914 610
	1992	Intermediate High	6,070 2,633	825,520 263,300	2,262 721
	1993	Intermediate High	7,015 3,043	954,040 304,300	2,614 834

\* Number of Individuals is derived from the model for projecting housing and long term care.

\*\* Home Care Enrollment Days=the number of individuals X average days of care per person per year. Average days of care for each level is derived from the estimated home care program enrollment period. Enrollment at intermediate level is estimated at 182 days; average days of care=136. Enrollment at high level=120 days; average days of care=100.

\*\*\* Average Daily Enrollment=Home Care Enrollment Days/365.

### Projected Home Health Care Visits and Hours of Service Based on Projected Number of Home Health Care Enrollment Days 1989 - 1993

		Periodic Nurse Visits*	Continuous LPN or RN Hours**	Paraprofessional Hours***
End of:	1989	53,910	343,680	3,335,480
	1990	67,140	428,020	4,154,400
	1991	81,430	519,120	5,038,420
	1992	96,240	613,490	5,954,520
	1993	111,220	709,020	6,881,620

- \* Periodic Nurse Visits are calculated based on an average of .071 visits/day for each individual at an intermediate level of service need and .143 visits/day for those who are in need of high level services.
- \*\* Continuous LPN or RN Hours are calculated only for those who are in need of high level services using an average of 2.33 hours of care/day.
- \*\*\* Paraprofessional Hours are calculated using an average of 4.25 hours of service/day for those who need an intermediate level of service and 9.29 hours/day for those needing a high level of service.

90

### Estimated Number of HIV-Infected Individuals By Stage of Disease 1989 - 1993

	1989	1990	1991	1992	1993
Alive CDC-AIDS Cases (Prevalence)	10,240	12,340	14,540	16,790	19,140
HIV+ Symptomatic	37,510	42,780	48,060	53,340	58,620
HIV+ Asymptomatic	139,150	128,460	116,060	101,880	85,790
Total Cases	186,900	183,580	178,660	172,010	163,550

91

### Base Case Projections of Ambulatory Physician Visits 1989 - 1993

1989	934,480
1990	958,840
1991	979,250
1992	993,940
1993	1,003,620

- Physician visits for all HIV infected individuals are estimated
- Data from Empire Blue Cross Blue Shield on physician visits per person per year over the course of illness were used to establish use rates for HIV symptomatic individuals and those with CDC-defined AIDS.
- Use rates were developed for HIV+ asymptomatic individuals based on discussions with clinical providers.
- 'Stage-specific' use rates were then applied to estimates of the HIV infected population to project physician visits.

Acute Care Bed Projections Adjusted for Effect of Adequate Housing & Long Term Care Resources



- Assuming that housing and long term care resources are available by 1991, acute bed need is reduced.
- ALOS is reduced to 16 days by removing ALC and long stay days.

### Appendix 1 Subgroup Membership, Consultants, Staff

#### Orangization of the Needs Assessment Work Group

The members of the Needs Assessment Work Group were divided into four subgroups. Many additional people and organizations contributed generously of their time and expertise in developing this report as members of the subgroups and as special consultants. The work of each of the subgroups is described in the following pages and after the description there is a list of the membership of the subgroup.

#### **Resource Inventory Subgroup**

The Needs Assessment Work Group identified a need for an inventory of the health and social services currently being provided to individuals who are HIVinfected or who have AIDS in New York City.

In order to compile the inventory, representatives of the agencies providing or contracting for services and the associations representing them were asked to participate in the Resource Inventory Subgroup. Representatives from a wide variety of service agencies and associations agreed to participate and all of the information compiled on services provided to HIVinfected individuals and persons with AIDS in 1987 and 1988 is due to their efforts. These agencies and associations included:

AIDS Resource Center (Bailey House) **Empire Blue Cross and Blue Shield** Gay Men's Health Crisis Greater New York Hospital Association New York City AIDS Service Delivery Consortium New York City Commission on Human Rights New York City Department of Corrections New York City Department of Health New York City Department of Mental Health, Mental **Retardation and Alcoholism Services** New York City Health and Hospitals Corporation New York City Human Resources Administration New York County Medical Society United Hospital Fund Veterans Administration Medical Centers of New York Visiting Nurse Service of New York

The charge before this group was large and the time available in which to complete the task was limited. There was a willingness on the part of the various participants to provide as much information as possible, however, there are significant gaps in the information available on the number of resources, as well as on the utilization of these resources. Data are maintained in different forms by various agencies and providers and due to issues around coding practices, definition, and confidentiality it is often difficult if not impossible to retrieve the desired information. The inventory of resources and utilization that is the result of efforts of the Resource Inventory Subgroup is presented in Appendix 2.

**Resource Inventory Subgroup Membership** Robert H. Thompson, **Chair** Executive Director The New York County Medical Society

#### Members:

Michael Baker Deputy Assistant Commissioner for AIDS Planning New York City Department of Health

Mary Carroll Associate Director, Government Affairs Greater New York Hospital Association

Thomas Chardavoyne Director of Program Development Catholic Medical Center of Brooklyn and Queens

Mark X. Cronin Director, Office of Program and Development Human Resources Administration

Marilyn DeLuca Special Assistant to the Director Veterans Administration Medical Center - Bronx

Rose Dobrof Executive Director Brookdale Center on Aging Hunter College

Jon Eisenhandler, Ph.D. Project Manager Empire Blue Cross and Blue Shield

Holly Michaels Fisher Director of Regulatory Affairs The New York County Medical Society

Jesse Green, Ph.D. Director of Health Policy Research New York University Medical Center

John Griggs Staff Consultant, AIDS Policy Initiatives United Hospital Fund

Howard Grossman, M.D. Gay Men's Health Crisis

Eileen Hanley, R.N. Director, AIDS Services Visiting Nurse Service of New York

Neil Heyman Vice President, Long Term Care Division Greater New York Hospital Association

Gordon Hough, Ph.D. Administrator Bailey House

Suzzette Johnson Assistant Director of Health Services New York City Department of Corrections

Mark Kator Executie Director Coler Memorial Hospital

Linda McBride Associate Director Coler Memorial Hospital

Regina Neal Assistant Director, Office of Planning Services New York City Health and Hospitals Corporation

#### Population Subgroup

The Population Subgroup's most difficult challenge was to identify the issues it could most effectively examine on the impact of the AIDS epidemic on the diverse population of New York City. Although we would have liked to have included much of the detail from our research, we had to establish limitations in order to give our report the definition required to make it purposeful.

Our work provided demographic background on the AIDS epidemic for specific populations. We attempted to examine the implications of the epidemic on drug abusers, gay men, the homeless, urban poor, and youth. We also examined each group's ability and inability to respond to health problems posed by the epidemic.

In sum, we succeeded in raising questions vital to the survival of the people of New York in the face of one of the most serious health crises to threaten our society. We also attempted to identify those conditions which will inevitably continue to deteriorate should responses from our health institutions and social institutions remain at current levels. We hope our report will help to prepare New Yorkers for what we're likely to face from the AIDS epidemic over the next ten years.

Population Subgroup Membership Frank Oldham, Chair Assistant Director of Education for Community Outreach Gay Men's Health Crisis

*Members:* Craig Harris AIDS Education Specialist and Consultant Gay Men's Health Crisis

Ralph Horton, Ph.D. Associate Director New York City AIDS Task Force

Ellen Rautenberg Assistant Commissioner Division of AIDS Program Services New York City Department of Health

Marvin Roth Director, Capital Planning Division Department of City Planning

#### Scenarios Subgroup

The Scenarios Subgroup examined several aspects of the epidemic to speculate on the implications of changes in both the nature of epidemic itself and in the interventions that are being pursued. In short, the basic mission of the Scenarios Subgroup was to engage in a "what if?" consideration of several elements of the epidemic and the response to it in New York City, asking, in other words, what would be the possible result of doing certain things? And, conversely, what would be the possible result of not doing certain things?

The Subgroup focused its attention on three areas:

1. Changes in HIV antibody testing and counseling: How would the expansion of testing and counseling and the introduction of new testing methodologies affect future service needs and resource utilization?

2. Changes in clinical and treatment aspects of AIDS and HIV disease: How would the increasing use of therapies such as AZT affect future service needs and resource utilization; and

3. Changes affecting the intravenous drug-using population: How would the expansion of drug treatment programs and AIDS preventive education for addicts affect the future course of the epidemic.

To pursue its objective, the subcommittee held a series of meetings with experts in each of these areas and asked them to share their knowledge and insights. Meetings were held with:

- Michael Baker and staff of the New York City Department of Health, Division of AIDS Program Services, to discuss current and future issues in regard to testing and counseling. (11/4/88);
- Gerald Friedland, M.D., of Montefiore Medical Center, to discuss changes in treatment and clinical aspects of HIV disease (11/8/88); and
- David Novick, M.D., of Beth Israel Medical Center, and Samuel Friedman, Ph.D., of Narcotic and Drug Research, Inc., to discuss the IV drug-using population, drug use, and treatment programs (12/6/88).

Scenarios Subgroup Membership David Gould, Ph.D., Chair Vice President for Program United Hospital Fund

#### Members:

Michael Baker Deputy Assistant Commissioner for AIDS Planning New York City Department of Health

John Griggs Staff Consultant, AIDS Policy Initiatives United Hospital Fund

Gerald Friedland, M.D. Professor of Medicine Montefiore Medical Center

Donald DesJarlais, Ph.D. Assistant Deputy Director Research and Evaluation Narcotic and Drug Research, Inc.

Sally Kohn Executive Director AIDS Services Delivery Consortium

Gerald Landsberg, D.S.W. Assistant Commissioner Manhattan Borough Office/Special Assistant New York City Department of Mental Health Mental Retardation and Alcoholism Services

Peter Ungvarski, M.S., R.N., C. Clinical Nurse Specialist - HIV Infection Visiting Nurse Service of New York

#### Needs Model Subgroup

The tasks of the Needs Model Subgroup included review of existing data sources, evaluation of available projection techniques, and application of the appropriate methods to project resource needs.

The Subgroup met intensively between October 1988 and March 1989. At our initial meeting it was decided to focus attention on five major areas of need: acute care, long term care, housing, home care and ambulatory care. It was recognized that time limitations could prevent us from projecting other important areas of need such as substance abuse services and mental health services. In the course of completing our work, we called upon our membership, as well as a number of individuals who participated as consultants, to provide the expertise necessary to develop the methods to forecast levels of resource need.

The Subgroup decided to begin its work by evaluating acute care bed need methodologies developed by the New York State Department of Health and by the New York City Health and Hospitals Corporation. The Subgroup adopted a model that was derived from each of these existing approaches.

Information from the New York State AIDS Institute study of "Post Discharge Needs of Hospitalized Patients" was used to develop the conceptual framework for the housing and long term care model. The home care estimates are derived from the housing and long term care model from the estimates of those whose post-acute care needs do not require an institutional setting, but can be met at home with the appropriate home care services.

The ambulatory care methodology reflects physician use, and other diagnostic and treatment utilization where possible, and it takes into account differential utilization by stage of illness to the extent possible.

Needs Model Subgroup Membership Martha Wolfgang, Chair Vice President for Planning St. Luke's-Roosevelt Hospital Center

#### Members:

Lawrence D. Brown, Ph.D. Professor and Head Division of Health Administration Columbia University School of Public Health

Raymond Cornbill Executive Vice President North General Hospital 98 New York City AIDS Task Force

Jon Eisenhandler, Ph.D. Project Manager Empire Blue Cross and Blue Shield

Caroline Greene Vice President for Planning Cabrini Medical Center

Gordon Hough, Ph.D. Administrator Bailey House

Feygele Jacobs Director of Planning St. Luke's-Roosevelt Hospital Center

Michael Lebert Senior Systems Analyst New York City Health and Hospitals Corporation

Leonard McNally Director of AIDS Program Village Nursing Home

Alan Neaigus Formerly: Supervising Systems Analyst New York City Health and Hospitals Corporation

Regina Neal Assistant Director, Office of Planning Services New York City Health and Hospitals Corporation

Lynn Rogut Director of Planning SUNY Health Science Center at Brooklyn

Marvin Roth Director, Capital Planning Division New York City Department of City Planning

Steven Schall Associate Staff Analyst New York City Department of Health Patti Weinberg Assistant Director, AIDS Initiative New York City Health and Hospitals Corporation

Ann Wyatt Assistant Director, Office of Long Term Care New York City Health and Hospitals Corporation

Consultants to the Needs Assessment Work Group The Work Group is also indebted to the following consultants who provided expert assistance:

Rona Affoumado Executive Director Community Health Project

Steven Blum, Ph.D. Director of Epidemiology and Surveillance Statistics New York City Department of Health

James Fordyce, Ph.D. Senior Behavioral Analyst New York City Department of Health

John Griggs Staff Consultant, AIDS Policy Initiatives United Hospital Fund

Joan Guzik Associate Planner SUNY Health Science Center at Brooklyn

Rand Stoneburner, M.D. Project Director, AIDS Research Unit New York City Department of Health

Pauline Thomas, M.D. Director of AIDS Surveillance New York City Department of Health

### Appendix 2 Resource Inventory and SPARCS Data

Inpatient Acute Resources and Utilization	- 5
Resources	5
Utilization	4
Institutional Long Term Care and Housing	
Resources and Utilization	9
Long Term Care	9
Housing	11
Home Health Care Service	12
Social Services	15
HRA-Sponsored Services	15
New York City AIDS Service Delivery Consortium	16
Ambulatory Care 18	
Patterns of Ambulatory Care Utilization and Service Delivery	18
Descriptive Profile of Treatment Interventions	19
Utilization of Ambulatory Care	22
Primary Care Physician Survey on AIDS	23
Testing and Counseling and Prevention and Education Services	24
NYC DOH AIDS Counseling and Referral Hotline	24
NYC DOH HIV Counseling and Testing	26
NYC DOH Bureau of Sexually Transmitted Disease (STD) Contr	rol 27
NYC DOH Bureau of Tuberculosis (TB) Control	28
Legal Services	30
Mental Health Services	32

#### Inventory of Current Resources and Utilization

The resource inventory is a compilation of services provided to individuals with HIV-infection and HIVillness, but it is by no means a complete picture. Hospital utilization data may undercount actual use, long term care data are incomplete, and ambulatory care utilization data are very limited. In addition, there are tremendous gaps in information on a significant range and scope of services provided by private physicians and voluntary and communitybased organizations.

The information presented in the inventory was collected during the last quarter of calendar year 1988 and the dates of reported service utilization and capacity reflect the volume of activity for the most recent period for which the information was available. In the case of SPARCS data, the most recent data available are for calendar year 1987.

#### Inpatient Acute Resources and Utilization Resources

"The Fact Book on New York City Hospitals Serving AIDS Patients," which was prepared as an Appendix to the recently released (March 1989) Report of the Mayor's Task Force on AIDS, contains data on the current certified and operating medical/surgical bed capacity in New York City hospitals. According to the data in the Fact Book, in November 1988 there were approximately 23,800 certified medical/surgical beds in New York City hospitals. However, only 22,700 of these beds were open and staffed for use. In January 1989 according to the Greater New York Hospital Association (CNYHA)/Health and Hospitals Corporation (HHC) AIDS census survey, the average daily census (ADC) of patients with confirmed and suspected AIDS in non-Federal acute care hospitals in New York City was 1,669.

While non-federal acute care hospitals provide the bulk of inpatient care to patients with HIV-illness in New York City, the Veterans Administration Medical Centers (VAMCs) also provide services to eligible individuals. The January 1989 GNYHA/HHC AIDS census survey recorded an ADC of 71 patients in the VAMCs.

There are three VAMC facilities in New York City: in the Bronx, Brooklyn and Manhattan. The population that they serve is drawn from Manhattan, the Bronx, Brooklyn, Queens, Staten Island, Long Island, Southern Westchester, Rockland County, and New Jersey. All VAMCs offer a full multi-disciplinary approach to the treatment of patients diagnosed with AIDS or HIV-illness and they provide intensive clinical follow-up as well as continuing social support for the patient and his family.

The Manhattan VAMC has a 16 bed AIDS unit with overflow to other units as needed. In addition, there is a 6 bed day-hospital for outpatient procedures. Neither the Bronx nor the Brooklyn VAMC has a designated AIDS unit. However, the Brooklyn VAMC has plans to open a 50 bed domiciliary residence. AIDS patients, especially those with dementia, will be placed according to need and eligibility.

As of November 1988, the Manhattan VAMC was providing services to 507 AIDS patients which was the highest number of patients being served in the entire VA system. The Bronx VAMC was providing services to 258 patients and the Brooklyn VAMC was providing services to 212.

#### Utilization: Greater New York Hospital Association/Health

#### & Hospitals Corporation Quarterly AIDS Census Survey

The Greater New York Hospital Association (GNYHA), in conjunction with the New York City Health and Hospitals Corporation (HHC) has conducted a census survey of hospitalized patients with CDC-confirmed AIDS and suspected AIDS on a quarterly basis since March 1987. Beginning with the October 1988 survey, the Veterans Administration Medical Centers (VAMC) of New York City have also participated.

The results of the most recent survey which was conducted during the week of January 8-14, 1989, indicate an average daily census of 1,740 patients. The

#### 100 New York City AIDS Task Force

census of GNYHA member hospitals was 1,081 (62% of total cases); HHC's census was 588 (34% of total cases); and the VAMC census was 71 (4% of total cases). The breakdown of the survey results by hospital group and by CDC-defined and suspected AIDS cases for adults, pediatrics and all patients is shown in Table I.

Comparison of these figures with the results of earlier surveys indicates that there has been an increase of 55.8% in the average daily census of CDCconfirmed and suspected AIDS patients in GNYHA member and HHC hospitals since March 1987 and an increase of 4% since October 1988. (These comparisons exclude VAMC data because they have only recently begun to participate in the quarterly survey.) The results of the seven quarterly surveys that have been conducted since March 1987 are shown in Table II

New York Statewide Planning and Resource Cooperative System (SPARCS)

The New York State Department of Health maintains a database of information on all discharges that occur from New York State hospitals in a calendar year. Each record contains demographic, utilization, clinical and financial information about the discharge. Data from SPARCS were tabulated to provide a description of the HIV- related discharges from New York City hospitals in 1987, the most recent year for which SPARCS data are available. Tables which contain the tabulated SPARCS data are at the end of the Appendix, however, a summary of the information follows.

The criteria for selecting HIV-related discharges is based on the occurrence of specific diagnostic codes in the discharge record. The diagnostic codes used include: 136.3; 279.10; 279.19; 42.0 - 42.9; 43.0 - 43.9; 44.0 - 44.9; and 795.8. There were 17,289 HIV-related discharges from New York City hospitals in 1987 which accounted for 343,951 patient days with an average length of stay of 19.9 days. Of these discharges 5,375 (31%) were from HHC facilities; 11,818 (68%) were from voluntary hospitals; 48 (.3%) were from proprietary hospitals; and 48 (.3%) were from the State-run hospital in New York City.

Length of stay varied by hospital auspices: it was longest on average for discharges from HHC hospitals, at 23.3 days. Discharges from New York City voluntary hospitals had an ALOS of 18.4 days. The ALOS for discharges from New York City proprietary hospitals was 12.2 days; and it was 14.0 days for discharges from the State-run hospital.

Fifty-four percent of all HIV-related discharges in 1987 were identified as Medicaid discharges; 31% were identified as discharges where the payor was either Blue Cross or a commercial insurer. Eight percent of all discharges were identified as self pay and 3% as Medicare discharges. The rest (5%) were identified as having another unspecified payor source or as having no payor source identified in the discharge record.

The distribution of HIV-related discharges from New York City hospitals in 1987 reflects the occurrence of AIDS by age in the general population with 73.4% of the discharges occurring in the age group 25 to 44 years. Pediatric discharges, defined by age as less than 13 years to be comparable to the Centers for Disease Control (CDC) definition of a pediatric case, accounted for 7.5% of the total discharges. Adolescent discharges defined as 13-18 years of age, were a very small proportion of the total discharges: 0.4%. Fourteen percent of the discharges were of individuals from 45-64 years and 0.6% of the discharges were of individuals 65 years and greater.

Of all HIV-related discharges 94% were identified as New York City residents: 39% were individuals whose residence was in Manhattan; 22% were from Brooklyn; 19% were Bronx residents; 12% were Queens residents and 2% lived in Staten Island. The remaining discharges, approximately 6% of the total were either non-NYC residents, or had missing or incorrect zip codes in the discharge record.

#### Institutional Long Term Care and Housing Resources and Utilization

#### Long Term Care

At the current time, the only facilities providing long term care services to persons with AIDS are Coler Memorial Hospital and Goldwater Memorial Hospital, both of which are HHC facilities, and Terence Cardinal Cooke Health Center which is run by the New York Archdiocese.

Coler Memorial Hospital has 22 AIDS beds and is planning to open another 28 beds in 1989. As of November 1988, 120 AIDS patients had been admitted to Coler in the period since July 1985, with an average length of stay of 119 days. Eighty-one percent of the patients are male, 19% are female.

Goldwater Memorial Hospital currently has 62 AIDS beds on two units. In the period from July 1, 1987 through June 30, 1988, there were 51 admissions, 7 discharges, and 38 deaths. The current average length of stay is 84 days. Since 1986, a total of 122 patients have been served.

The Terrence Cardinal Cooke Health Center has recently opened 44 skilled nursing beds for AIDS patients. Several other voluntary health care facilities and agencies in New York City have plans or have begun development of long term care beds and facilities for AIDS patients. Based on Certificates of Need which had been submitted by November 1988
for the development of long term care beds, it is estimated that by 1991, 314 additional skilled nursing and 158 new health related beds could be available in New York City. A summary of the development plans is contained in Table III.

#### Housing

The New York City Human Resources Administration (HRA) has developed or provides support for a number of programs designed to keep adults with AIDS from losing their apartments and to provide housing to those who are homeless. Among these programs are:

**Rent Support:** HRA has obtained approval from New York State to provide enhanced rent assistance payments above the standard allowance for persons with AIDS.

Bailey House: A 44-bed residence for homeless persons with AIDS, it is operated by the AIDS Resource Center under a contract with the HRA. In addition to shelter, the residence provides support services such as counseling, health monitoring, 24hour supervision, housekeeping and laundry service, as well as food service. Home care services are provided to those residents who require it.

Scatter Site Apartments: This program, operated under contract with two not-for-profit agencies, offers 20 apartments at several locations for income eligible persons with AIDS. The contractors lease, furnish, maintain and supervise apartments and monitor the health and social service needs of the residents.

**Placement in Single Room Occupancy Hotels (SROs) and YMCAs:** HRA houses individuals in SROs or YMCAs; these are usually provided as a last resort.

Shellers: New York City policy is that persons who are known to have AIDS, or identify themselves as having AIDS and who seek assistance at a shelter should be referred to the HRA Case Management Unit (CMU). The CMU will help them find a residence.

With the exception of Bailey House, there are currently no other residential facilities available to meet the needs of adults with AIDS. Many persons who are otherwise homeless, have lost their homes or have no one to care for them, may remain in the hospital much longer than might otherwise be necessary.

## Home Health Care Services

Home health care services for AIDS patients have been provided by several agencies, with the greatest volume provided by the Visiting Nurse Service of New York City (VNSNY.) VNSNY provides home care services to non-Medicaid patients, as well as to Medicaid patients through a contract with New York City HRA's AIDS Home Care Program. The HRA AIDS Home Care Program is a comprehensive home care program for Medicaid recipients who have AIDS. It is administered by HRA's Office of Home Care Services and provides a continuum of services using a variety of providers including home attendants, home health aides, rehabilitation therapists, and licensed practical and registered nurses. Service can be initiated rapidly (within 48 hours of referral) and change of service levels can be accomplished quickly to adapt to fluctuations in a client's medical condition. The following tables summarize the total caseload of Medicaid patients served by VNSNY through its contract with the HRA home care program and the caseload of non-Medicaid patients.

#### Social Services

Closely related to the provision of housing and long term care for people with AIDS, is the provision of social services such as income maintenance, financial entitlements and case management. The New York City HRA and other voluntary agencies provide significant quantities of social services to people with AIDS in New York City. The scope and volume of services provided to HIV-infected individuals and persons with AIDS are discussed in the inventory. However, social services provided to individuals through hospitals, clinics, and other institutional settings have not been quantified or described. The New York State-certified AIDS Designated Centers are required to provide a range of coordinated services that includes social services. These AIDS Designated Center hospitals provide discharge planning and social services, and many community health centers provide social services as well. It is known that for HIV-infected individuals as well as for persons with AIDS, the need for these services is great.

#### **HRA-Sponsored Services**

The social services provided by or funded by New York City HRA are summarized below.

AIDS Case Management Unit: HRA's AIDS programs are structured around a central intake point, the AIDS Case Management Unit (CMU) that specializes in serving persons with AIDS. The CMU offers lowincome persons with AIDS a single source through which they can access the full range of New York Citysponsored services. Each client is assigned to a case worker who provides counseling, advocacy and case management and helps the client to obtain financial entitlements, housing or housing assistance and home care. HRA has created a Family AIDS CMU to specialize in serving families whose members have AIDS.

The CMU had a caseload of 1,748 in September 1988.

Public Entitlements: Persons with AIDS may be

### 102 NEW YORK CITY AIDS TASK FORCE

eligible for a number of public entitlements. Persons with AIDS are considered presumptively eligible for the SSI program as long as they meet the financial criteria of that program. Individuals between the ages of 21 and 64 may apply for Home Relief. Enrollment in either program provides the client with a cash grant and Medicaid coverage. Clients of the HRA AIDS CMU receive assistance in applying for these programs.

The Momentum AIDS Outreach Program: Funded in part by HRA, this program operates out of seven churches and synagogues. It provides weekly meals to persons with AIDS or persons who test HIV-positive. This program also offers counseling, financial advocacy and provides clothing and food.

The New York City AIDS Service Delivery Consortium: This coalition of 32 voluntary and public agencies, provides a wide variety of services for the HIV-ill and is described in more detail below.

### New York City AIDS Service Delivery Consortium

Funded by the Robert Wood Johnson Foundation and the Health Resources and Services Administration of the U.S. Public Health Service, the Consortium was created in 1986 to coordinate AIDS services, identify gaps in services, and promote innovative models of care.

The range of the services provided by the Consortium members includes:

Outreach, Information and Education

Adolescents: Gay and lesbian youth are reached through education, street outreach and counseling provided by the Hetrick-Martin Institute.

Minority group members: The Minority Task Force on AIDS provides staff training and targeted educational materials to reach minorities with preventive messages about AIDS.

People with AIDS: the PWA Coalition publishes a newsletter with information about services, events, and general information about AIDS.

New York City Residents: Through the Community Service Projects in each borough which are funded by the New York State AIDS Institute, residents receive education about AIDS prevention and information about services.

## Risk Reduction, Counseling and Testing

Adolescents: High-risk adolescents receive counseling on risk reduction at Covenant House, a shelter for runaway and homeless youth in the Times Square area.

Former intravenous drug users: Patients in methadone maintenance treatment programs receive education and counseling about AIDS at Bronx-Lebanon Hospital Center, Montefiore Medical Center, Interfaith Medical Center, St. Luke's/Roosevelt Hospital Center and Beth Israel Medical Center.

## Inpatient and Ambulatory Health Care

Women: Clients at the family planning program of the Albert Einstein College of Medicine which is located at Bronx Municipal Hospital Center, receive preventive education and counseling about AIDS during their family planning visit.

South Bronx residents: The Segundo Ruiz Belvis Health Center provides outreach education, counseling and early assessment for HIV-infection for community residents and patients at the health center.

## Case Management

People with AIDS: The Community Health Project, located in the Lower West Side of Manhattan, refers and follows patients who need additional services.

Medicaid Eligible People with AIDS: The New York City Human Resources Administration provides a case manager for people with AIDS.

Community Living Support Services and Counseling for people with AIDS

Housing: The AIDS Resources Center operates Bailey House, a residence for people with AIDS which provides a home and social services for 44 people.

Day treatment: Day treatment for people with AIDS is provided at the Village Nursing Home.

Mental Health Services: Special counselors are provided at mental health centers throughout New York City to assist people and their families in coping with AIDS.

#### **Program Research and Development**

Intravenous drug users and their families: A descriptive study of the population using the methadone programs in the Consortium has been completed by the Montefiore Medical Center.

Case Management: A descriptive study of case management as actually practiced in various settings is currently underway.

## Ambulatory Care

Ambulatory care services are an important part of the continuum of necessary care for people who are HIV- infected. As an understanding of the nature of HIV-illness has evolved and as new patterns of care have emerged, services delivered in outpatient settings have become, and are likely to continue to be, of increasing importance in the total care delivered to the HIV-ill population. In addition, as new and more effective prophylactic treatments become available, it is certain that a wider range of the HIV-infected population will be treated, and that treatment is likely to be in an ambulatory setting.

Currently however, very little information exists on the pattern and volume of ambulatory care utilization by HIV-ill individuals, and almost no information exists on the utilization of services by HIV-infected, asymptomatic individuals. In addition, the current capacity of the ambulatory care system of clinics and private doctor's offices that is serving HIV-infected and HIV-ill people is not easily assessed. It is widely agreed however, that within the organized system of ambulatory care there is no excess capacity to treat patients - with or without HIV-infection. The capacity of private physicians to meet some of the need could not be estimated, although it was felt that there is capacity and with appropriate reimbursement many more physicians in private practice would be willing to treat those with HIV-infection.

The Resource Inventory Subgroup focused its attention in the area of ambulatory care on three tasks: a description of the patterns of ambulatory care utilization and service delivery; the development of a descriptive profile of the treatment interventions for HIV-infected individuals over the course of the disease, based on interviews with clinicians; and the acquisition of utilization data to be used in the projections of ambulatory care for HIV-infected individuals. The outcome of our activities relative to each of these tasks follows.

### **Patterns of Ambulatory Care Utilization**

#### and Service Delivery

In an attempt to identify patterns of ambulatory care utilization of HIV-infected individuals and persons with AIDS, clinicians at several hospitals that serve a large number of HIV-infected and AIDS patients were interviewed, as were a few physicians in private practice who also treat a large number of HIVinfected and AIDS patients.

One thing became very clear almost immediately: ambulatory care utilization patterns vary according to symptomatology and available treatment. For example, patients who are HIV-positive and symptomatic require active physician monitoring and treatment and, according to anecdotal reports, may see a physician once every 6 to 8 weeks, while an HIVpositive asymptomatic person may visit a physician every 3 to 6 months in order to monitor the level of T-4 cells. It appears that the greater the number of symptoms and the more active the treatment, the greater the frequency of ambulatory care visits. Persons receiving AZT treatment for example, usually have one physician visit per month and one weekly or bi-weekly visit for blood work. Patients with KS, who are receiving chemotherapy may visit the physician weekly for treatment.

The course of HIV-infection 's such that a patient's condition changes frequently and rapidly. The need for monitoring and intervention therefore change

accordingly and are patient-specific as is the course of the disease. For these reasons it is difficult to quantify and define specific utilization patterns.

The New York City Health and Hospitals Corporation (HHC) provides ambulatory care services to meet the needs of HIV-ill and AIDS patients through the general and specialty outpatient clinics at HHC acute care facilities and at Neighborhood Family Care Centers. Specialty clinics for AZT have been set up at a majority of the HHC acute care hospitals. The outpatient clinics provide a range of services to include general primary care, consultations for medical specialty referrals, and diagnostic and treatment services.

In an effort to provide comprehensive, casemanaged care to AIDS patients, programs are being developed in HHC facilities to coordinate the primary care needs of AIDS patients through specialized service delivery systems. Currently, there are three of these programs in operation providing such services: the Bellevue/CHP Assessment Center, the Bushwick Assessment Center, and the Belvis Assessment Center.

#### **Descriptive Profile of Treatment Interventions**

The following chart is a descriptive profile of the treatment interventions for HIV-infected individuals which is the result of our discussions with clinicians. It lists the stage of HIV-illness, the presenting symptoms, the suggested and currently available interventions and the frequency of medical encounters. It is presented merely for the purpose of discussion and not as suggestive of recommendations for guidelines for appropriate treatment for HIV-infected people.

#### Utilization of Ambulatory Care

Identifying the volume of ambulatory services provided by hospitals in New York City to HIVinfected individuals or persons with AIDS proved to be very difficult. Some hospitals in New York City have special AIDS clinics while others provide care to AIDS patients in a variety of clinic settings: because the medical needs of AIDS patients are so wideranging, patients are cared for in clinics throughout the hospital outpatient department. It is for this reason that it is most difficult to define and quantify the ambulatory services provided by hospitals. In addition, patients and their physicians may not be aware that the patient is HIV-infected. Therefore, even if it were possible to effectively monitor the volume of services provided to those known to be HIV-infected and to AIDS patients, a large population would be missed and the volume of service would be undercounted.

While counting utilization of ambulatory care

#### 104 NEW YORK CITY AIDS TASK FORCE

services proved difficult at the hospital level, Empire Blue Cross and Blue Shield (EBCBS) was able to provide us with information about the utilization of physician services by HIV-ill individuals who are insured by EBCBS. The details of their analysis and the results are contained in Appendix 4 in the section that describes the method employed to project the number of physician visits that will be needed to care for all HIV-infected individuals from 1989 through 1993.

## Primary Care Physician Survey on AIDS

A recent study of office-based primary care physicians indicates that AIDS care has become part of the mainstream of primary care. As a collaborative effort between the Columbia University School of Public Health and the New York City Department of Health, a study of physician knowledge and attitudes was completed in October 1988. Telephone interviews with 473 primary care physicians practicing in New York City were completed. The following represents some preliminary findings from the survey.

The survey interviewed a representative sample of 473 primary care physicians in New York City. The sample constituted 11.4% of the estimated 4,145 office-based internists, family practitioners, general practitioners, and obstetricians-gynecologists in New York City.

Preliminary results from the survey indicate that AIDS has become part of the mainstream of primary care practice in New York City. Almost two-thirds of the physicians (61%) had a patient with AIDS in their practice, with an average of six AIDS patients per physician, and an additional 10% had at some time, cared for a patient with AIDS.

Over three-quarters of the physicians surveyed (77%) had offered or recommended the HIV antibody test to at least one of their patients and 87% reported that at least one of their patients had requested the AIDS antibody test.

## Testing and Counseling and Prevention and Education Services

The New York City Department of Health (DOH) provides a wide range of testing and counseling services and prevention and education through AIDSspecific program initiatives and through its Tuberculosis Control and Sexually Transmitted Disease Clinics. A description of these services is presented below:

## NYC DOH AIDS Counseling and Referral Hotline

Hotline counselors provide information, counseling and referrals to more than 5,000 callers a month. The AIDS Hotline was initiated with the assistance of

funding from the Centers for Disease Control (CDC) in March 1985. Service has expanded dramatically since its inception. Consultations and technical assistance are provided to physicians and other health professionals serving individuals at risk for AIDS. The Hotline links those seeking the HIV antibody test and with one of the anonymous counseling and testing sites or other counseling and testing facilities. Services available through the AIDS Hotline:

- Assessment of risk for HIV-infection
- Pre-test and post-test counseling related to HIVantibody testing
- Scheduling of appointments for anonymous counseling and testing at one of the City-operated ACT sites
- Post-test counseling for seropositive and seronegative individuals
- Referral for follow-up medical, drug treatment, mental health and other AIDS-related social services

The Hotline has also expanded the days and hours open and is presently a seven-day-a-week operation, which runs from 9:00 a.m. to 9:00 p.m. Languages spoken are English, Spanish, French and Creole.

Number: (718) 485-8111

Physician Hotline (212) 340-4432

#### Counseling / Referral Hotline Data

	1987	<u>Oct 1988</u>
Number of calls	74,250	49,653
Pre-test counseling (est. 40% of calls)	29,700	19,862
Referrals to hospitals (estimated)	16,000	17,000
Referrals to social services	34,912	29,333
Inquiries from physicians	6,793	2,149

....

### NYC DOH HIV Counseling and Testing

Funding was received in September 1986, from the CDC to establish an Anonymous Counseling and Testing (ACT) site in Manhattan. Since then, nine ACT sites have been established throughout the five boroughs. Approximately 1,500 to 2,000 clients monthly receive pre-test counseling with the option of testing. More than 80% return for test results and post-test counseling. Other services offered include: support groups for HIV-positive clients and their partners which are conducted weekly by ACT. counselors; referrals for medical care, drug treatment and other services; contact notification, where a specially trained counselor is available to clients who request assistance in notifying current and past partners of possible exposure to HIV. Physicians enrolled in the DOH Alternate Site HIV Counseling and Testing Program may submit blood samples to the DOH Bureau of Labs directly for HIV testing without identifying their patients. All these services are free and confidential.

#### NYC DOH HIV Counseling and Testing Data

ACT sites (data available for six sites only):	<u>1987</u>	lan-Sep 1988
Number pre-test counseled	9,050	9,806
Number tested	8,642	9,612
Number post-test counseled	7,543	8,856
% HIV-positive	11.0%	14.5%
Specimens Submitted by Private Physicians	The	ngh 10/31/88
Cumulative number of specimens submitted	93,	735
Number of physicians submitting samples	5,3	57
Group Support Counseling Number enrolled	1,100	1,749
		(Thru Nor 98

## NYC DOH Bureau of Sexually Transmitted Disease (STD) Control

The Bureau of STD Control offers diagnosis, treatment and prevention services in 12 STD clinics throughout the City. The Bureau began testing for HIV-infection in August 1986. All 12 sites provide anonymous or confidential counseling and testing to clients. In February 1988, the Bureau began a new initiative, the Genital Ulcer Disease Intervention Program (GUDIP), under which any person with syphilis, chancroid or herpes is strongly urged to agree to HIV counseling and testing. Under GUDIP, all testing is confidential.

Waiting room presentations on HIV/AIDS play an important role in STD clinic activity. These presentations emphasize to all patients the need to adopt safe sex practices into their lifestyle to avoid AIDS and all STDs. The counselors discuss condoms and provide demonstrations on how they are properly used. A question-and-answer session then takes place.

#### STD Counseling Testing Data

	<u>1987</u>	1988					
Anonymous Counseling and Testing							
Number receiving HIV pre-test counseling	3,144	1,413	(Aug.)				
Number tested	1,259	1,071	(Aug.)				
Genital Ulcer Disease Intervention Program (GUDIP)							
Number offered test with pre-test counseling	1.515	(Aug.)					

Number offered test with pre-test counsent	ngN/A	1,515	(Aug.)
Number tested	N/A*	1,321	(Aug.)

<sup>\*</sup> GUDIP testing was not available in 1987.

## NYC DOH Bureau of Tuberculosis (TB) Control

In 1986, New York City experienced a 20.6% increase in cases of TB. Although there was a slight decrease in cases in 1987 (from 2,223 to 2,197), the decreasing trend over the past decade has been reversed and TB once again a public health concern. The rise in TB has been related to the AIDS epidemic. Because HIV weakens the immune system, those infected are more susceptible to opportunistic infections such as TB.

In March 1988, the Department's TB clinics began offering HIV antibody testing to all people who are

positive for TB. DOH chest clinics are located in areas of the City which include high incidence of both tuberculosis and AIDS, and they have been able to provide essential risk reduction education to individuals at risk, as well as to provide HIV counseling and testing. Patients who are HIV-positive are offered a different course of treatment than other patients who have TB.

With HRA, the Department is staffing a separate homeless shelter ward for men receiving treatment for the disease. The 85 bed shelter opened in November 1988 on a renovated floor of the Bellevue Men's Shelter on East 30th Street. Men housed in the shelter who develop AIDS will be transferred to a hospital.

Bureau of TB Data	<u>1987</u>	<u>1988</u>	
Number TB cases NYC	2,197	1,845	(Sep)
Number visits in 9 NYCDOH clinics	48,132	35,700	(Sep)
Number HIV tested	41	210	(Oct)
New shelter capacity	N/A	85	(Nov)

# Health Services for Inmates with HIV-Related Problems

The NYC DOH coordinates the health care delivery for inmates of the NYC Correctional System. Beyond the routine examination and assessment that inmates receive as they enter the NYC Correctional System, four types of patient care are provided:

- Outpatient care through clinics and sick calls that serve inmates housed in general inmate population cells.
- Infirmary-level care for inmates who need nursing care or other daily medical attention. This is provided in a specialized AIDS unit, in the infirmary isolation unit (for TB) and in general infirmary beds, (for HIV-related conditions that do not fit the current CDC definition of AIDS).
- Chronic level care for inmates who would need this level of care and who do not need (or have refused) acute care hospitalization. (Provided by HHC at Goldwater Memorial Hospital.)
- Acute care for inmates who require the resources of an acute care hospital. (Provided by HHC at Bellevue, Kings County or Elmhurst Hospital.)

AZT treatment is available to inmates on the AIDS unit and in the general prison population, as are voluntary HIV counseling and testing services

## Legal Services

## New York City Commission On Human Rights (NYCCHR) HIV-Related Legal Services

Through its Commission on Human Rights, the City has acted aggressively to reduce the

#### 106 New York City AIDS Task Force

stigmatization and discrimination that have been associated with the AIDS epidemic. Three different initiatives have been developed in this area through March 1988. First, the City receives and responds to complaints from New Yorkers alleging that they have been the objects of HIV-related harassment and discrimination. Each situation is investigated, and efforts are made to resolve problems with employers, landlords or service providers before initiating formal complaints. If a satisfactory resolution is not reached, a formal complaint is filed and legal determinations in the case are issued. If a resolution is still not reached, a public hearing on the case is scheduled in an expedited manner.

Second, the Commission's AIDS unit has conducted an extensive effort to educate managers and officials about AIDS and the rights of New Yorkers in order to prevent HIV-related discrimination.

Third, the Commission has sought to identify industries in which patterns of systemic HIV-related discrimination are evident and target them for intensive education. Focused litigation is used where necessary to help organizations or industries understand the risks they face if HIV-related discrimination continues. In 1986 for example, the Commission initiated complaints against eight funeral homes that either refused to embalm or handle bodies of people who had died from AIDS-related complications, or overcharged them for these services; a State Supreme Court judge ruled that the Commission had full authority to prosecute discrimination cases against funeral homes.

Supported by other agencies and community-based advocate organizations, the Commission has worked actively on the human rights aspects of the epidemic. In testimony before government bodies, the Commission has lobbied for new laws and other resources to help reduce discrimination. The Commission has worked against program initiatives such as mandatory HIV screening that would promote discrimination and impede public health efforts to protect New Yorkers from HIV infection. The Commission has drafted numerous pieces of State and Federal legislation to help reduce AIDS-related abridgement of human rights.

The table that follows lists the number of HIVrelated complaints that had been received by the NYCCHR from January 1987 through October 1988

# Legal Services (NYCCHR Data) 1987 Oct. 1988

Number of HIV-Related Complaints Received by Type

	176	101
Employment	170	174
Housing	158	1/4
Public Accommodation	253	244
Total	587	609

#### Mental Health Services

It was not possible to develop a count of the mental health services used by HIV-infected individuals. However, the New York City Department of Mental Health, Mental Retardation and Alcoholism Services provided the information in the following two tables as an estimate of the mental health services needed by HIV-infected adults and children at various stages in the illness from infection through CDC-defined AIDS.

While SPARCS data are a valuable source of information to describe the characteristics of discharges from acute care hospitals, the absolute number of discharges counted in the SPARCS database is less than actually occur in a year. See the section on Models for Projecting Future Resource Needs (Acute Care) in the body of the report and the discussion of the acute care bed need projection method in Appendix 4 for information on the magnitude of the undercount.



# NEW YORK CITY AIDS TASK FORCE

## HIV AND AIDS ILLNESS

Monitor T-cell count

Disease specific

interventions

o Monitoring

**Blood Chemistries, CBC** 

## **INTERVENTION**

0

0

0

# MEDICAL ENCOUNTER FREQUENCY

o Every 3-6 months

- o Every 3 months
- More visits may be required to treat specific symptoms and if intensity progresses.
- o Prophylaxis (PCP)-Aerosol o Ev Pentamidine, TMP/SMX, Dapsone per o AZT o Ot

o Disease specific treatment

Disease specific treatment

o May offer AZT

May offer AZT

- o Every 2 weeks (aerosol ne pentamidine)
- o Other prophylaxis without AZTMD visit 2-3 months
- o Blood monitoring every 2 weeks
- o MD visit every month
- o MD visit every 1–3 months
- o Blood monitoring every 2 weeks
- o MD visit every month
- o MD visit every 3 months
- o Blood monitoring every
- 2 weeks
- o MD visit every month

# **STAGE/PRESENTING SYMPTOMS**

- 1. <u>HIV ASYMPTOMATIC</u> (Currently not many identified because patients don't present. Expect dramatic increase as testing increases)
- 2. EARLY DISEASE
  - HIV Positive with symptoms greater than 250 T-cells.
    Minor symptoms, e.g., molluscum contagiosum, skin rashes, oral thrush, fungal dermititis, anal warts
  - MIDDLE DISEASE

3.

- A. HIV positive, mildly symptomatic less than 250 T-cells
- B. HIV positive symptomatic, less than 250 T-cells
- 1) e.g. Reiter's Syndrome thrombocytopenia, wasting syndrome, ARC defining illnesses.
- 2) Mild to moderate KS

**8**a

C. HIV positive, symptomatic,

D. HIV positive, symptomatic.

A. Less than 250 T-cells with AIDS

B. Chronic: toxoplasmosis, CMV

pneumocyctis pneumonia

retinitis, cryptococcal meningitis,

less than 250 T-cells

defining illnesses

lymphomas

C. Acute:

250-400 T-cells

LATE DISEASE

- o May offer AZT
- o AZT
- o Disease specific treatment
- o Disease specific treatment
- o AZT
- o Disease specific treatment o AZT, if tolerated
- o Chronic treatment with multiple drug interventions
- o Acute intervention

- o Treatment by oncologist
- o Treatment begins on inpatient basis
- Progresses to intensive weekly/ biweekly MD visits
- o Blood monitoring every 2 weeks
- o MD visit every month
- o Blood monitoring every 2 weeks
- o MD visit every month
- o MD visit every 1-2 months
- o MD visit every 2-4 weeks depending upon disease severity
- o Blood monitoring every 2 weeks
- o MD visit every 1–2 weeks
- o Acute hospitalization required for treatment induction with close outpatient monitoring and often, home care.
- o Acute hospitalization
- o May improve to higher category

NEW YORK CITY AIDS TASK FORCE

801

5

4.

# GNYHA/HHC/VAMC Quarterly AIDS Census Survey Average Daily Census by Hospital Group, CDC AIDS Status and Patient Group Week of January 8-14, 1989

-	CDC AIDS Status									
Hospital	С	DC AIDS	S	Suspe	spected AIDS					
Group	Pediatrics	Adult	Total P	ediatrica	Adult	Total I	Pediatrics	Adult	Total	
GNYHA Member	0.0	075	005	4.5	074	0.00	0.5	1010	1.001	
Hospitals	20	6/5	695	15	371	385	35	1,046	1,051	
ннс	9	284	293	20	275	. 295	29	559	588	
VAMC		45	45		26	26		•71	71	
		40			20	20				
Total	29	1,004	1,033	35	672	707	64	1,676	1,740	

Source: GNYHA Eulletin, February 1, 1989

# Table II

GNYHA/HHC/VAMC Quarterly AIDS Census Survey Average Daily Census for GNYHA Member Hospitals and for HHC Hospitals, March 1987 - January 1989\*

	GNYHHA Member Hospitals		ннс н	ospitals	Total		
Survey Date	Percent ADC Change		F ADC	Percent ADC Change		Percent Change	
March 1987	727	-	344	-	1,071	-	
June 1987	849	16.78	417	21.22	1,266	18.21	
October 1987	885	4.24	450	7.91	1,335	5.45	
March 1968	967	9.27	546	21.33	1,513	13.33	
June 1988	989	2.28	508	-6.96	1,497	- 1.06	
October 1988	1,038	4.95	565	11.22	1,603	7.08	
January 1989	1,081	4.14	588	4.07	1,669	4 12	

\* VAMC data are not included in this table because they have not participated in all of the previous surveys.

Source: GNYHA Bulletin, February 1, 1989

# Long Term Care Beds for AIDS Patients Development Plans of New York City Voluntary Facilities\*

- Terence Cardinal Cooke Health Care Center:
  - A. Adding 58 SNF Beds for AIDS in an existing LTC facility (44 opened in early 1989)
  - B. 42-bed HRF
  - C. 40-bed HRF
  - D. 16-bed HRF
- Village Nursing Home: 200-bed SNF for AIDS
- Bronx-Lebanon: 100-bed SNF for AIDS
- Samaritan House: 60-bed HRF for AIDS
  - Only those projects for which Certificates of Need had been submitted by November 17, 1988 are listed.

# Home Care Service Provided by Visiting Nurse Service to Non-Medicaid Patients

	of Cases g Services	es				
Year	Nursing	Rehabilitation/ Social Work	Paraprofessional			
1987	278	5	17			
1988 (Jan-Sep)	256	8	• 14			

.

......

.

# Home Care Services Provided by Visiting Nurse Service to Medicaid Patients through NYHRAs AIDS Home Care Program

. .

Cumulative and Current Caseload as of October 16, 1988

Total cases (12/9/85 - 10/16/88): 1,843	-
Current Caseload	
Receiving Service	337
Home Attendant	109
Home Health Aide	97
Continuous Nursing	12
Combination of Service Levels	10
Nursing Supervision Only	66
Hospitalized for Less Than 30 Days	43
Referred Cases Awaiting Service	30
Total Current Caseload	367

ADULT	POPULATIONS	ESTIMATED	OF	POPULATION	IN	NEED	TO	SPFCIFIC	MENTAL	HFALTH	SERVICES

TARGET POPULATION	ESTIMATED & IN NEED OF SERVICES	SOURCE/METHODOLOGY FOR ESTIMATE	LIMITATIONS REGARDING ESTIMATE	TYPE OF SERVICE	8 OF POP. IN NFED RFQUIRING THIS TYPE OF SERVICE	PROJECTED FREQUENCY/ DURATION OF SERVICE	AVERAGE REIMBURSE Ment per unit of Service
I. <u>HIV</u> POSITIVE (No Symp- tome)	208	Projections from NYCDOH "HOTLINE" and expert opinion	There is no hard data that has_been collected on this subject. Percent	Outpatient Professional Counselling beyond 3 DOH sessions	258	3-6 sessions	\$53.00 if Medicaid eligible
a. HIV Positive Individual			estimate may be low.	Outpatient Peer Support Counselling	758	6 sessions	None
b. Family/ Signific- ant others	201	Projections from NYCDOH "HOTLINE" and expert opinion	Same as above	Outpatient Professional Counselling	408	3-6 sessions	\$53.00 if Medicaid eligible
II. HIV POSITIVE (with Sumptome)	40%	Projections from NYCDOH "HOTLINE", expert opinion and DMH program	There is no hard data and experience is low.	Outpatient Professional Counselling	308	6 sessions	\$53.00 if Medicaid eligible
a. HIV Positive		experiences and review of very limited literature		Outpatient Peer Support Counselling	608	Weekly support group sessions-4 months in duration	None
Invidual				Day Treat- ment	10%	5 days per week for ave. of 1 year	DMH-\$45.00 DOH-projected \$95.
b. Family/ Signific- ant others	201	Same as above	Same as above	Outpatient Professional Counselling	508	3-6 sessions	\$53.00 if Medicaid eligible
III. AIDS Patients (CDC De-	403	Expert opinion, limited DMH pro- gram experience	Same as above	Outpatient Professional Counselling	208	10 sessions	\$53.00 if Medicaid eligible
a. AIDS Patient	404	limited literature		Outpatient Peer Support Counselling	608	Weekly support group sessions - 6 months	None
(1001V1- dual)				Day Treat- ment	201	5 days per week for ave. of 1 year	DMH-\$45.00 DOH-projected \$95.
b. Family/ Signifi- ant others	208	Same as above	Same as above	Outpatient Professional Counselling	50%	6 sessions	\$53.00 if Medicaid eligible
	J	4				NEW YORK CITY	AIDS TASK FORCE

NEW YORK CITY AIDS TASK FURCE

.

.

TARGET POPULATION	ESTIMATED & IN Need of Services	SOURCE/METHODOLOGY FOR ESTIMATE	LIMITATIONS REGARDING FSTIMATE	TYPE OF Servicf	8 OF POP. INST NFED REQUIRING THIS TYPE OF SERVICE	PROJECTED FREQUENCY/ DURATION OF SERVICE	AVERAGE REIM- Bursement Per Unit of Service
AIDS AND HIV	50% of Children and 50% of Parents and 100% of Foster Home Agencies	Projections from limited literature review	Very little data	Professional Family Counselling (with parent or parents or other relative serving as parent)	50%	6-8 messions	\$53.00 per visit if Medicaid eligible
POSITIVE	а 1917 г. – 19 19			Consultation to Congre- gate care foster homes foster parents	50%	Continuous 2 times per month	None
•				Consultation to thera- peutic nur- series for foster children and children in family situations	50%	6 months-l year 5 times per week	None

e.

## CHILD POPULATIONS - (FAMILY/NETWORK INTERVENTIONS) FSTIMATED & OF POPULATION IN NEFD TO SPECIFIC MENTAL HEALTH SERVICES

NOTE: NATURE OF THE IMPACT PEGARDING CHILDREN DIFFERS SIGNIFICANTLY THAN WITH ADULTS. WITH RESPECT TO PAMILIES, OFTEN, NOT ONLY IS THE CHILD AFFECTED, BUT MOST FREQUENTLY ONE OR BOTH PARENTS HAVE AIDS OR ARE HIV POSITIVE. NEW YORK CITY AIDS TASK FORCE

# Needs Assessment Report: Appendix 2

ŧ

# SPARCS UTILIZATION DATA

0	Table 1:	Utilization By Auspices and Type of Days
o	Table 2:	Discharges By Auspices and Payor
0	Table 3:	Discharges By Auspices and Age By Borough of Hospital Location
0	Table 4:	Utilization By Auspices and Type of Days By Borough of Hospital and Payor
0	Table 5:	Discharges By Auspices and Patient Origin By Borough of Hospital

April 18, 1989

#### 1987 UTILIZATION BY AUSPICE AND TYPE OF DAYS FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

   		  DISCHARG-    ES	CERTIFIED ACUTE DAYS	I CERTIFIED IALC DAYS	TOTAL DAYS	ALOS
BOROUGH	AUSPICE	1				
MANHATTAN	Іннс	2053	42147	8832	53034	25.8
	VOLUNTARIES	75551	123522	46801	140549	18.6
	PROPRIETARY	1 61	36	0	36	6.0
	TOTAL	96141	165705	135121	1936191	20.1
BROOKLYN	AUSPICE	1				
	ннс	1387	23377	3361	27839	20.1
	VOLUNTARIES	1 15601	30844	31101	335981	21.5
	FROFRIETARY	1 21	31	01	311	15.5
	STATE	1 481	Ð	01	6701	14.0
а.	TOTAL	29971	54252	6471	62138	20.7
BRONX	AUSFICE				1	
	ннс	1345	25445	4738	31634	23.5
•	VOLUNTARIES	1 18211	22580	12661	236341	13.0
	PROPRIETARY	1 81	57	21	591	7.4
	TOTAL	1 31741	48082	60061	553271	17.4
QUEENS	AUSPICE					
	ННС	590	9917	2230	12841	21.8
а 1	VOLUNTARIES	1 6521	13439	1023	145841	22.4
	PROPRIETARY	1 281	391	01	391	14.0
	TOTAL	1 12701	23747	32531	278161	21.9

## (CONTINUED)

ACUTE AND ALC DAYS ARE CERTIFIED TOTAL DAYS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE. PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 270CT88

TABLE 1 (continued)

#### 1287 UTILIZATION RY AUSPICE AND TYPE OF DOIS FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

		  DISCHARG-    ES	CERTIFIED ACUTE DAYS	I CERTIFIED IALC DAYS I	TOTAL DAYS	ALOS	
BOROUGH	AUSPICE					l	ļ
ISTATEN ISLAND	VOLUNTARIES	230	4842	111	4984	21.7	ļ
	PROPRIETARY	4	67	0	67	16.8	
	TOTAL	1 2341	4909	1 111	5051	21.6	i
NEW YORK CITY	AUSPICE	1					
	ННС	5375	100886	19161	125348	23.3	
1	VOLUNTARIES	1 118181	195227	101901	217349	18.4	
1	FROPRIETARY	1 481	582	21	584	12.2	
1	STATE	48	0	01	670	14.0	
1	TOTAL	17289	296695	293531	343951	19.9	

#### ACUTE AND ALC DAYS ARE CERTIFIED TOTAL DAYS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE. PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 270CT88

TABLEZ

### 1987 DISCHARGES BY AUSPICE AND PAYOR FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

		1						FRIM	ARY FA	YOR						ļ
		1 1 M	EDICAI	D	I I MI	EDICAR	E	  S	EL.F P'A	Y	I BLUE	-CROSS Comm.	AND		OTHER	
		DISCH ARGES	ICOL. IPCT.	ROW	DISCH- ARGES	ICOL. IPCT.	I ROW	DISCH ARGES	COL.	I ROW	DISCH-	ICOL. IPCT.	I ROW	DISCH- ARGES	ICOL. IPCT.	I ROW   IPCT.
BOROUGH	IAUSPICE	1														
MANHATTAN	ННС	1616	38	79	33	14	2	114	17	6	161	4	8	129	43	6
	VOLUNTARIES	2587	62	34	200	86	1 3	539	83	17	4016	96	53	172	1 57	1 21
	PROPRIETARY	1 1	I Ø	1 17							15	<b>O</b>	83		1 4	
	TOTAL	4204	1 100	44	233	100	2	653	100	1 7	4182	100	43	301	100	31
BROOKLYN	AUSPICE						1								• •• •• •• •• •• •• ••	
	ННС	1004	.51	72	15	23	1	154	40	. 11	96	23	7	118	69	9
	VOLUNTARIES	922	47	59	47	71	3	225	58	14	313	74	20	53	31	3
	PROPRIETARY	1 .	1 •	•	1	2	50	1	Ð	50		.	•		· ·	
	STATE	1 27	1	56	3	5	6	1 5	1	1 10	13	3	27			
	TOTAL	1953	100	65	66	100	1 2	385	100	13	422	100	14	171	1 100	6
BRONX	AUSPICE									1					1	
	Іннс	1143	49	85	21	25	2	33	11	2	142	36	11	6	10	0
	VOLUNTARIES	1 1187	1 51	65	64	75	4	272	89	1 15	244	63	13	54	1 90	3
	FROFRIETARY	2	I O	25	.	· · · ·	•	1 2	1	25	4	1	50	•		
	TOTAL	2332	100	73	85	100	3	1 307	100	10	390	100	12	60	1 100	1 21
QUEENS	AUSPICE						+ 									
	ННС	433	64	73	29	50	5	8	9	1	67	21	11	53	70	9
	VOLUNTARIES	241	36	37	1 29	1 50	4	1 77	91	12	222	1 71	34	23	1 30	4
	PROPRIETARY	4	1 1	14	1 .	1 .	.	1	l	l •	24	8	86		l .	·

(CONTINUED)

00

## PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88

PLANTER.

1987

DISCHARGES BY AUSPICE AND PAYOR 16:10 THURSDAY, OCIOBER 27, 1988 FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

6

!	·	1						PRIM	ARY PA	YOR				ł		
		м	EDICAI	D	i I Mi	EDICAR	E	 	ELFPA	Y	I BLUE	-CROSS COMM.	AND	01HER		
		DISCH-	ICOL. IPCT.	I ROW	DISCH-	ICOL. IPCT.	I ROW	IDISCH- IARGES	ICOL. IPCT.	I ROW	DISCH-	ICOL. IPCT.	I ROW	IDISCH IARGES	ICOL. IPCT.	ROW
BOROUGH	ITOTAL	1		1												
QUEENS	-	678	100	53	58	100	5	85	100	7	313	100	25	76	100	6
STATEN ISLAND	AUSPICE	1				/	1					1			1	
	VOLUNTARIES	114	100	50	10	100	4	14	100	6	68	94	30	24	100	10
	FROFRIETARY		.		•						4	6	1 100			
	TOTAL	1 114	100	49	10	100	4	14	100	6	72	100	31	24	100	10
NEW YORK CITY	AUSPICE	1											1			
	ННС	4196	45	78	98	22	2	309	21	6	466	9	9	306	48	6
	VOLUNTARIES	1 5051	54	43	350	77	3	1127	78	10	4863	90	41	326	52	3
	PROPRIETARY	1 7	0	15	1	Θ	2	3	0	6	37	1	77			
	STATE	1 27	0	56	3	1	6	5	Θ	10	13	Ð	27			
	TOTAL	9281	100	54	452	100	3	1444	100	8	5379	100	31	632	100	4

(CONTINUED)

6

#### FREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88

7

## 1

#### 1987 DISCHARGES BY AUSPICE AND FAYOR FOR ROROUGH OF FACILITY (SOURCE: SPARCS 1987)

		PRIM	ARY PA	YOR	l i		
		М	ISSING		1	TOTAL	
		DISCH-	ICOL. IFCT.	ROW	DISCH-	ICOL. IPCT.	ROW  PCT.
BOROUGH	I AUSFICE	1					1
MANHATTAN	ТННС				2053	21	100
	VOLUNTARIES	41	100	1 1	7555	1 79	100
×	PROPRIETARY	1			6	Ð	100
	TOTAL	41	100	I Đ	9614	100	100
BROOKLYN	AUSPICE	!	•	1			
	Іннс				1387	46	100
	VOLUNTARIES	1 .	.	•	1560	1 52	100
	PROPRIETARY	! .			1 2	1 0	100
	STATE	•		1	48	1 2	100
н А	TOTAL	.	.	•	2997	1 100	1 100
BRONX	AUSPICE	!	+ 		• • • • • • • • • • • • •	•	
	Іннс				1345	42	100
	VOLUNTARIES	.	+ 	+   .	1821	1 57	100
	PROPRIETARY	1 .	1 .	•   •	8	1 0	100
	TOTAL			.	3174	1 100	100
QUEENS	AUSPICE			• 		•	
	Іннс	····			590	46	100
·	VOLUNTARIES	60	1 100	9	652	51	100
	PROPRIETARY	• 1	.	.	28	1 2	1 100

## (CONTINUED)

## PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 270CT88

ማግኘት የሚያስት የሚያስት እና የሚያስት የሚያስት የሚያስት የሚያስት የሚያስት እና የሚያስት የሚያስት እና የሚያስት የሚያስት የሚያስት የሚያስት የሚያስት የሚያስት የሚያስት የ

THUSPRAV OCTOPED 37 (008

TABLE 2 (continued)

## 1237 DECHARGES BY AUSPICE AND CATUR FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

		PRIM	ARY PA	YOR	1		
		I M	ISSING		1	TOTAL.	
		IDISCH- IARGES	ICOL. IFCT.	I ROW IFCT.	DISCH-	ICOL. IFCT.	I ROW
BOROUGH	I TOTAL	1					•
QUEENS		60	100	5	1270	100	100
STATEN ISLAND	AUSFICE			1			
	VOLUNTARIES				230	98	100
	FROFRIETARY				4	2	100
	I TOTAL				234	100	100
NEW YORK CITY	AUSFICE						
	ннс				5375	31	100
	VOLUNTARIES	1 101	100	1	11818	68	100
	FROFRIETARY	.			48	Ð	100
	STATE	.			48	0	100
	TOTAL.	1 101	100	1	17289	100	100

PREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88

A MARK ALL STREAM THREE A MARK AND ADDRESS AND ADDRESS

.

1

TABLE 3

#### 1987 DISCHAFGES BY AUSPICE AND AGE FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

1									AGE							
			LT 13		1:	3 TO 1	B	1 19	9 TO 2	4	1 2	5 TO 34	4	1 3	5 (0.4	4
		DISCH ARGES	ICOL. IFCT.	I ROW	IDISCH  ARGES	COL. FCT.	FCT.	DISCH-	COL. FCT.	I ROW	DISCH- ARGES	COL. PCT.	ROW FCT.	DISCH-	ICOL. IFCT.	FCT.
ROROUGH	AUSFICE									1						
MANHATTAN	IHHC	91	38	4	3	15	Ð	83	29	4	817	23	40	785	21	38
	VOLUNTARIES	147	62	2	17	85	0	204	71	1 3	2720	77	36	2966	79	39
1 1	IFROPRIETARY			•	.	•			•		1	Θ	17	3	Θ	50
1   	TOTAL	238	100	2	20	100	0	287	100	1 3	3538	100	37	3754	100	39
BROOKLYN	AUSPICE				1					1					1	
	іннс	109	40	8	7	50	1	85	52	6	568	45	41	525	52	38
1	VOLUNTARIES	135	50	9	7	50	Θ	78	48	15	687	54	44	479	47	31
1	PROPRIETARY	ļ .												1	0	50
	STATE	27	10	56	.			1	1	2	9	1	19	5	i 0	10
 	TOTAL	271	100	9	14	100	0	164	100	5	1264	100	42	1010	100	34
BRONX	AUSPICE															
	ННС	79	11	6	1	10	θ	130	69	10	516	49	38	491	52	37
	VOLUNTARIES	632	89	35	9	90	θ	57	30	3	.541	51	30	454	48	25
	IPROPRIETARY	ļ						1	1	1 13	3	0	38	1	Ø	1 13
	TOTAL	1 711	100	22	10	100	0	1 188	100	6	1060	100	33	946	1 100	30
QUEENS	AUSPICE		1					1		1						
1	іннс	1 38	53	6	2	10	0	34	58	6	247	48	42	202	47	34
i I	VOLUNTARIES	34	47	5	1 19	90	3	25	42	4	268	52	41	210	49	32
	IFROPRIETARY	<u>.</u>			1	•			•	i .	4	11	14	15	4	54

(CONTINUED)

## PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSFITALS CORFORATION 270CT88

## 1987 DISCHARGES BY AUSPICE AND AGE FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

						•			AGE							
			LT 13		1 1	3 TO 1	8	1 1	9 TO 2	4	1 2	5 10 34	4	3	5 10 44	4
		DISCH- ARGES	COL. FCT.	I ROW	DISCH-	COL. IFCT.	I ROW IPCT.	IDISCH- IARGES	ICOL. IPCT.	I ROW	IDISCH- ARGES	ICOL. IFCT.	ROW FCT.	DISCH- ARGES	COL. PCT.	ROW FCT.
ROROUGH	ITOTAL					   										
RUEENS		72	100	6	21	100	2	59	100	5	519	100	41	427	100	34
STATEN ISLAND	AUSFICE										1					
	VOLUNTARIES	13	100	6				9	100	4	104	99	45	72	97	31
	FROFRIETARY	•	•	•	•			.	•		1	1	25	2	3	50
	TOTAL	13	100	6		•	.	9	100	4	1 105	100	45	74	100	32
NEW YORK CITY	AUSPICE								}	1	1					
	ННС	317	24	6	13	20	Ø	332	47	6	2148	33	40	2003	32	37
	VOLUNTARIES	961	74	8	52	80	Ð	373	53	3	4320	67	37	4181	67	35
	FROFRIETARY	•	•	• •	.	•	•	1	Ð	2	9	01	191	221	Ð	46
	STATE	27	21	56		•		1	Ð	2	9	Ð	191	51	Ð	10
	TOTAL	1305	100	8	651	100	Θ	707	100	4	6486	100	381	62111	100	36

↔ (CONTINUED)

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSFITALS CORPORATION 270CT88

4

1987

# TABLE 3 (continued)

#### DISCHARGES BY AUSPICE AND AGE FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

		1		A	GE			1		· · · ]
		4	5 TO 6	4	65	AND OVI	ER		TOTAL	
		IDISCH- IARGES	COL. FCT.	ROW FCT.	DISCH- ARGES	COL. FCT.	ROW FCT.	DISCH- ARGES	FCT.	ROW PCT.
BOROUGH	AUSPICE								•	
MANHATTAN	ТННС	271	16	13	3	5	Θ	2053	21	100
	VOLUNTARIES	1440	84	19	61	95	1	7555	79	100
	PROPRIETARY	2	0	33	•			6	Ð	100
	I TOTAL	1713	100	18	64	100	1	9614	100	100
BROOKLYN	AUSFICE	1								
	ННС	92	35	7	1	13	Ð	1387	46	100
	VOLUNTARIES	169	64	11	5	63	Ø	1560	52	100
	PROPRIETARY		•	•	1	13	50	2	Θ	100
	STATE	5	2	10	1	13	2	48	2	100
	TOTAL	266	100	9	8	100	0	2997	100	100
BRONX	AUSPICE			)						
	ННС	126	51	9	2	20	Ð	1345	42	100
	VOLUNTARIES	120	48	7	8	80	Ð	1821	57	100
	PROPRIETARY	3	1	38	•	•		8	Θ	100
	TOTAL	249	100	8	10	100	Θ	3174	100	100
QUEENS	AUSPICE									
	ІННС	67	42	11				590	46	100
	VOLUNTARIES	83	52	13	13	100	2	652	51	100
	PROPRIETARY	9	6	32	.			28	2	100

## (CONTINUED)

#### PREFARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT98

#### 1987 DISCHARGES BY AUSPICE AND AGE FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

		!		A	GE			ļ		
		4	5 TO 6	4	65	AND OVI	ER		TOTAL	
		IDISCH- IARGES	ICOL. IPCT.	I R <b>ow</b> IPCT.	IDISCH- IARGES	ICOL. IPCT.	ROW	DISCH- ARGES	ICOL. IPCT.	ROW
BOROUGH	I TOTAL	• !	•	•				•	•	
QUEENS		   159	100	13	1 13	100	1	1270	100	100
STATEN ISLAND	IAUSPICE	•		•	+					
	VOLUNTARIES	   29	97	13	1 3	100	1	230	98	100
	PROPRIETARY	1 1	3	25	•   •		•	4	2	100
	TOTAL.	1 30	100	13	3	100	1	234	100	100
NEW YORK CITY	AUSPICE									
	ННС	556	23	10	6	6	Θ	5375	31	100
	VOLUNTARIES	1841	76	16	90	92	1	11818	68	100
	PROPRIETARY	15	1	31	1	1	2	48	θ	100
	ISTATE	5	0	10	1	1	2	48	0	100
	ITOTAL	2417	100	14	98	100	1	17289	100	100

#### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSFITALS CORFORATION 2700188

KONT ATTR STROUGHER DY AUCHICE AND DAYND

NOT

TABLE 4

# FOR BOROUGH OF FACILITY AND FAYOR ' (SOURCE: SPARCS 1987)

1701

!		PRIMARY PAYOR											
1			М	EDICAID			I MEDICARE						
		DISCHARG-I ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS	IDISCHARG-I I ES I	ACUTE DAYS	CERTIFIED   ALC DAYS	TOTAL DAYS	ALOS		
BOROUGH	IAUSPICE	! !											
MANHATTAN	ТННС	1616	33508	8185	43744	27.1	33	732	63	795	24.1		
	VOLUNTARIES	1 25871	49352	3436	53193	20.6	2001	3364	3031	4013	20.1		
, 1	PROPRIETARY	1 11	2	0	2	2.0				-	•		
	ITOTAL	42041	82862	11621	96939	23.1	233	4096	3661	4808	20.6		
BROOKLYN	AUSPICE					,							
	ННС	1004	17334	3261	21696	21.6	151	291	14	305	20.3		
	VOLUNTARIES	9221	17699	23201	19265	20.9	471	837	451	8821	18.8		
	PROPRIETARY		•	•	•	•	1 1	16	ÐI	161	16.0		
	STATE	27	Θ	01	3091	11.4	3	0	ÐĮ	671	22.3		
	ITOTAL	1953	35033	5581	41270	21.1	66	1144	591	12701	19.2		
BRONX	IAUSPICE	-++- ! !			•••••••••••••••••••••••••••••••••••••••		·				· · · · · · · · · · · · · · · · · · ·		
	Іннс	1143	21742	4587	27766	24.3	211	438	64	5021	23.9		
	VOLUNTARIES	1187	12032	8691	12692	10.7	64	941	10	9421	14.7		
	PROPRIETARY	1 21	18	2	201	10.0			· · · · · · · · · · · · · · · · · · ·		•		
	TOTAL	2332	33792	5458	404781	17.4	85	1379	741	1444	17.0		
QUEENS	IAUSPICE	+- !			t [		•+· 		·····	++ !	 		
	I HHC	433	7520	1905	100321	23.2	29	288	148	4621	15.9		
	VOLUNTARIES	1 2411	5417	944	64341	26.7	29	712	721	7841	27.01		

(CONTINUED)

#### ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREFARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 270CT88

4

THE EXPLANATION WITH A CONTRACT AND A

TABLE 4 (continued)

#### 1237 UTILIZATION BY AUSPILE AND TAPE OF BATS FOR BOROUGH OF FACILITY AND PAYOR (SOURCE: SPARCS 1987)

		1				PRIMAR	Y PAYOR				
			М	EDICAID			!	M	EDICARE		
		DISCHARG-I ES I	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS	IDISCHARG-I ES I	ACUTE DAYS	CERTIFIED   ALC DAYS	TOTAL DAYS	ALOS
BOROUGH	IAUSPICE					.					
QUEENS	IPROPRIETARY	4	45	0	45	11.3				-	
	TOTAL.	678	12982	28491	16511	24.4	58	1000	220	1246	21.5
STATEN ISLAND	AUSPICE	!!!					!				
	VOLUNTARIES	114	2570	111	2712	23.8	10	129	   0	129	12.9
	PROPRIETARY				•	•	.	•	· · · · · · · · · · · · · · · · · · ·	•	•
	TOTAL.	4	2570	1111	2712	23.8	101	129	01	1291	12.9
NEW YORK CITY	AUSPICE										
	ННС	4196	80104	17938	103238	24.6	98	1749	289	2064	21.1
	VOLUNTARIES	50511	87070	76801	942961	18.7	350	5983	430	6750	19.3
	PROPRIETARY	1 71	65	21	67	9.6	1 1	16	I 0I	16]	16.0
	STATE	1 271	0	Ð I	309	11.4	3	0	01	671	22.3
	ITOTAL	9281	167239	256201	1979101	21.3	1 4521	7748	1 7191	88971	19.7

(CONTINUED)

N

#### ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE FREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 270CT88

## 1287 UTILIZATION BY AUSPICE AND TYPE OF DAYS FOR EOROUGH OF FACILITY AND PAYOR (SOURCE: SPARCS 1987)

		1	PRIMARY PAYOR										
			SI	ELF-PAY			1	BLUE-CR	OSS AND COM	IM.			
		DISCHARG-I ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS	DISCHARG-  ES	ACUTE DAYS	ICERTIFIED	TOTAL DAYS	ALOS		
BOROUGH	IAUSPICE												
MANHATTAN	Іннс	. 114	1496	15	1514	13.3	1611	3155	501	3657	22.7		
	VOLUNTARIES	539	9692	931	9887	18.3	40161	56213	1 801	68230	17.0		
	PROPRIETARY	.				•	51	34	I 01	34	6.8		
	TOTAL	6531	11188	1081	11401	17.5	4182	59402	1 13021	71921	17.2		
BROOKLYN	AUSPICE	!		· · · · · · · · · · · · · · · · · · ·									
	іннс	154	2067	36	2103	13.7	961	1296	50	1346	14.0		
	VOLUNTARIES	225	4191	4381	4682	20.8	3131	7404	2821	77161	24.7		
	PROPRIETARY	1 11	15	01	15	15.0	······································		++   .	•	•		
	STATE	5	0		34	6.8	131	0	0	2601	20.0		
	ITOTAL	385	6273	4741	6834	17.8	4221	8700	3321	93221	22.1		
BRONX	AUSPICE	· · · · · · · · · · · · · · · · · · ·					 	a					
	Іннс	33	289	Ð O	289	8.8	1421	2893	   87	 2994	21.1		
	VOLUNTARIES	272	5781	3151	6100	22.4	2441	2789	721	2863	11.7		
	PROPRIETARY	1 21		Ð	4	2.0	41	35	0		8.8		
	TOTAL	1 3071	6074	3151	6393	20.8	3901	5717	159	58921	15.11		
QUEENS	IAUSPICE	·++- [ [		1			+- 		•+ 	+			
	   ННС	I     8	134	119	271	33.9	671	1008	161	10641	 15.9		
	VOLUNTARIES	1 771	1300	71	1318	17.1	2221	4558	+   0	45631	20.61		

(CONTINUED)

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE FREFARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88 TABLE 4 (continued)

#### 1737 UTFLEATITOR OF HUSTEGE HRV TITE OF PILLS FOR BOROUGH OF FACILITY AND PAYOR (SOURCE: SPARCS 1987)

		1		······		PRIMAR	Y PAYOR				
		!	SI	ELF-PAY			ļ	BLUE-CR	OS2 AND COM	Μ.	
1		DISCHARG-  ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS	IDISCHARG-I I ES I	ACUTE DAYS	ICERTIFIEDI	TOTAL DAYS	ALOS
ROROUGH	IAUSPICE	!									
QUEENS	IPROPRIETARY		•	• .	-		241	346	0	346	14.4
	ITOTAL	85	1434	1261	1589	18.7	313	5912	161	5973	19.1
STATEN ISLAND	IAUSPICE	!					! !				
	VOLUNTARIES	14	379	0	379	27.1	68	1097		1097	16.1
	FROFRIETARY	•	•	•	.	•	4	67	I 0I	671	16.8
	TOTAL	14	379	01	379	27.1	1 721	1164	e e	11641	16.2
NEW YORK CITY	AUSPICE										
	ННС	309	3986	170	4177	13.5	466	8352	654	9061	19.4
	VOLUNTARIES	1127	21343	853	22366	19.8	4863	72061	1155	844691	17.4
	PROPRIETARY	1 31	19	0	19	6.3	1 371	482	I 01	482	13.0
	STATE	1 51	0	01	34	6.8	13	Θ	01	260	20.0
	ITOTAL	1444	25348	1023	26596	18.4	53791	80895	i 18091	942721	17.51

(CONTINUED)

29

#### ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88

TABLE 4 (continued)

#### 1997 UTILIZATION BY AUSPICE AND TYPE OF DATS FOR BOROUGH OF FACILITY AND PAYOR (SOURCE: SPARCS 1987)

17

		1				FRIMAR	Y PAYOR				
				OTHER					MISSING		
		DISCHARG-  ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS	DISCHARG-I	ACUTE DAYS	ICERTIFIED	TOTAL DAYS	ALOS
BOROUGH	AUSPICE								1		
MANHATTAN	іннс	129	3256	68	3324	25.8		•		· ·	
	VOLUNTARIES	1 1721	4367	1 11	4646	27.0	411	534	46	580	14.1
	PROPRIETARY	.				l .	.1	*	.	•	•
	TOTAL	301	7623	691	7970	26.5	411	534	46	580	14.1
BROOKLYN	AUSPICE										
	ННС	118	2389	Ð	2389	20.2					•
	VOLUNTARIES	1 531	713	251	1053	19.9	•	*****	.	•	•
	FROPRIETARY	t .	•	1	•		· · · ·	•	.	•	•
	STATE	· · · · · · · · · · · · · · · · · · ·	•	· · · · · · · · · · · · · · · · · · ·	•	•	• [		۰. ۱	.	•
	TOTAL	1 1711	3102	25	34421	20.1	······	······································	.	•	•
BRONX	AUSPICE								•	•	
	ННС	6	83	- OI	83	13.8	 		   .	- 1	
	VOLUNTARIES	1 541	1037	01	10371	19.2	· · · ·	a		۱	*
	PROPRIETARY	·		·		·······	· · · · ·			++ ا د	
	TOTAL	1 601	1120	·+	1120	18.7	• • • •	•	++   .1	++   ،	• • • • • •
RUEENS	IAUSPICE	++- ! !		•••			·		++	+	
	I HHC	53	967	421	10121	19.1		•		   .	•
	VOLUNTARIES	23	412	01	4121	17.9	601	1040	++   0	10731	17.9

(CONTINUED)

#### ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88

A VIEW TRANSPORTER AND AND AND AND AND DAVE OF DAVE AN ADDREADAN OPTOBED 33 COOD

#### 1997 -UTILIZATION BY AUSPICE AND TYPE OF DAYS = 16:10 (HURSDAY, OCTOBER 27, 1908 = 17 FOR BOROUGH OF FACILITY AND PAYOR (SOURCE: SPARCS 1987)

PAF

19.00

1		!	FRIMARY FAYOR										
				OTHER			1		MISSING				
		DISCHARG-  ES	ACUTE DAYS	CERTIFIED   ALC DAYS	TOTAL DAYS	I ALOS	DISCHARG-    ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS		
BOROUGH	AUSPICE	! !		••	*** ** ** ** ** ** ** **	+ 	•• !		••				
QUEENS	IPROPRIETARY				•	   .		•					
	ITOTAL	1 761	1379	1 421	1424	1 18.7	1 601	1040	0	1073	17.9		
STATEN ISLAND	AUSPICE	! !											
	VOLUNTARIES	- 24	667	   0	667	27.8							
	PROPRIETARY	1 .1	•	++   .	•	• ! •	•+   •	•	++   .	•	•		
	I TOTAL	24	667	0	667	27.8	++   .		++   .	•	•		
NEW YORK CITY	IAUSPICE	!		++ 		•	++ 		•• 				
	іннс	306	6695	110	6808)	22.2					•		
	VOLUNTARIES	1 3261	7196	261	7815	24.0	1011	1574	461	1653	16.4		
	PROPRIETARY		·····	·+		.	۰. ۱			•			
	ISTATE		·····	·····	• • • • • • • • • • • • • • • • • • • •	.	۰۱ ۱		·····	+			
	ITOTAL	1 6321	13891	136	14623	23.1	101	1574	461	1653	16.4		

(CONTINUED)

13 lana's

> ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 2700188

> > - - I - I.

#### 1287 . UTILIZATION BY AUSPILE AND TYPE OF DAYS FOR POROUGH OF FACILITY AND PAYOR (SOURCE: SPARCS 1987)

		1		TOTAL		
~.		DISCHARG-    ES	ACUTE DAYS	ICERTIFIED	TUTAL DAYS	ALOS
COROUGH	AUSPICE			1		
IANHATTAN	Іннс	2053	42147	8832	53034	25.8
	VOLUNTARIES	1 75551	123522	46801	1405491	18.6
	FROFRIETARY	6	36	1 01	361	6.0
	TOTAL	7614	165705	13512	193619	20.1
ROOKLYN	AUSPICE	! !				
	Іннс	1387	23377	3361	27839	20.1
	VOLUNTARIES	1560	30844	1 31101	335981	21.5
	PROFRIETARY	1 21	31	1 01	31	15.5
	STATE	48	Ø	I 0I	6701	14.6
	TOTAL	2997	54252	64711	621381	20.7
RONX	AUSPICE				!	**** **** **** **** ****
	іннс	1345	25445	4738	31634	23.5
	VOLUNTARIES	1821	22580	1 12661	23634	13.0
	IFROFRIETARY	1 81	57	1 21	+ 591	7.4

480821

. ... ... ... ... ... .

99171

134391

. ... .. .. ... ... ... ...

3911

60061

. . . . . . . . . .

22301

-----

10231

θI

553271

-----

12841

145841 22.41

----+------

3911 14.01

17.4

21.8

. ... ... ... ...

(CONTINUED)

I TOTAL

**4** --- --- --- --- --- ---

**IAUSPICE** 1 -----I HHC

\_\_\_\_

**VOLUNTARIES** 

1-----

*IPROPRIETARY* 

QUEENS

#### ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 2700188

٢

31741

. ... ... ... ... 4

5901

----

6521

----+

281

32

16119 THURSDAY, OCTOBER 27, 1988 18

TABLEY (continued)

#### 1987 UTILIZATION BY AUSPICE AND TYPE OF DAYS FOR BOROUGH OF FACILITY AND PAYOR (SOURCE: SPARCS 1987)

!		TOTAL									
1     		DISCHARG-  ES	ACUTE DAYS	CERTIFIED   ALC DAYS	TOTAL DAYS	AL.OS					
BOROUGH	I TOTAL										
QUEENS		1270	23747	3253	27816	21.9					
STATEN ISLAND	AUSFICE										
	VOLUNTARIES	2301	4842	111	4984	21.7					
	FROFRIETARY	4	67	I 0I	67	16.8					
	TOTAL	2341	4909	1111	5051	21.6					
NEW YORK CITY	AUSPICE										
	ннс	5375	100886	19161	125348	23.3					
	VOLUNTARIES	11818	195227	101901	217349	18.4					
	PROPRIETARY	48	582	2	584	12.2					
	ISTATE	481	Θ	ι θi	670	14.0					
	I TOTAL	172891	296695	293531	343951	19.9					

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88 TABLE 5

#### 1787 DISCHARGES BY AUSPICE AND PATTENT URIGIN - 16:10 THURSDAY, OUTUBER 27, 1933 FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

unserning.	OCTOPEN.	4. 1 1	1700	

1		!	PATIENT ORIGIN													
,		I MA	NHATTA	N	l B	ROOKLY	N	ł	BRONX		l	QUEENS		I STAT	EN ISL	AND
, , ,		DISCH-	ICOL. IPCT.	I ROW	IDISCH- IARGES	ICOL. IPCT.	I R <b>ow</b> IPCT.	IDISCH- IARGES	ICOL. IFCT.	I ROW	DISCH-	ICOL. IPCT.	I ROW	DISCH-	ICOL. IFCT.	ROW  PCT.
BOROUGH	AUSF ICE	1		ļ		• 		•								
MANHATTAN	I HHC	1502	23	73	171	17	8	1 131	24	6	212	24	- 10	7	13	Ð
1	VOLUNTARIES	4905	76	65	835	83	1 11	1 418	1 76	6	656	1 75	9	49	1 88	1
	FROFRIETARY	1 5	Ø	83							1	0	17			.
	TOTAL	6412	100	67	1006	100	10	549	100	6	869	100	9	56	100	1 1
BROOKLYN	AUSPICE	l		1		1						1				
	ннс	117	68	8	1234	46	89	2	25	0	31	38	2			
	VOLUNTARIES	1 53	31	1 3	1424	53	91	15	63	ı O	49	60	3	2	67	1 01
	PROPRIETARY	1			2	0	100	.			•	-	•			.
	STATE	1 1	- 1	2	42	2	88	1	13	2	1	1	2	1	33	1 21
	TOTAL	1 171	100	6	2702	100	90	8	100	Ð	81	100	3	3	100	0
BRONX	AUSPICE						,									
	ннс	50	30	4	8	33	1	1263	46	94	14	26	1			
ъ.	VOLUNTARIES	1 116	70	6	16	67	1	1496	54	82	39	74	2	27	100	1.1
	FROPRIETARY	1			•	•		5	Ð	63		•				.
	TUTAL	166	100	5	24	100	1	2764	100	87	53	100	2	27	100	1
QUEENS	AUSPICE	1														
	ННС	12	48	2	18	29	3	2	25	Ð	551	51	93	•		
	VOLUNTARIES	13	52	2	44	70	7	5	63	1	514	47	79	•		1 .1
	FROFRIETARY	1 .	•	.	1	2	4	1	13	4	26	2	93	•	۱ <u>.</u>	1 .1

(CONTINUED)

-- -- -- -- --

ŝ 

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 2700188
#### 97 DISCHARGES BY AUSPICE AND PATIENT URIGIN FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

!		!						PATI	ENT OR	IGIN				1		1
		MAI	HATTA	N	l B	ROOKLY	N	1	PRONX		1	RUEENS		I STAT	STATEN ISLAND	
		IDISCH- IARGES	ICOL. IFCT.	I ROW	IDISCH IARGES	ICOL. IPCT.	I ROW	DISCH-	ICOL. IPCT.	I ROW	IDISCH- ARGES	ICOL. IPCT.	I ROW	DISCH-	ICOL. IFCT.	I ROW IPCT.
BOROUGH	ITOTAL	!		•				•	!							
QUEENS		25	100	1 2	63	100	5	8	100	1 1	1091	100	86			
STATEN ISLAND	I AUSF ICE	1		•   			•   		1				1			
	VOLUNTARIES	5	100	2	1 11	92	5		į .		2	67	.1	210	99	91
1	PROFRIETARY				1	8	25		· ·		1 1	33	25	2	1	50
	ITOTAL	1 5	100	1 2	12	1 100	15	1 .			1 3	100	1	212	100	91
NEW YORK CITY	AUSPICE	1										1				
	ННС	1681	25	31	1 1431	I 38	27	1398	42	26	808	39	15	7	2	0
1	VOLUNTARIES	1 5092	75	1 43	2330	1 61	20	1924	1 58	16	1260	60	11	288	97	2
	PROPRIETARY	1 5	Ø	1 10	4	0	8	6	1 0	1 13	28	1	58	2	1	4
1	STATE	1 1	0	2	1 42	1 1	88	1	1 0	1 2	1 1	0	2	1	0	21
1	TOTAL	6779	100	1 39	3807	100	22	3329	1 100	19	2097	100	12	298	100	21

(CONTINUED)

35

#### PREFARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSFITALS CORFORATION 270CT88

#### DISCHARGES BY AUSPICE AND PATTENT URISIN FOR BOROUGH OF FACILITY (SOURCE: SPARCS 1987)

.

		1	F	ATIENT	ORIGIN			!		
			OTHER		UNKNOW	N OR M	ISSING	1	TOTAL	
		DISCH- ARGES	ICOL. IPCT.	I ROW	IDISCH- IARGES	ICOL. IPCT.	ROW  PCT.	IDISCH- ARGES	ICOL.	I ROW
BOROUGH	AUSFICE	1	!			•				1
MANHATTAN	ГННС	1 30	4	1	1			2053	21	100
	VOLUNTARIES	1 681	96	1 9	11	1 100	0	7555	79	100
	PROPRIETARY	! .	1 .	1.	.	1.	.	6	Θ	100
	TOTAL	1 711	1 100	1 7	1 11	100	0	9614	100	100
BROOKLYN	AUSPICE	1	1	•	•   	1				
	ННС	3	1 10	0				1387	46	100
	VOLUNTARIES	1 25	83	2	1 2	1 100	1 0	1560	52	1 100
	PROPRIETARY	1 .	1 .	.	.		1 .	2	θ	1 100
	STATE	1 2	1 7	4	.	<u> </u>	1 .	48	2	1 100
	TOTAL.	30	1 100	1 1	2	1 100	0	2997	100	1 100
BRONX	AUSPICE		• !	•   	•	 			 	
	I HHC	10	8	1				1345	42	100
	VOLUNTARIES	1 114	1 90	6	13	100	1	1821	57	100
	PROPRIETARY	1 3	1 2	I 38	1 .	•   `•	• 	8	0	100
	TOTAL	1 127	1 100	4	1 13	100	0	3174	100	100
QUEENS	AUSFICE	!	+ 	+ !	+ 	•				• 
	Іннс		9	1		1		590	46	100
	VOLUNTARIES	1 75	91	12	1 1	100	0	652	51	100
	PROPRIETARY	1 .	1 .	.		l .		28	2	100

#### (CONTINUED)

#### FREFARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 270CT88

COMPACT TO A CONTRACT AND AND ADDRESS OF A STREET AND ADDRESS OF A DESTRUCTION OF A DESTRUCTION ADDRESS OF ADDRESS OF ADDRESS OF A DESTRUCTION ADDRESS OF ADDRESS OF A DESTRUCTION ADDRESS OF ADDRESS ADDRES

TOTAL

....

.... ....

#### DISCHARGES BY AUSPILE AND PAIJENT URIGIN. FOR BOROUGH OF FACTLITY

		(300	RCE : S	PARCS	1937)					
1		1	F	ATIENT	ORIGIN					
1		OTHER JUNKNOWN OR MISSING				I TOTAL				
1 1 1		DISCH-	ICOL. IFCT.	I ROW IPCT.	IDISCH- IARGES	ICOL. IPCT.	I ROW	IDISCH- IARGES	ICOL. IFCT.	I ROW
BOROUGH	I TOTAL						1			
QUEENS		82	100	6	1	100	Θ	1270	100	100
STATEN ISLAND	AUSPICE									•
	VOLUNTARIES	2	100	1				230	98	100
	PROFRIETARY	1.						4	2	1 100
   	TOTAL	1 2	100	1				234	100	100
NEW YORK CITY	AUSFICE	1								
4   1	іннс	50	5	1				5375	31	100
1	VOLUNTARIES	1 897	1 94	8	27	100	Ø	11818	68	1 100
	PROPRIETARY	1 3	0	6	1			48	1 0	1 100
	STATE	1 2	10	4				48	0	1 100
										•

61

271 1001

952| 100|

PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 2700188

CONTRACTOR OF A A66666666666 MM

ны стереререр

01 172891 1001 1001



#### Appendix 3 Detailed Utilization Data

#### Summary Data and Base Data

The charts and tables that follow are based on inpatient utilization data from the New York Statewide Planning and Resource Cooperative System (SPARCS) discharge database for calendar year 1987. These data provide additional detail to the tables in Appendix 2.

As was the case for the data in Appendix 2, these data are of all HIV-related discharges from New York City acute care hospitals that occurred during 1987. The criteria for selecting HIV-related discharges is based on the occurrence of specific diagnostic codes in the discharge record. These include: 136.3; 279.10; 279.19; 42.0-42.9; 43.0-43.9; 44.0-44.9; and 795.8.

The data presented in some of the charts include only discharges for New York City residents. This is stated in each chart.

As was noted in Appendix 2, while SPARCS data are a valuable source of descriptive information on the characteristics of discharges from acute care hospitals, the absolute number of discharges counted in the SPARCS database is less than actually occur in a year. The Needs Assessment Work Group was able to estimate the extent of undercounting of HIV-related discharges in SPARCS for 1986 and 1987. This is described in Appendix 4 in the section on the acute care bed projection method.



## Discharges: By Ethnicity



The Preekyterian Heepits/Office of Planning

**November 7, 1988** 



## Length of Stay: By Ethnicity



New Wrb City Health and Heapitale Corporation/ Office of Pianning Bervises The Prophytorian Haapital/Office of Pianning

November 7, 1988

## Length of Stay: By Primary Payor



New Work City Heelth and Haapitala Carparation/ Office at Planning Bervices

# Demography (Sex & Age/Ethnicity)

4

November 7,1988

## **Discharges:** Age/Ethnicity



## **Discharges:** Age/Ethnicity



New Wrb City Health and Haspitals Garparatian/ Office of Planning Berviess The Prochyterian Haspital/Office of Planning

November 7, 1988

(

## Discharges: Ethnicity/Age



**Needs Assessment Work Group** 

## Discharges: Ethnicity/Age



#### New Work Gity Health and Hoopitale Gerperation/Office of Planning Bervices The Preobytorian Hoopital/Office of Planning

November 7, 1988

#### AIDS UTILIZATION SEX AND AGE BY EIHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

BORO : BRONX		1		ETHNICITY			! · · !
		ASIAN	I ELLACK	I HISFANIC	I OTHER	WHITE	TOTAL
SEX	IAGE GROUP	!					
MALE	10-4	0	47	94	3	28	172
	5-14	1 0	58	54	0	0	112
	15-44	1 2	571	934	33	159	1699
	45-64	1 2	1 91	119	9	31	252
	65-74	1 0	1 2	1	01	1	4
	75-84	I 0	0	0	0	1	1
	85+	1 0	0	0	I 01	θ	0
	ALL AGES	1 4	769	1202	45	220	2240
FEMALE	IAGE GROUP	1					
	10-4	0	30	89	3	6	128
	15-14	1 0	54	98	θĮ	0	152
	15-44	1 0	281	384	12	40	717
	45-64	0	32	29	1	2	64
	165-74	0	1	1	01	Ð	21
	75-84	0	3	1	0	Ð	41
	185+	1 0	θ	θ	01	01	01
	ALL AGES	0	401	602	161	481	10671
TOTAL	AGE GROUP						
	0-4	0	77	183	6	34	300
	15-14	0	112	152	01	01	2641

(CONTINUED)

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOVER

٤

#### AIDS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

IFORO: BRONX							
1		ASIAN	<b>ELACK</b>	HISPANIC	OTHER	WHITE	TOTAL
TOTAL	AGE GROUP	l					
	15-44	2	852	1318	45	199	2416
	145-64	2	123	148	10	33	316
	65-74	0	3	2	Ø	1	61
	75-84	0	3	1	Ð	1	51
	85+	0	· 0	0	θ	Ð	01
	ALL AGES	4	1170	1804	61	268	33071

PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NUV88

#### AIDS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

BORO: BROOK	L.YN	1		ETHNICITY			
		I ASIAN	I ILACK	I HISFANIC	I OTHER	WHITE	TOTAL.
SEX	AGE GROUP		1				
MALE	10-4		89	23	1.4	13	129
	5-14		14	1 1	1 2	2	191
	15-44	1	1022	1 596	63	545	2232
	45-64	1	1 134	62	11	111	319
	65-74	(	3	0	0	1	4
	75-84	1	0	1 0	0	1	1
	85+		0	1 1	0	0	1
	ALL AGES	1 7	1 1262	683	80	673	2705
FEMALE	AGE GROUP	]	1				
	0-4		96	32	3	7	138
	5-14	! (	8	1 1	0	1	10
	15-44	(	464	1 189	17	122	792
	45-64	[ 6	41	1 7	1	101	591
	65-74	1 0	0	0	Ð	51	51
	75-84	1 6	0	0	Ð	21	21
	85+	1 6	0	e e e e e e e e e e e e e e e e e e e	θ	Ð	θĮ
	ALL AGES	1 6	609	229	21	1471	1006
TOTAL	AGE GROUP						
	10-4	6	185	55	7	20	267
	15-14	1 0	22	2	2	31	29

(CONTINUED)

#### PREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV88

#### AIDS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURLE: SPARCS 1987)

IBORO: BROOKLY	N	1	I ETHNICITY							
		ASIAN	I BLACK	HISPANIC	I OTHER	WHITE	101AL			
TOTAL	IAGE GROUP	· ·								
	115-44	6	1486	785	80	667	3024			
	45-64	1 1	175	69	12	121	378			
	165-74	0	3	θ	0	6	91			
	75-84	1 0	θ	θ	0	3	31			
	185+	1 0	θ	1	0	0	11			
	ALL AGES	1 7	1871	912	101	820	37111			

153

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HUSPITALS CORFORATION 2NUV88

#### A1DS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

RORO: MANHAT	TAN	!		ETHNICITY			
1 1 1		ASIAN	III. ACK	HISPANIC	OTHER	WHITE	TOTAL
SEX	IAGE GROUP	1					
MALE	10-4	1 1	56	- 23	6	7	93
	5-14	1 0	4	3	2	Ð	91
	15-44	18	1146	783	209	2240	4396
	45-64	1 4	223	179	56	738	1200
	65-74	1 01	11	1	31	221	27
	75-84	1 01	Ð	Ð	Ð	21	21
	85+	1 01	0	0	0	1	1
1	IALL AGES	1 231	1430	989	276	3010	5728
FENALE	IAGE GROUP						
	0-4	0	38	15	31	4	60
	15-14	1 01	8	161	01	11	25
	15-44	1 01	344	183	691	128	724
	45-64	1 21	401	231	01	13	781
÷	65-74	0	.1	11	01	21	4
	7584	0	01	01	11	21	3
	85+	0	01	01	01	01	0
	ALL AGES	l 21	431	2381	73	150	894
TOTAL	AGE GROUP	·					
	10-4	·••]     1	941	381	 9	11	153
	15-14	1 01	121	191	21	+ 11	341

(CONTINUED)

#### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV88

#### AIDS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

IBORO: MANHAT	ITAN	!	ETHNICITY						
		ASIAN	HLACK	HISFANIC	01HER	WHITE	TOTAL		
TOTAL	AGE GROUP	1							
	15-44	1 18	1490	966	278	2368	5120		
	45-64	1 6	263	202	56	751	1278		
	65-74	1 0	2	2	3	24	31		
	75-84	1 0	0	Ð	1	4	5		
	85+	1 0	θ	0	Ð	1	1		
	IALL AGES	1 25	1861	1227	349	3160	66221		

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOV08

#### AIDS UTILIZATION SEX AND AGE BY EIHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

BORO: QUEEN	IS			ETHNICITY			
		ASIAN	I BLACK	HISFANIC	OTHER	WHITE	TOTAL.
SEX	IAGE GROUP	1	1	!			
MALE	104	0	16	1 4	0	3	23
	5-14	1 0	1 35	1 2	Θ	1	38
	15-44	B [	499	317	39	473	1336
	45-64	1 1	65	60	9	87	222
	65-74	1 0	1 0	1	0	13	14
	75-84	1 0	0	0	0	21	2
	185+	1 0	0	0	Ð	θ	θ
	IALL AGES	1 9	615	384	48	579	1635
FEMALE	AGE GROUP	!	1				
	0-4		26	11	Ð	5	42
	5-14	1 0	1 2	1	•• 01	51	81
	15-44	1 1	1 181	64	14	741	334
•	45-64	l 0	101	4	01	61	201
	65-74	I 0	• l 11	01	01	11	2
	75-84	I 0	0	01	01	01	0
	85+	l 0	0	01	•• 01	••	0
	ALL AGES	1	220	801	14	911	406
TOTAL	IAGE GROUP	!				+ !	
	0-4	0	42    42	15	01	81	65
	15-14	l 0	1 371	31	01	+  6	461

(CONTINUED)

#### FREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV88

¢

#### A1DS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

I FORO : QU	EENS		ETHNICITY						
1		ASIAN	BLACK	HISFANIC	OTHER	WHITE	TOTAL		
TOTAL	IAGE GROUP								
1	15-44	9	680	381	53	547	1670		
	45-64	1 1	75	64	9	93	2421		
ļ	65-74	1 0	1	1	0	14	16		
	75-84	1 0	θ	Θ	Ð	21	21		
ļ	85+	I 0	θ	0	Ð	01	01		
	IALL AGES	10	835	464	62	6701	20411		

157

.

#### PREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOV88

#### AIDS UTILIZATION SEX AND AGE BY EIHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

BORD: STATEN	ISLAND			ETHNICITY			
		ASIAN	I HLACK	HISPANIC	I OTHER	WHITE	TUTAL.
SEX	AGE GROUP			1			
HALE	10-4	0	7	0	0	6	13
	5-14	1 0	0	0	0	1 1	1
	15-44	1 1	46	21	1 1	98	167
	45-64	1 0	2	2	3	24	31
	65-74	1 0	Ð	0	θ	1	1
	75-84	1 0	1	0	0	0	. 1
	85+	1 0	Ð	Ð	Θ	01	θ
	ALL AGES	1 1	56	23	4	1301	214
FEMALE	AGE GROUP	1	· · · · · ·				
	0-4	0	13	Ð	θ	2	15
	15-14	1 0	11	0	0	1	121
	15-44	1 0	171	51	1	261	49
	45-64	1 0	1	0	1	41	6
	165-74	1 0	0	Ð	θ	1	1
	75-84	0	0	0	0	θĮ	0
	85+	0	0	0	Ð	01	0
	ALL AGES	0	421	5	2	341	83
TOTAL	AGE GROUP						
0-4	0	20	0	0	8	28	
	15-14	0	11	01	0	21	131

#### (CONTINUED)

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

#### AIDS UTILIZATION SEX AND AGE BY EIHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987))

IFORO: STATEN ISLAND							
1   		ASIAN	<b>BLACK</b>	HISFANIC	OTHER	WHITE	TOTAL
TOTAL	AGE GROUP						
	15-44	1	63	26	2	124	216
	45-64	0	3	2	4	28	37
	65-74	0	0	0	Ð	2	21
	75-84	Ð	1	Ð	θ	Ð	11
	85+	0	0	θ	Ð	θ	01
	IALL AGES	1	98	28	6	164	2971

.

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

#### AIDS UTILIZATION SEX AND AGE BY ETHINICITY ALL DISCHARGES (SOURCE: STARCS 1987)

4

:

LEORO: NON NEW YORK RESIDENTS		ETHNICTTY						
		ASIAN	1	ELACK	HISPANIC	OTHER	WHITE	, TOTAL
SEX	IAGE GROUP		ļ				1	
MALE	10-4		0	9	4	3	3	19
	5-14	1	DI	1	0	0	7	8
	15-44	1	ÐĮ	172	170	22	. 494	858
1	45-64	1	21	23	19	7	99	150
	65-74	(	ÐĮ	Ð	2	Ð	8	10
	75-84	1	<b>D</b> I	0	0	Ð	2	2
	185+	(	DI	0	0	1	0	1
ALL AG	ALL AGES	1	21	205	195	33	613	1048
FEHALE	IAGE GROUP	!	1					
l	0-4			5	7	0	38	50
	15-14	(	ÐI	21	0	Ð	44	46
1	15-44	(	D	601	17	4	671	148
	45-64	(	)   )	51	21	. 11	81	161
	65-74	(	ÐĮ	01	0	Ð	21	2
•	75-84	(	21	01	0	91	11	1
	85+	(	21	01	0	Ð	θļ	
	ALL AGES	(	-+- )	721	261	51	1601	263
TOTAL	IAGE GROUP		-+- !					
	10-4	1 (		141	111	3	41	69
	15-14	(	)   )	31	01	01	511	 54

(CONTINUED)

#### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORPORATION 2NOVER

#### AIDS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

IBORO: NON NEW Y	ORK RESIDENTS						
1 1		ASIAN	HLACK	HISPANIC	OTHER	WHITE	TOTAL
TOTAL	AGE GROUP						
1	15-44	0	232	187	26	561	1906
1	45-64	2	28	21	81	107	1661
	65-74	0	0	2	01	10	121
1	75-84	Ð	0	0	01	3	31
	85+	0	01	Ð	11	01	11
 	ALL AGES	21	277	221	381	773	13111

#### AIDS UTILIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: STARCS 1987)

ICITY TOTAL		1	ETHNICITY						
1		ASIAN	I BLACK	HISFANIC	OTHER	WHITE	10TAL		
SEX	LAGE GROUP	!							
MALE	10-4	1	224	148	16	60	449		
	15-14	1 0	1 112	60	4	11	187		
	15-44	1 35	3456	2821	367	4009	10688		
1 	45-64	1 10	538	441	95	1090	2174		
1	65-74	0	6	51	3	46	60		
	75-84	1 0	1	0	0	81	9		
	85+	1 0	0	1	1	1	3		
	IALL AGES	1 46	4337	3476	486	5225	13570		
FEMALE	AGE GROUP								
	0-4	0	208	154	9	62	433		
	15-14	1 0	85	116	0	52	253		
	15-44	1 1	1347	8421	117	457	2764		
	45-64	1 2	1291	651	4	431	243		
	65-74	1 0	31	21	Ð	11	16		
	75-84	l O	31	1	1	51	10		
1     	85+	0	Ð	01	Ð	01	0		
	ALL AGES	1 3	1775	11801	131	6301	3719		
TOTAL	AGE GROUP								
	0-4	1	432	302	25	122	882		
	15-14	0	197	1761	4	631	4401		

(CONTINUED)

#### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HUSPITALS CORFORATION 2NGV88

6

.

## AIDS UITLIZATION SEX AND AGE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

ICITY TOTAL							
		ASIAN	BLACK	HISFANIC	OTHER	WHITE	TOTAL
TOTAL	AGE GROUP						
	15-44	36	4803	3663	484	4466	13452
	45-64	12	667	506	99	1133	2417
	65-74	0	9	7	3	571	761
	75-84	θ	4	1	1	131	191
	185+	0	0	1	1	11	31
	ALL AGES	49	6112	4656	617	5855	172891

## PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOV88

16

# Demography (Primary Payor/Ethnicity)

## Primary Payor/Ethnicity (Total)



New York City Neelth and Hospitale Corporation/ Office of Planning Bervices

**Needs Assessment Work Group** 

## Primary Payor/Ethnicity (Total)



**November 7, 1988** 



Needs Assessment Work Group

## Ethnicity/Primary Payor (Total)



New York City Health and Heapitale Corporation/ Office of Planning/Services The Presbyterian Heapital/Office of Planning

November 7, 1988

#### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

BORO : BRONX		1	ETHNICITY					
		ASIAN	I ELACK	HISFANIC	OTHER	WHITE	TOTAL	
FAYOR	ISEX	!						
SELF FAY	IMALE	1	89	111	5	13	219	
	FEMALE	I 0	42	51	2	2	97	
	TOTAL	1 1	131	162	7	15	316	
OTHER	ISEX		 					
	MALE	1	20	17	1	8	47	
	FEMALE	I 0	6	0	91	Ð	6	
	TOTAL	1 1	26	17	1	8	53	
MEDICARE	ISEX	1						
	MALE	0	31	31	4	5	71	
	FEMALE	0	7	18	01	3	28	
 	TOTAL	0	38	49	41	8	99	
MEDICAID	ISEX							
	MALE	0	540	899	23	121	1583	
	FEMALE	0	300	482	131	31	826	
	TOTAL	l Ø	840	1381	361	152	2409	
B/C COMM	ISEX							
	MALE	2	89	144	12	73	320	
	IFEMALE	0	46	51	1	121	110	
	TOTAL	2	135	195	131	+ 85	4301	

(CONTINUED)

PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HUSPITALS CORPORATION 2NOV88

#### AIDS UTILIZATION PAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

BORO : BRONX   							
		ASIAN	<b>BLACK</b>	HISPANIC	OTHER	WHITE	TUINL
ALL PAYORS	SEX						
	HALE	4	769	1202	45	220	2240
	FEHALE	Ű	401	602	16	48	1067
	TOTAL	4	1170	1804	61	268	3307

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORPORATION 2NOV88
#### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: STARCS 1987)

BORO: BROOKL	YN			ETHNICITY			1
• • •		ASIAN	BLACK	HISFANIC	OTHER	WHITE	10TAL
FAYOR	ISEX	İ					
SELF PAY	IMALE	1	197	71	6	53	328
	IFEMALE	0	76	13	0	111	100
	TOTAL	1 1	273	84	6	641	428
OTHER	ISEX	1					
	MALE	0	24	91	1	19	53
	FEHALE	0	1	01	Ð	21	3
	TOTAL	0	25	91	1	211	56
MEDICARE	ISEX						
	MALE	0	321	14	1	11	58
	IFEMALE	0	71	1	Ð	81	16
	TOTAL	0	39	151	1	191	74
MEDICAID	ISEX						
	IMALE	   0	773	475	40	243	1531
	IFEMALE	0	470	1901	201	851	765
	TOTAL	0	12431	6651	106	3281	2296
R/C CONN	ISEX	· · · · · · · · · · · · · · · · · · ·		•••••••••••••••••••••••••••••••••••••••		••	
	MALE	6	236	114	32	347	735
	IFEMALE	0	551	25	11	411	122
	ITOTAL	6	291	1391	331	3881	857

(CONTINUED)

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORPORATION 2NOVER

### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

IBORO: BROOKLYN				ETHNICITY			
1		ASIAN	BLACK	HISFANIC	OTHER	WHITE	TOTAL
ALL PAYORS	ISEX						
	MALE	7	1262	683	80	673	2705
	FEMALE	0	609	229	21	1471	• 1006
1	TUTAL	7	1871	912	101	8201	37111

1

### FREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV88

#### AIDS UTILIZATION FAYOR RY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

I RORO : MANHAT	TAN			ETHNICITY			1
   		ASIAN	DLACK	HISFANIC	OTHER	WHITE	TOTAL
FAYOR	ISEX						
SELF FAY	INALE	1 01	101	77	11	203	392
	FEMALE	1 01	25	8	01	151	481
	TUTAL	0	126	85	111	218	440
OTHER	ISEX	!				l	
	MALE	0	80	72	4	501	206
	FEMALE	1 01	7	21	41	41	17
	TOTAL	1 01	87	74	81	541	223
MEDICARE	ISEX				1		
	MALE		67	22	7	44	140
	FENALE	1 11	4	3	31	81	191
	TOTAL		71	25	101	521	159
MEDICAID	ISEX						
	HALE	131	988	541	171	639	2352
	FEMALE	1 01	3671	2031	541	981	722
	TOTAL	13	1355	744	225	7371	3074
R/C COMM	ISEX						
	MALE	10	194	277	831	2074	2638
	FENALE	1 11	28	22]	121	251	88
	TOTAL	1 11	2221	299	951	20991	27261

(CONTINUED)

FREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOVER

E.2.1

#### AIDS UTILIZATION FAYOR HY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987) (

IBORO: MANHATTAN			· · · · · · · · · · · · · · · · · · ·	!			
		ASIAN	HLACK	HISPANIC	OTHER	WHITE	TOTAL.
ALL PAYORS	ISEX						
	MALE	23	1430	989	276	3010	5728
	FEMALE	2	431	238	73	1501	894
	TUTAL	25	1861	1227	349	31601	66221

### FREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

#### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

BORD: QUEENS	5	1		ETHNICITY			1
		ASIAN	FLACK	HISPANIC	OTHER	WHITE I	TOTAL
FAYOR	ISEX						
SELF FAY	IMALE	0	40	21	3	42	106
	FEMALE	1 0	12	1 5	1	71	25
	TOTAL	1 0	52	26	41	491	131
OTHER	ISEX	!					
	MALE	0	75	73	4	36	188
	FEMALE	0	23	19	21	31	47
	TOTAL	0	98	92	61	391	235
MEDICARE	ISEX	!					
	MALE		31	5	1	29	66
¥.	FENALE	1 11	3	Ð	01	71	11
	TOTAL	1 11	34	5	11	361	77
MEDICAID	ISEX	!				!	
	MALE	21	356	174	25	170	727
	FEMALE	1 01	162	491	111	511	273
	TOTAL	1 21	518	223	361	221	1000
B/C COMM	ISEX	!					
	MALE	7	113	- 111	15	302	548
	FENALE	1 01	20	7	θ]	231	50
	TOTAL		133	118	151	3251	598

(CONTINUED)

#### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

#### ALDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

16	IBORO: QUEENS				ETHNICITY			
			ASIAN	I BLACK	HISPANIC	01HER	WHITE	TOTAL
İA	LL PAYORS	ISEX						
i		MALE	9	615	384	48	579	1635
ļ		FEMALE	1	220	80	14	91	406
		TOTAL	10	835	464	62	670	20411

#### FREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 200V80

#### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

BORD: STATEN	I SLAND			ETHNICITY			
 		ASIAN	I BLACK	HISPANIC	OTHER	WHITE	10TAL
FAYOR	ISEX	 					
SELF PAY	INALE	, θ	3	1	0	10	14
	FENALE	1 0	0	Θ	0	3	31
	TUTAL	1 50	] 3	1	0	13	17
OTHER	ISEX						
	MALE	0	11	5	0	3	19
	FEMALE	0	21	0	0	11	31
	TOTAL	1 0	13	5	Ð	4	22
MEDICARE	ISEX						
	HALE	0	1	0	1	1	3
	FEMALE	1 0	2	θ	Ð	61	8
	TOTAL	1 0	3	Ð	11	71	11
MEDICAID	ISEX	1					
	MALE		33	11	2	48	94
	IFEMALE	0	36	5	21	161	59
	TOTAL	1 0	69	16	41	641	153
B/C COMM	ISEX	1					
	MALE	1	8	6	1	86	84
	FEMALE	1 0	2	0	6	81	10
	TOTAL	1 1	10	61	11	76	941

(CONTINUED)

### FREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV88

### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SUNIKCE: SPARCS 1987)

IBORO: STATEN ISLAND					ETHNICITY			
		ASIAN	I BLACK	1	HISPANIC	OTHER	UHI1E	TUTAL
ALL PAYORS	ISEX			ļ				
1	MALE	1	5	56	23	4	130	214
	FENALE	0	4	121	5	2	34	· • 83
i .	TOTAL	1	5	18	28	6	164	297

178

#### AIDS UTILIZATION FAYOR BY SEX AND EIHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

. .

HORO: NON NE	W YORK RESIDENTS	1		ETHNICITY		!	1
		ASIAN	HLACK	HISFANIC	OTHER I	WHITE	TOTAL
FAYOR	ISEX	1	-			1	
SELF PAY	IMALE	0	32	18	2	41	93
	FEMALE	1 0	8	2	11	81	19
	TOTAL	I 0	40	20	31	491	112
OTHER	ISEX	1				!	
	MALE	0	39	37	5	38	119
	FEHALE	0	17	2	ÐI	61	25
	TOTAL	1 01	56	39	51	441	144
EDICARE	ISEX				1		
	MALE	0	. 4	3	1	19	27
	IFEHALE	I 01	1	Ð	01	41	5
	TOTAL	0	5	3	11	231	32
MEDICAID	ISEX	!			1	!	
	MALE	0	84	186	- 11	81	244
	IFENALE	1 01	32	191	31	51 [	105
	TOTAL	1 01	116	871	141	1321	349
E/C COMM	ISEX						
	MALE	2	46	69	14	434	565
	FEHALE	0	14	31	11	911	109
	TOTAL	1 21	66	721	15		6741

(CONTINUED)

### FREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOV88

### AIDS UTILIZATION PAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987),

IBORO: NON NEW Y	ORK RESIDENTS	ETHNICITY					1
1		ASIAN	I BLACK	HISFANIC	I OTHER	I WHITE	TOTAL.
ALL PAYORS	ISEX			1			
	MALE	2	205	195	33	613	1048
	FENALE	0	1 72	1 26	5	160	263
1	ITOTAL	2	1 277	1 221	30	773	1311

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOVAR

#### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

. .

CITY TOTAL				ETHNICITY			
   		ASIAN	ELACK	HISFANIC	OTHER	WHITE	TOTAL.
FAYOR	ISEX	1					
SELF PAY	IMALE	2	462	299	27	362	1152
1	FENALE	1 01	163	79	41	461	292
	TOTAL	1 21	625	378	31	4081	1444
OTHER	ISEX	!					
	MALE	1	249	213	15	154	632
	FEMALE	1 01	56	23	61	161	101
! !	TOTAL	1 11	305	236	211	170	733
HEDICARE	ISEX	!					
	MALE	0	166	75	15	109	365
	FEMALE	1 21	24	221	31	361	87
	TOTAL	1 21	190	971	181	1451	452
MEDICAID	ISEX	!					
	MALE	15	2774	2168	272	1302	6531
	FEMALE	1 01	13671	9481	1031	3321	2750
	TOTAL	1 151	41411	31161	3751	16341	9281
B/C COMM	ISEX						
	MALE	28	686	721	157	3298	4890
	FEMALE	1 11	165	1081	151	2001	489
	TUTAL	1 291	851	8291	1721	34981	5379

(CONTINUED)

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

### AIDS UTILIZATION FAYOR BY SEX AND ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

ICITY TOTAL			· · · · · · · · · · · · · · · · · · ·	ETINICITY			
		ASIAN	IIL ACK	HISPANIC	OTHER I	WHITE	TOTAL
ALL PAYORS ISEX							
	MALE	46	4337	3476	486	5225	13570
	FENALE	3	1775	1180	131	6301	3719
<u> </u>	TOTAL	49	6112	46561	6171	58551	17289

PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOVER

Needs Assessment Work Group.

# Demography (Ethnicity/Sex & Inpatient Utilization)

New York City Hoalth and Heapitals Gerparation/ Office of Planning Bervices. The Presbyterian Heapital-GPNG/Office of Planning



New Welt Filly Heelth and Haspitals Corporation/ Office of Planning Asrvises

Needs Assessment Work Group

### **Discharges: Ethnicity/Utilization**



New York City Health and Heapitale Garparation/Office of Planning Bervices. The Presbyterian Heapital/Office of Planning

1

186

## **Discharges:** Utilization/Ethnicity



New Wrk City Health and Hospitals Corporation/ Office of Planning Bervices

# **Discharges: Utilization/Ethnicity**



New York City Health and Heepitals Corporation/ Office of Planning Bervices. The Presbyterion Heepitel/Office of Planning



New York City Health and Hoopitale Corporation/Office of Planning Bervices The Presbyterian Hoopital/Office of Planning

Needs Assessment Work Group

### Patient Days: Ethnicity/Utilization



New York City Health and Hospitals Corporation/Office of Planning Bervices The Presbyterian Hespital/Office of Planning

190



**Needs Assessment Work Group** 

# Patient Days: Utilization/Ethnicity



New York City Health and Heepitals Corporation/Office of Planning Bervises The Preebyterian Heepital/Office of Planning

192

# LOS: Ethnicity/Utilization



New Writ City Heelth and Hospitals Corporation/ Office of Planning Services

# LOS: Utilization/Location



New Web Fits Health and Heapitals Reportions Affice of Planning Agricage. The Presbyterion Heapital/Billes of Planning.

### ALDS UTILIZATION LOS STATISTICS BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

I FORO - PRONX			······································							
	MALE I			I FEMALE			TOTAL			
		LENGTH C	F STAY		LENGTH (	DF STAY		LENGTH	OF STAY	
	DISCHARGED FATIENTS	AVERAGE I	PATTENT DAYS	DISCHARGED FATIENTS	AVERAGE LOS	FATIENT DAYS	DISCHARGED FATIENTS	AVERAGE LOS	FATIENT DAYS	
IE THINTCTTY										
ASIAN	4	9.25	37	0	Ð	0	4	9.25	37	
I FIL ACK	769	19.43	149421	401	16.44	6593	11701	18.411	21535	
IHISFANIC	12021	19.901	23919	6021	14.11	8495	1804	17.97	324141	
IOTHER	451	15.11	680	161	18.13	290	61	15.90	970	
IWHITE	2201	18.801	4137	481	15.88	762	2681	18.28	48991	
ΙΤΟΤΛΙ	22401	19.521	437151	10671	15.13	16140	33071	18.10	59855	

.

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

### AIDS UTILIZATION LOS STATISTICS RY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

I BORO : BROOKLYN									
	MALE I			FEMALE			10TAL I		
		LENGTH C	)F STAY	·	LENGTH (	IF STAY		LENGTH O	IF STAY
	DISCHARGED PATIENTS	AVERAGE LOS	FATTENT DAYS	DISCHARGED FATIENIS	AVERAGE LOS	PATIENT DAYS	DISCHARGED FATIENTS	AVERAGE LOS	FATTENT DAYS
IETHNICITY									· · · · · · · · · · · · · · · · · · ·
ASIAN	7	50.71	355	01	0	θ	7	50.71	355
I &LACK	1262	23.84	30086	6091	20.41	12430	1871	22.721	42516
[HISFANIC	6831	20.54	14029	229	18.01	4124	912	19.90	18153
OTHER	801	17.46	1397	211	19.76	415	101	17.94	1812
IWHITE	673	18.09	12172	147	17.54	2578	820	17.991	14750
I TOTAL	2705	21.46	58039	1006	19.43	19547	3711	20.91	77585

ı

#### AIDS UTILIZATION LOS STATISTICS BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

LEORO : MANHATTAN			SI						
		MALE		FEMALE			TOTAL		
		LENGTH O	F STAY		LENGTH C	F STAY		LENGTH C	OF STAY
	DISCHARGED PATIENTS	AVERAGE . I	FATIENT DAYS	DISCHARGED FATIENTS	AVERAGE LOS	PATIENT DAYS	DISCHARGED PATIENTS	AVERAGE LOS	PATIENI DAYS
ETHNICITY									
IASIAN	23	21.35	491	21	20.00	40	25	21.24	531
BLACK	1 4 3 0 1	21.92	31346	431	22.93	9881	1861	22.15	41227
HISPANIC	9891	22.33	22081	238	22.33	5314	1227	22.33	27395
OTHER	2761	. 18.591	5130	73	19.38	1415	3491	18.75	6545
WILLTE	30101	17.061	51361	150	20.50	3075	3160	17.23	54436
TOTAL	57281	19.281	110409	8941	22.06	19725	66221	19.651	130134

#### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORPORATION 2NOVOB

¢

#### AIDS UTILIZATION LOS STALISTICS BY ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

٠

I BORO : QUEENS										
		MALE		FEMALE			101AL			
		LENGTH C	DF STAY		LENGTH C	F STAY	I LENGTH		FSINY	
	DISCHARGED PATIENTS	AVERAGE LOS	PATIENT DAYS	DISCHARGED FATIENTS	AVERAGE LOS	PATIENT DAYS	DISCHARGED PALIENIS	AVI KAGE   LOS	FALLENI DAYS	
ETHNICITY									1	
ASIAN	9	16.44	148	11	4.00	4	10	15.20	152	
[!LACK	615	21.50	13224	220	22.40	4929	835	21.741	18153	
HISPANIC	3841	23.27	8937	801	26.411	2113	464	23.811	11050	
OTHER	481	. 19.10	917	14	17.07	239	62	18.65	1156	
WHITE	579	18.17	10521	91	16.01	1457	670	17.081	119781	
TOTAL	1635	20.64	33747	406	21.53	8742	2041	20.821	424891	

.

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HUSPITALS CORPORATION 2NOV88

# AIDS UTILIZATION LOS SIAIISIICS BY EINNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

ISORO STATEN ISLAND		SEX							
	MALE I			FEMALE			TOTAL		
8 8	I LENGTH OF STAY I		I LENGTH OF STAY			I LENGTH OF STAY			
	DISCHARGED PATIENTS	AVERAGE I LOS I	PATIENT DAYS	DISCHARGED FATIENTS	AVERAGE LOS	FATIENT DAYS	DISCHARGED FATIENTS	AVERAGE LOS	PATIENI DAYS
IE FIINTCITY									
ASIAN	1	7.00	7	0	Θ	0	1	7.00	7
FLACK	56	27.18	1522	421	9.71	408	981	19.69	1930
HISFANIC	23	19.43	447	51	6.40	32	28	17.11	479
IOTHER	41	14.25	57	21	1.00	21	6	9.83	59
WHITE	1301	20.911	2718	341	12.65	430	164	19.20	3148
TOTAL	214	22.201	4751	831	10.51	872	297	18.931	56231

### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOVUU

#### AIDS UTILIZATION LOS STATISTICS BY ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

I BORO : NON NEW YORK RESIDENTS				••••••••••••••••••••••••••••••••••••••					
	MALE I			FEMALE			101AL		
		LENGTH (	DF STAY	I LENGTH OF STAY			LENGTH OF STAY		
	DISCHARGED PATIENTS	AVERAGE LOS	HATIENT DAYS	ÞISCHARGED FATIENTS	AVERAGE LOS I	PATIENT DAYS	DISCHARGED FATLENTS	AVERAGE LUS I	FATIENT DATS
ETHNICITY									
ASIAN	2	27.00	54	01	0	0	2	27.00	54
BLACK	2051	27.76	5691	72	38.14	2746	2771	30.461	84371
HISFANIC	1951	25.17	4909	261	32.001	832	221	25.98	5741
IOTHER	331	14.82	489	51	14.20	71	38	14.74	5601
WHITE	6131	17.87	10957	1601	15.72	2515	773	17.43	13472
I TOTAL	10481	21.09	22100	2631	23.44	6164	1311	21.56	28:641

### PREPARED BY THE OFFICE OF PLANNING SERVICES . NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

# AIDS UTILIZATION LOS STATISTICS BY ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

ICITY TOTAL										
	MALE I				FEMALE			TOTAL		
	I LENGTH OF STAY I		I LENGTH OF STAY			I LENGTH OF STAY				
	DISCHARGED PATIENTS	AVERAGE LOS	PATIENT DAYS	DISCHARGED	AVERAGE LOS	PATIENT DAYS	DISCHARGED PATIENTS	AVERAGE LOS	PATIENT DAYS	
IETHNICITY										
ASIAN	46	23.74	1092	3	14.67	44	49	23.18	1136	
II.ACK	43371	22.32	96811	1775	20.84	36987	6112	21.89	133798	
IIISFANIC	34761	21.38	74322	1180	17.72	20910	4656	20.45	95232	
OTHER	486	17.84	8670	131	18.56	2432	6171	17.99	11102	
WHITE	52251	17.58	91866	6301	17.17	10817	5855	17.54	102683	
TOTAL	13570	20.10	272761	3719	19.14	71190	17289	49.89	3439511	

.

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV88

# Patient Origin (Location/Ethnicity)

New With City, Health and Hoppitala Corporation/ Office of Planning Rervices The Preservation Hoopital-CPMC/Office of Planning



New York City Health and Hoopitale Corporation/ Office of Planning Bervices The Presbyterian Hospital-CPNG/Office of Planning



### New Writ Gity Health and Haapitala Garparation/ Affice af Planning Barvison The Preabyterian Haapital/Office of Planning

Needs Assessment Work Group

### **Discharges:** Location/Ethnicity



New York City Health and Hospitals Corporation/Office of Planning Bervices The Preebyterian Haapital/Office of Planning

## Discharges: Ethnicity/Location



Needs Assessment Work Group

### **Discharges: Ethnicity/Location**



New York City Health and Heapitale Corporation/Office of Planning Bervices The Presbyterian Happital/Office of Planning
### AIDS UTILIZATION BORO AND ZIF CODE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1907)

				ETHNICITY			
		BLACK	HISFANIC	OTHER	WHITE	ASIAN	TOTAL
1:0R0 :	IZIP CODE						
ERONX	110451	131	83	4	7	•	225
	10452	1 118	113	3	10	•	244
	10453	1 103	147	2	3	•	255
	10454	34	74	3	3	•	114
	10455	22	81	2	1	•	106
	10456	1 141	140	6	4	•	291
	10457	03	171	1	6	1	262
	10458	53	148	4	15		220
	10459	1 241	72	2	3	1	102
	10460	1 581	82		12	1	153
	10461	i 4i	9	1	29	•	- 43
	10462	1 201	84	21	25	•	131
	10463	9	341	21	21	•	66
	10465	6	121	•	121	•	30
	10466	1 381	24	21	71	•	71
	10467	30	96	71	24	•	157
	10468	1 481	1661	81	401	1	263
	10469	25	121	21	10		49
	10470	1 11	41	11	71	•	13
	10471	1 11	31	•	51	•	9

(CONTINUED)

### FREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV88

### AIDS UTILIZATION HORO AND ZIF CODE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

!				ETHNICITY			
		BLACK	HISPANIC	OTHER	WHITE	ASIAN	TOTAL
BORO :	ZIP CODE						
BRONX	110472	79	149	3	8	•	239
	10473	52	46	2	10	•	110
	10474	31	461	1		•	78
	10475	59	81	3	6	•	76
	BORO TOTAL	1170	18041	61	268	4	3307
BROOKLYN	ZIP CODE						
	11201	36	47	10	62		155
	11203	125	201	•	41	•	149
х. -	11204	•	71	31	43	•	531
	11205	601	121	11	14	•	871
	11206	1391	124	71	121		2821
2.	11207	1011	341	4	6	•	145
-	11208	561	471	3	11		117
	11209		91	-	40	•	49
	11210	27	61	1	121	•	46
ж	11211	201	861	111	241	•	141
	11212	145	341	31	51	•	1871
	11213	1031	81	•	51	.	116
	11214	11	31	• !	481	•	52
	11215	111	521	5	85	11	1541

(CONTINUED)

.

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOV08

6

### AIDS UTILIZATION BORO AND ZII CODF OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1907)

.

		1		ETHNICITY			
! ! !		BLACK	HISFANIC	OTHER	WHITE	ASIAN	TOTAL
BORO :	IZIP CODE						
BROOKLYN	111237	11	50	4	6		71
	11238	1 120	14	3	32	1	. 170
, , 	BORO TOTAL	1 1871	912	101	820	7	3711
MANHATTAN	IZIP CODE						
	10001	32	16	7	86		141
	10002	48	101	58	56	5	268
1	10003	43	291	211	275	41	372
	10005	1	.	•	11	•	21
	10006	1	•	•	21	•	31
	10007	1 31	•	•	41	•	71
	10009	78	831	601	1151	11	337
	10010	21	291	.31	77	•	130
	10011	32	76	331	473	3	617
U 1	10012	22	111	11	901	•	124
U   	10013	83	531	61	75	1	218
	10014	41	491	23	3921	31	508
	10016	84	671	121	1941	•	3571
	10017	1 31	•	11	321	•	36
	10018	121	141	11	451	•	72
	10019	461	391	31	1421	•	2301

(CONTINUED)

.

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOVO0

•

#### AIDS UTILIZATION BORD AND ZIF CODE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SFARCS 1987)

. gar dar dar dar an san dar dar dar dar dar dar dar dar dar dar		1	•••••••••••••••••••••••••••••••••••••••	ETHNICITY			
		BLACK	HISFANIC	OTHER	WHITE	ASIAN	TOTAL.
£0RQ :	IZIP CODE						
MANHATTAN	110020	21	1			•	3
	10021	1 131	21 (	8	127	•	169
	10022	1 51	14	4	111	•	134
	10023	211	53	5	209	•	288
	10024	22	27	10	177	21	238
	10025	981	74	15	156	3	346
	10026	1601	9	5	6	1	181
	10027	1981	11	5	11	•	225
	10028	1 121	26	1	76	21	117
	10029	83	170	20	29		302
	10030	1 111	81	4	2	•	125
	1.0031	1621	431	2	81	•	215
	10032	601	371	14	111	•	122
	10033	1 51	241	21	21	•	331
	10034	1 14	161	21	161	•	481
	10035	1121	521	3)	81	•	175
	10036	24	271	71	101	•	159
	10037	1 891	51	2	11		97
	19038	1 71	15	7	8	•	37
	10039	941	11	1	1	•	97

### (CONTINUED)

### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORFORATION 2NOV88

### ALDS UTILIZATION BORO AND ZIF CODE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SONRCE: SPARCS 1987),

.

		ļ		ETHNICITY	19 19 - 19 - 19 - 19 - 19 - 19 - 19 - 1		
   		<b>FLACK</b>	HISPANIC	OTHER	WHITE	ASIAN	TOTAL
BORO :	IZIP CODE	1					
MANHATTAN	110040	1 13	18	3	6		40
	10044	1 1	1	•	3		51
	10128	1 5	7	•	32	•	44
	BORO TOTAL	1 1861	1227	349	3160	25	66221
QUEENS	IZIP CODE						
	11101	22	19	2	12		55
	11102	1 8	111	11	61	•	26
	11103	2	51	21	121	•	211
÷	11104	1	31	11	81	11	131
	11105	3	31	•	81	.	14
	11106	1 11	81	61	451	11	71
	11354	1 21	•	•	111	•	13
	11355	1 8	81	1	171	11	351
	11356		41	•	51	•	91
	11357		31	•	111	.	14
	11358	.	21	•	81	•	101
	11359	1 1	•	•	• ]	•	1
	11361	1 71	•	•1	51	• ]	12
	11362	.	11	•	31	•	4
	11363	.	11	11	11	•	31

(CONTINUED)

### FREFARED BY THE OFFICE OF FLANNING SERVICES NEW YURK CITY HEALTH & HOSFITALS CORPORATION 2NOV84

.

### AIDS UTILIZATION BORD AND ZIF CODE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

	. <u>488 488 488 488 488 488 488 488 488 48</u>		14 88 98 90 90 90 90 90 90 90 90 90 90 10 1	ETHNICITY			
		BLACK	HISPANIC	OTHER	WHITE I	ASIAN	TOTAL
BORO :	ZIP CODE						
QUEENS	111364		. 1		3		4
	11365	1 4	5	1	91	1	20
	11366				11	1	2
	11367	1 4	2	1	101	•	17
	11368	1 47	21	2	13	•	83
	11369	20	25	1	13	•	59
	11370	1 40	71	3	91	•	123
	11372	1 9	53	3	661	•	131
e e	11373	1 6	47	10	281	2	93
	11374	1 2	10	31	23	•	38
	11375	1 1	15		21	1	38
	11377	1 6	30	21	451	1	84
	11378		6	•	91	•	15
	11379	1	•	•	301	•	30
	11385		13	51	371	•	55
i i i i i i i i i i i i i i i i i i i	11411	1 17	•	•	11	• [	18
	11412	1 69	2	21	11		74
ά.	11413	1 24	•		61		30
	11414	1 1	2	•	11	•	14
	111415	1 1	2	· · · · · · · · · · · · · · · · · · ·	221	•	25

(CONTINUED)

### PREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

### ATDS UTILIZATION RORD AND ZIF CUDE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

.

***************************************			• ••• • • •• •• •• •• •• •• •• ••	ETHNICITY	,		
		HLACK	HISFANIC	OTHER	WHITE	ASIAN	TOTAL
I BORO :	ZIP CODE						
QUEENS	111416	1	2		91		12
	11417		5	2	12		191
1	111418	9	10	2	30	11	52
!	111419	3	9		16		27
	11420	25	4		5		34
	11421	1		2	7		101
	11422	4	•	•	11	•	15
	11423	32	51	1	81	•	46
	11426	3	•	•	11	•	4
	11427	4	41	1	51	•	14
	11428	•	31	•	21	•	51
	11429	32	31	•	11	•	36
	11430	2		•	•		21
	11431	1	1	•	•		21
	111432	46	16	1	61		69
	11433	66	4		51	.	75
	11434	146	1	3	•	.	150
	11435	56	51	11	121	•	74]
	11436	29	11	11	•	•	311
	111691	34	51	11	61	• 1	461

(CONTINUED)

.

#### FREFARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORFORATION 2NOV08

### AIDS UTILIZATION BORD AND ZIF CODE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

1	• • • • • • • • • • • • • • • • • • • •			ETHNICITY			
		BLACK	HISPANIC	OTHER	WHITE	ASIAN	TOTAL
BORO:	ZIP CODE						
QUEENS	111692	11	5		5	•	21
1 	11693	1 10	6		10		26
	11694	1 2	- 3	•	7	•	121
	11696	3	•	•	1		4
	11697			•	1	•	11
   	BORD TOTAL	1 835	464	62	670	101	2041
STATEN ISLAND	ZIP CODE	1					
	10301	13	11	2	32		58
	10302	1 4	•		11		15)
	10303	1 11		2	51	•	18
	10304	1 42	10		181	11	71
	10305	1 5	1		291	•	35
	10306	1 .1	•	•	261		26
	10307	1 .			1	•	1
	10308	1 .		1	71	•	81
	10309	1 11	5		4	•	201
	10310	1 12			61	•	181
	110312	1		•	121		12
	10314	1 .	1	11	131	.	15
	BORD TOTAL	1 98	28	61	1641	11	2971

(CONTINUED)

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

### AIDS UTILIZATION BORO AND ZIP CODE OF RESIDENCE BY ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

.

	****	*****								
I		BLACK	ACK   HISPANEC   OTHER   WHITE   ASIAN							
BORO:	ZIP CODE									
INON NEW YORK	99999	277	221	38	773	21	1311			
    KF318FM13	DORO TOTAL	277	221	301	773	21	13111			

:

### PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH & HOSPITALS CORPORATION 2NOV88

### AIDS UTILIZATION BY BORD OF RESIDENCE AND ETHNICITY ALL DISCHARGES (SOURCE: SPARCS 1987)

			ETHNICITY	11 - 144 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 1	*****	
	PLACK	HISPANIC	OTHER	WHITE	ASIAN	TOTAL
PORO :						
BRONX	1170	1804	61	268	4	3307
BROOKLYN	1871	912	101	820	7	3711
MANHATTAN	1861	1227	349	3160	25	6622
QUEENS	835	464	62	679	10	2041
STATEN ISLAND	98	28	6	164	1	297
NON NEW YORK RESIDENTS	277	221	38	773	2	1311
TOTAL	6112	4656	617	5855	49	17289

:

### PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH & HOSFITALS CORPORATION 2NOV8H

# Patient Origin (Location/Primary Payor - All)

New York City Health and Heapitale Corporation/ Office of Planning Berviees The Presbyterian Heapital-GPMC/Office of Planning

NEW YORK CITY AIDS TASK FORCE

Needs Assessment Work Group

### LOS: Primary Payor



The Brochwardon Manufacture of Disadian

218

# LOS: Location



New Work City Health and Hoopitale Corporation/ Office of Planning Borviece. The Preabytorian Happital/Office of Planning

NEW YORK CITY AIDS TASK FORCE



New York City Health and Hospitale Corporation/Office of Planning Services The Presbyterian Hospital/Office of Planning

# **Discharges: Primary Payor/Location**



New Mrt City Heelth and Haspitela Garperation/ Office of Planning Bervices. The Proobstorian Happitel/Affice of Planning NEW YORK CITY AIDS TASK FORCE



New Wrt City Health and Heapitale Carporation/ Office of Planning Corvises

Maxambar 7 4000

## **Discharges: Location/Primary Payor**



Now Work City Health and Heapitale Corporation/ Office of Planning Berviews The Presbyterian Heapital/Office of Planning

NEW YORK CITY AIDS TASK FORCE

## Patient Days: Location/Primary Payor



New York City Health and Hoopitals Corporation/ Office of Planning Services The Presbyterian Honolini/Office of Planning

## Patient Days: Location 'Primary Payor



New Web Gity Hoolth and Hoopitale Carporation/ Office of Planning Borviess. The Presbyterian Happital/Affice of Planning

#### 1987 AIDS UTILIZATION BY FAYOR AND TYPE OF DAYS FOR PATIENT'S HOROUGH ALL DISCHARGES (SOURCE: SPARCS 1207)

· · · · · · · · · · · · · · · · · · ·		in aða agu agu aða aða nagu na i 1941 - 44 - 4	¢-1¢-1¢-1¢-1¢-1¢-1¢-1¢-1¢-10-11		FRIMAR	Y PAYOR		****	1) agu agu agu agu agu agu agu agu agu agu	
		MEDICAID					N	EDICARE	n tille alle där och oper för alle er ette	
	DISCHARG-I ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS	DISCHARG-I ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS
BOROUGH		•								
HANHATTAN	3188	61189	9967	73112	22.9	159	2574	144	2898	17.7
RF:OOKLYN	2330	43877	5855	50842	21.8	761	1518	59	18471	24.3
BRONX	24251	36649	56431	43868	18.1	991	1725	81	19121	18.3
QUEENS	10241	18646	3153	22196	21.6	78)	1249	431	1711	21.9
STATEN ISLAND	154	2764	111	2951	19.2	11	145	•	1451	13.2
OTHER	1441	3405	4041	3832	26.6	28)	533	4	5701	20.4
UNKHOWN OR MISSING	161	709	4871	1199	74.9	11	4	01	, 41	4.0
NEW YORK CITY	92811	167239	256201	197910	21.3	4521	7748	7191	88971	19.7

(CONTINUED)

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 2NOV88

#### 1987 AIDS UTILIZATION BY PAYOR AND TYPE OF DAYS FOR FATIENT'S EUROUGH ALL DISCHARGES (SOURCE: SPARCS 1987)

				PRIMAR	Y FAYOR				
	SELF-PAT				I BLUE-CROSS AND COMM.				
DISCHARG-I ES	ACUTE DAYS	CERTIFLED	IUIAL DAYS	ALOS	DISCHARG-I ES	ACUIE DAYS	CERTIFIED	10TAL DAYS	ALOS
457	7452	99	7641	16.7	2745	37603	690	45681	16:6
4461	7436	460	7988	17.9	8731	15301	404	17341	19.9
319	5771	315	6089	19.1	432	7700	3991	8251	19.1
1401	2634	149	2012	20.1	6091	10802	125	11658	19.1
17	446	91	4461	26.2	941	1394	01	14501	15.4
611	1413	01	1424	23.3	621	8055	1911	98501	15.9
41	1961	01	1961	49.0	51	40	01	411	8.2
14441	25348	10231	265961	18.4	53791	80895	• 18091	942721	17.5
	DISCHARG- ES 457 446 319 140 17 61 41 41 41	SI DISCHARG-1 ACUIE ES DAYS 457 7452 446 7436 319 5771 140 2634 17 446 61 1413 41 196 1444 25348	SELF-FAT   DISCHARG-I ACUTE ICERTIFIED   457 7452 99   446 7436 460   319 5771 315   140 2634 149   17 446 0   41 196 0   1444 25348 1023	SELF-HAT   DISCHARG-I ACUTE ICERTIFLEDI 101AL   ES DAYS IALC DAYS DAYS   457 7452 99 7641   446 7436 460 7988   319 5771 315 6089   1401 2634 149 2812   171 446 0 446   611 1413 0 1424   41 196 0 196   1444 25348 1023 26596	PRIMAR   SELF-FAT   DISCHARG-I ACUIE ICERTIFIEDI IUIAL ALOS   457 7452 99 7641 16.7   446 7436 460 7988 17.9   319 5771 315 6089 19.1   140 2634 149 2812 20.1   171 446 01 446 26.2   611 1413 01 1424 23.3   41 1961 01 196 49.0   1444 25348 1023 26596 18.4	PRIMARY FAYOR   SELF-FAY I   DISCHARG-I ACUIE ICERTIFIEDI IUIAL IDISCHARG-I   AST ACUIE ICERTIFIEDI IUIAL IDISCHARG-I   AST ACUIE ICERTIFIEDI IUIAL IDISCHARG-I   AST ACUIE ICERTIFIEDI IUIAL IDISCHARG-I   AST ACUIE ICERTIFIEDI IUIAL IDISCHARG-I   AST TASS IALC DAYS DAYS IALOS ES   457 T452 99 7641 16.7 27451   446 T436 460 7988 17.9 8731   319 5771 3151 60891 19.11 4321   1401 26341 1491 28121 20.11 6091   171 4461 01 4461 26.21 941   611 14131 01 14241 23.31 6211   41 1961 01 1961 49.01 51	PRIMARY PAYOR   SELF-FAT DLUE-CR   DISCHARG-I ACUIE CERTIFIEDI 101AL DISCHARG-I ACUIE   457 7452 99 7641 16.7 2745 37603   457 7452 99 7641 16.7 2745 37603   446 7436 460 7988 17.9 8731 15301   319 5771 315 6089 19.1 432 7760   140 2634 149 2812 20.11 609 10802   17 446 0 446 26.21 941 1394   611 1413 0 1424 23.31 621 0055   41 196 0 196 49.01 5 40   1444 25348 1023 26596 18.41 5379 80895	PRIMARY PAYOR   SELF-FAT BLUE-CROSS AND CO   DISCHARG-I ACUTE ICERTIFIEDI 101AL IDISCHARG-I ACUTE ICERTIFIEDI IDISCHARG-I ACUTE ICERTIFIEDI IDISCHARG-I ACUTE ICERTIFIEDI IDISCHARG-I ACUTE ICERTIFIEDI IDISCHARG-I ACUTE ICERTIFIEDI IDISCHARG-I ACUTE ICERTIFIEDI IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I ACUTE IDISCHARG-I IDISCHARG-I IDISCHARG-I IDISCHARG-I IDISCHARG-I IDISCHARG-I <th>PRIMARY FAYOR   SELF-FAT BLUE-CROSS AND COMM.   DISCHARG-  ACUIE CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS ES DAYS IALC DAYS DAYS   4571 7452 376031 6901 45681   4461 7452 77001 3971 8251   4461 77001 3971 8251   1401 2 1608021 1251 16581</th>	PRIMARY FAYOR   SELF-FAT BLUE-CROSS AND COMM.   DISCHARG-  ACUIE CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS CERTIFIED  101AL   DAYS ALOS ES DAYS IALC DAYS DAYS   4571 7452 376031 6901 45681   4461 7452 77001 3971 8251   4461 77001 3971 8251   1401 2 1608021 1251 16581

(CONTINUED)

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 2NOV88

227

10:30 NEDNESDAY, NOVEMHER 2, 1908

.

### 1987 AIDS UTILIZATION BY PAYOR AND TYPE OF DAYS FOR FAILENT'S BUROUGH ALL DISCHARGES (SUNRCE: SPARCS 1987)

1	!				PRIMOP	Y FAYOR				
			OTHER			I MESSING				
	DISCHARG-	ACUTE	CERTIFIED	TOTAL DAYS	ALOS	DISCHARG- ES	ACUTE BAYS	CERTIFIED	TOTAL DAYS	AL.OS
ÞØFOUGH										
HONHA I TAN	198	4196	69	4319	21.8	32	497	46	453	14.2
EROOKLYN	76	1043	25	1407	18.5	6	114	•	114	19.0
L'RONX	1 541	10801	0	1080	20.0		•	•	•	
QUEENS	1881	4016	50	4069	21.6	58	985	•	1018	17.6
STATEN ISLAND	# 22 I	640	θ	640	29.1		•		•	
OTHER	93	2911	1	3103	33.4	5	68	•	68	1 13.6
UNKNOWN OR MISSING	1 11	5	θ	5	5.0		•		• •	
INEW YORK CITY	6321	13891	136	14623	23.1	101	1574	46	1653	16.4

(CONTINUED)

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREFARED BY THE OFFICE OF FLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 2NOV88

#### 1987 AIDS UTILIZATION BY PAYOR AND TYPE OF DAYS FOR FATIENT'S BOROUGH ALL DISCHARGES (SOURCE: SPARCS 1987)

			TUTAL.		
	DISCHARG-I ES	ACUIE DAYS	CERTIFIED	TUTAL DAYS	ALOS
POROUGH					
I HANHATTAN	6779	113421	11006	134014	19.8
BROOKLYN	3807	69289	68031	79539	20.9
I BRONX	3329	52925	64381	61100	18.4
I QUEENS	2097	38332	39081	43374	20.7
STATEN ISLAND	298	5389	1111	5632	10.9
OTHER .	952	16385	1999	18847	19.8
UNKNOWN OR MISSING	271	954	4871	1445	53.5
NEW YORK CITY	172891	296695	293531	343951	19.9

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 2NOV89 230

# Patient Origin (Location/Primary Payor - > 1 Day)

# LOS: Primary Payor



New Work Gity Heelth and Heepitale Gerperation/ Office of Planning Bervices The Presbyterian Haspital/Office of Planning

## LOS: Location

232



New York City Health and Heapitale Corporation/ Office of Planning Services The Preseventian Heapital/Office of Planning

#### 1987 AIDS UTILIZATION BY PAYOR AND TYPE OF DAYS FOR FATIENT'S BOROUGH DISCHARGES GREATER THAN 1 DAY (SOURCE: SFARCS 1987)

	PRIMARY FAYOR												
		M	EDICAID			I NEDICARE							
	DISCHARG- ES	ACUTE DAYS	ICERTIFIED	TOTAL DAYS	ALOS	DISCHARG-	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS			
I:OROUGH	1												
HANHATTAN	2966	61027	9967	72890	24.6	151	2568	144	2800	18.5			
BROOKLYN	2091	43709	5855	50603	24.2	71	1513	59	1842	25.9			
PRONX	1846	36446	5643	43289	23.5	83	1709	81	1796	21.6			
QUEENS	918	18577	3153	22000	24.0	70	1241	431	1703	24.3			
STATEN ISLAND	118	2756	111	2915	24.7	11	145	•	145	13.2			
IOTHER	124	3401	404	3812	30.7	24	533	4	566	23.6			
UNKNOWN OF MISSING	13	709	487	1196	92.0	1	4	θ	. 4	4.0			
NEW YORK CITY	8076	166625	25620	196705	24.4	411	7713	719	8856	21.5			

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(CONTINUED)

.

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORFORATION 2NOV88 -----

NEW YORK CITY AIDS TASK FORCE

**Needs Assessment Work Group** 

### Patient Days: Primary Payor/Location



New York City Health and Heepitale Corporation/Office of Planning Berviese The Presbyterian Heepital/Office of Planning

# Patient Days: Primary Payor/Location



New York City Health and Heapitale Corporation/ Office of Planning Borviess The Presbyterian Heapital/Office of Planning

### 1987 ALDS UTILIZATION BY PAYOR AND TYPE OF DAYS FOR PATIENT'S BOROUCH DISCHARGES GREATER THAN 1 DAY (SQURCE: SPARCS 1987) 1

				- 80 -0 00 00 00						
· ·					FRIMAR	Y FAYOR				
		\$1	ELF-FAY			I BLUE-CROSS AND COMM.				
	DISCHARG- ES	ACUIE DAYS	CERTIFIED	101AL	AL.OS	IDISCHARG-I ES	ACUTE DAYS	ICERTIFIED	TOTAL DAYS	ALOS
I:OROUGH										
NANHATTAN	416	7412	99	7600	18.3	2491	37404	690	45427	18:2
BROOKLYN	424	7417	460	7966	18.8	799	15241	4041	17267	21.6
FRONX	289	5743	3151	6059	21.0	375	7663	3991	8194	21.9
QUEENS	134	2628	1 4 9 1	2806	20.9	559	10759	1251	116081	20.8
STATEN ISLAND	17	446	91	446	26.2	871	1387	01	14131	16.6
OTHER	53	1408	01	1416	26.7	5281	8015	1911	97571	18.5
UNKNOWN OR MISSING	41	196	91	196	49.0	31	39	01	391	13.0
NEW YORK CITY	13371	25250	10231	26489	19.8	1 48421	80508	18091	937351	19.4

(CONTINUED)

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE FREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HDSPITALS CORPORATION 2NOV84

#### 1987 AIDS UTILIZATION BY PAYOR AND TYPE OF DAYS FOR PATIENI'S DOROUGH DISCHARGES GREATER THAN 1 DAY (SOURCE: SPARCS 1987)

		PRIMARY FAYOR												
			OTHER			MISSING								
	DISCHARG- ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	AL.OS	DISCHARG- ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS				
IOROUGH		•												
MANHATTAN	194	4192	. 60	4315	22.2	31	406	46	452	14.6				
BROOKLYN	71	1041	25	1402	19.7	51	113	. 0	113	22.6				
BRONX	501	1076	01	1076	21.5	•	•		•					
QUEENS	178	4006	501	4059	22.8	53	989	•	1013	19.1				
STATEN ISLAND	201	638	01	6381	31.9	•	•	•	•					
OTHER	91	2909	11	3101	34.1	51	68	9	68	13.6				
UNKNOWN OR MISSING	11	51	01	51	5.0	•	•	•	!	•				
NEW YORK CITY	6051	1 3867	1361	1 45961	24.1	941	1567	461	16461	17.5				

(CONTINUED)

.

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HOSPITALS CORPORATION 2NOV88

i

#### 1987 AIDS UTILIZATION BY PAYOR AND TYPE OF DAYS FOR PATIENT'S BOROUGH DISCHARGES GREATER THAN 1 DAY (SOURCE: SFARCS 1987),

**************************************			TOTAL		
	DISCHARG- ES	ACUTE DAYS	CERTIFIED	TOTAL DAYS	ALOS
BOROUGH					
MANHATTAN	6249	113009	11006	133484	21.4
BROCKLYN	3461	69034	6803	79193	22.9
BRONX	2643	52637	6438	60414	22.9
QUEENS	1912	38191	3908	43189	22.6
STATEN ISLAND	253	5372	111	5587	22.1
OTHER .	825	16334	600	18720	22.7
UNKNOWN OR HISSING	22	953	487	1440	65.5
NEW YORK CITY	15365	295530	29353	342027	22.3

ACUTE AND ALC DAYS ARE CERTIFIED LOS IS FROM DATE OF ADMISSION TO DATE OF DISCHARGE PREPARED BY THE OFFICE OF PLANNING SERVICES NEW YORK CITY HEALTH AND HUSPITALS CORPORATION 2NOV88

¢

# Hospital Use (Hospital/Primary Payor)

New Work City Meelth and Hoopitale Corporation/ Office of Planning Berviese The Proobytorian Hoopital-CPNC/Office of Planning

### NEW YORK CITY AIDS TASK FORCE

### Needs Assessment Work Group

TABLE A:

WHERE ADULT AIDS PATIENTS RECEIVED TREATHENT,- 1966 AND 1987:

		••••			••	••••••		••••••	• •
11		11			11			X CHANGE	11
Î	BOROUGH OF	11	1966	X OF	II	1967	X OF	IN DISTRIBUTION	11
11	NOSP TRIMMT:	11	DISCHARGES	CITY TTL	11	DISCHARGES	CITY TTL	OF CITY TTL	11
11	****************		***********	*********		***********			
II	BROOKLYN	-11	1,687	16.3%	11	2,447	16.7%	2.4%	11
11		- 11			11				11
H	BRONX	- 11	1,597	15.5%	11	2, 193	14.9%	-3.8%	11
11		- 11			11		1		11
11	MANNATTAN	-11	6,111	59.2%	11	8,735	59.5%	0.4%	11
11		- 11			11				11
11	QUEENS	-11	770	7.5%	11	1,107	7.5%	0.0%	11
11		- 11		*	11				11
11	STATEN ISLAND	- 11	154	1.5%	11	205	1.4%	- <b>6.7%</b>	11
11	•••••	••••	• • • • • • • • • • • • •	•••••	••	• • • • • • • • • • • • • • • • •	•••••	•••••	-11
11		11			11				. 11
11	NYC TOTA	u	10,319	100.0%		14,687	100.0%		11
11	***************			*********				*****************	

AIDS DATA - SUMMARY TABLE: ADULTS DISTRIBUTION OF ADULT AIDS DISCHARGES FROM ACUTE CARE NYC HOSPITALS 1986 and 1987

TABLE 8:

### PATIENT ORIGIN OF AIDS PATIENTS- 1966 AND 1987:

- 11	•••••	•••••		• • • • • • • • • • • • •		•••••	•••••••	
-11		11			1		X CHANGE	- 11
-14	BOROUGH OF	11 1	986	X OF	1967	X OF	IN DISTRIBUTIO	N     -
11	RESIDENCE:	0	I SCHARGES	CITY TTL	DISCHARG	ES CITY TTL	OF CITY TTL	- 11
Ĥ	***********			********	**********	*********		****
Ĥ	BROOKLYN	11	2,176	22.8%	3,180	23.1%	1.3%	- 11
Ĩ		- II		1	1		1	11
Ĥ	BRONX	ii.	1,808	18.3%	2,473	17.9%	-2.2%	- 11
Ĥ		ii			1		1	11
Ĩ	MANNATTAN	ii ii	4,225	44.3%	6,088	44.1%	-0.4%	11
Ĩ		i ii		Í	Í		1	11
II	QUEENS	ii ii	1,228	12.7%	1,813	13.1%	3.1%	- 11
II		- II		1	1		<b>I</b>	11
Ĩ	STATEN ISLAND	ii ii	180	1.9%	240	1.7%	-10.5%	11
Ĥ	•••••			•••••		•••••		11
Ĩ		- 11		1	1		1	- 11
H	NYC T	OTAL	9,617	100.0%	13,796	100.05	1	- 11
	***********			*********	*********	*************	**************	****
	( NON-N	VC RES:	702		893	3		• •

NOTE: DATA EXCLUDES ONE-DAY STAY DISCHARGES DATA EXCLUDES DISCHARGES < 18 YRS. OLD (PEDS AND NELBORNS) TABLE A INCLUDES NON-NYC RESIDENT DISCHARGED FROM NYC NOSPITALS TABLE B INCLUDES ONLY NYC RESIDENT AIDS DISCHARGES TABLE A:

WHERE PEDIATRIC AIDS PATIENTS RECEIVED TREATMENT- 1986 AND 1987:

	**********								-
11		· 11			11			X CHANGE	11
ï	BOROUGH OF	- <u>  </u> 1	986	1 OF	11	1987	X OF	IN DISTRIBUTION	.11
Î	HOSP TRIMMT:	0	I SCHARGES	CITY TTL	11	D I SCHARGES	CITY TTL	OF CITY TTL	11
Î	***********			********		**********	*******	************	×11
II	BROOKLYN	11	184	38.8X	11	212	32.8%	- 15.6%	Н
II		ii ii			11		1		11
11	BRONX	11	106	22.4%	11	144	22.3%	-0.5%	11
11		11			11				11
II	MANNATTAN	- 11	156	32.9%	11	223	34.5%	4.7%	11
11		- 11			11				11
11	QUEENS	11	26	5.5%	11	65	10.0%	81.8%	11
11		IJ			11		1		11
11	STATEN ISLAND		2	0.4%	11	3	0.5%	25.0%	11
11	* • • • • • • • • • • • • • •	••••••		•••••	•••	•••••	•••••	•••••	-11
11		11							11
11	NYC	10TAL	474	100.0%		647	100.0%		11
11	***********					***********		****************	•11

AIDS DATA - SUPPARY TABLE: PEDIATRICS DISTRIBUTION OF PEDIATRIC AIDS DISCHARGES FROM ACUTE CARE NYC NOSPITALS

1986 and 1987

TABLE B:

11 11 X CHANGE 11 BOROUGH OF || 1987 н 1 1986 X OF X OF IN DISTRIBUTION **RESIDENCE:** || DISCHARGES CITY TTL || DISCHARGES 11 CITY TTL | OF CITY TTL \*\*\*\*\*\*\*\*\*\*\*\*\*\* I BROOKLYN 43.7% || 199 234 38.9% -11.0% 11 н П 11 11 11 BROWX 100 22.0% 11 161 26.8% 21.9% 11 11 11 11 11 11 NANNATTAN 117 3.7 11 126 21.0% -18.5% 11 11 11 П I 11 QUEENS 31 12.5% 83.8% 1 6.8% || 75 11 н 11 11 STATEN ISLAND 11 8 1.8% || 0.8% -55.6% 11 5 11 11 11 11 11 11 455 11 HYC TOTAL 100.0X || 601 100.0X 11 46 ) ( HON-HYC RES 19

PATIENT ORIGIN OF AIDS PATIENTS- 1986 AND 1987:

DATA EXCLUDES ONE-DAY STAY DISCHARGES

NOTE:

DATA INCLUDES ONLY DISCHARGES 0-17 YRS. OLD (excludes NEWDORNS) TABLE A INCLUDES NON-NYC RESIDENT DISCHARGED FROM NYC NOSPITALS TABLE B INCLUDES ONLY NYC RESIDENT AIDS DISCHARGES

New York City Heelth and Hespitals Corporation/ Office of Planning Services The Presbyterian Hespital-CPMC/Office of Planning

### HEALTH & HOSPITALS CORFORATION OFFICE OF STRATEGIC FLANNING NEW YORK CITY AIDS DISCHARGES BY PAYOR SOURCE: SPARCS CY1907

		FRIHARY PAYOR										
	SELF PAY	OTHER	MEDICARE	MEDICALD	DLUE CROSS	I						
	SUM	SUN .	SUM	SUM	SUM	SUM						
	DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	TOTAL PAYOR						
I POROUGH												
PRODKLYN	385	246	66	1,953	347	2,997						
PRONX	307	119	85	2,3321	331	3,174						
MANHATTAN	654	1,2561	2301	4,2591	3,273	7,680						
QUEENS	85	201	501	6781	240	1,270						
STATEM ISLAND	14	341	101	1141	621	234						
CITY TOTAL	1,445	1,8561	4571	7,3341	4,2611	17,355						

.
.

#### HEALTH & HOSPITALS CORFORATION OFFICE OF STRATEGIC PLANNING NEW YORK CITY AIDS DISCHARGES DY, PAYOR Source: Sparcs Cy1987

.

			• • • • • • • • • • • • • • • • • • • •	FRIMARY PAYOR	•		
1		SELF PAY	OTHER	MEDICARE	MEDICAID	DLUE CROSS	
		SUN	SUM	SUN I	SUM	SUN	SUN
   		DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	TOTAL PAYOR
I BOROUGH	IHOSPITÁL						
PROOKLYN	IBAPTIST	2	2		•		4
•	BROOK BALE	5	7	13	110	63	206
	I BROOKLYN	36	2	61	105	23	172
	CALEDONIAN	11	21	21	241	26	65
		•	1	•	.	51	6
	CONEY ISLAND	51	31	41	1611	261	1991
	JEWISH/INTERFA-I	69	12	7	1961	201	312
	KINGS COUNTY	. 114	1241	51	4901	201	7611
	L I COLLEGE	61	491	71	114	491	225
	LUTHERAN	241	61	31	401	111	841
	MAINONIDES	41	91	•	181	91	401
	METHODIST	•	51	- 41	941	101	121
	IST. IJOHNS/INTERFAI- ITH	14	2	     	   	       	112
	IST. MARYS	441	31	•••••••••••••••••••••••••••••••••••••••	86	•••••••••••••••••••••••••••••••••••••••	142
	VICTORY	2	91	11	11	. 21	151
] [	KINCSPROOK	•••••••••••••••••••••••••••••••••••••••	11	11	91	61	1
1	WYCKOFF HEIGHTS	81	•	•	211	21	311
0	IDONHSTATE	51	31	_ 31	271	101	18)

(CONTINUED)

243

#### HEALTH & HUSFITALS CORFORATION OFFICE OF STRATEGIC FLAMMING NEW YURK CITY AIDS DISCHARGES BY PAYOR SOURCE: SPARCS CY1907

				PRIMARY PAYOR			
		SELF PAY	OTHER	NEDICARE	NEDICALD	BLUE CROSS	
i i		SUM	SUM	SUN	SUM	SUM	SUM
		MISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	TOTAL PAYOR
I POROUGH	IHOSPITAL						
I FROKLYN	IKINGS HICHWAY	1		1		•	2
	HOOPHULL	351	5	6	353	28	427
• • •	HOLY FAMILY		11		7	•	8
; ; ;	IALL	3851	2461	66	1.953	347	2.997
IRONX	IHOSPITAL I						
	INCONY LEBAHON-	108	31	14	143	9	277
	I PHHC	25	201	14	402	42	583
	MISERICORDIA	141	21	11	19	71	441
•	MONTEFIORE	31	32)	241	2871	631	4071
	IL INCOLN	51	141	41	3721	201	415
	IUMION .	21	21	11	11	11	7[
	ST. BARMABAS	531	321	31	1161	101	214
	DEDNX LEPANON- ( CONCOURSE )	841	1	21	771	1	1651
•	IPELHAN BAY	.	.	.	11	.	11
	WESTCHESTER SQ.	21	- 11	.	11	- 31	71
	MURTH CENTRAL	3	5	31	 289	47	347
	EIMSTEIN	91	71	191	5451	126	705
·	iall I	3071	1191	851	2,3321	331 (	3,174

¢

1

(CONTINUED)

## HEALTH & HUSFITALS CORFORATION OFFICE OF STRATEGIC PLANNING HEN YURK CITY AIDS DISCHARGES BY FAYOR SUNRCE: SFARCS CY1987

				FRIMARY PAYOR	****	*************	
		SELF PAY	01HER	MEDICARE	MEDICAID	I DLUE CROSS	
		SUN I	SUM	SUM I	SUN	SUA .	SUM
	•	PISCHARGES	PISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	TOTAL PAYOR
BOROUGH	HOSPITAL						
ingenta T 1 AN	IN_Y. INFIRMARY/BEEK-I IMAN DOWNTOWN	14	23	2	37	59	135
	BELLEVUE	351	151	14	894	99	1,193
	DETH ISRAEL	. 191	1201	191	485	247	889
	CADRENE	11	911	91	274	346	721
	POCTORS I	41	'34	31	9	90	1401
•	HARLEN.	301	121	161	-511	91	578
	JOINT DISEASES	. 1		11	1		21
	LENOX HILL	201	721	111	40	286	4491
· ·	INANHATTAN	•	   	 	1		1
••	HEHORIAL/SLOAN	181	541	111	43	158	284
••	HETROPOLITAN	491	21	31	211	17	202(
•	INT. SINAL I	71	371	151	103	144	305
. •	INEN YORK	·   	- 1 541	·   22	161	174	4221
•	INEW YORK EYE I IAND EAR		•		3	11	4
	INYU HEDICAL I ICENTER I	131	 1981	   13	21	588	8231
	IFRESDYTERIAN	151	341	* 351	101	124	3901

.

#### HEALTH & HOSFITALS CORPORATION OFFICE OF STRATEGIC FLANNING NEW YORK CITY AIDS DISCHARGES BY PAYOR SOURCE: SPARCS CY1987

			3 85 85 85 85 85 85 85 85 85 85 85 85 85	FRIMARY FAYOR			
		SELF PAY	OTHER	MEDICARE	MEDICALD	BLUE CROSS	
		SUM	SUM	SUN I	SUM	SUM	NUZ
; ;		DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	TOTAL PAYOR
POROUGH	IHOSPITAL I						
MANHATTAN .	IROOSEVELT	. 90	94	31	108	300	684
	IST. CLARES	1331	116	251	378	1271	779
	IST. LUKES	55	76	141	261	115	521
	ST. VINCENTS	1291	971	181	245	3791	888
	INEDICAL ARTS	•	11	.	11	41	6
	I COL DUATER I	.	•	21	261	21	•• 30
	INIRE S. COLER 1	11	.	31	291	31	361
	MORTH GEMERAL	.		•	361	11	37
	IALL .	654	1,256	2381	4,257	3,2731	7,489
QUEENS	IHOSPITAL						
	ST. JOSEPHS-CHC	1	2			21	51
	ILIJ HANHASSET			11		61	71
		21	511	171	1871	. 251	2821
	IFLUSHING I	101	111	•• 11	361	261	84(
	j JAMAICA	151	4	; 31	451		73
ju Juliu	ILONG ISLAND I LIEWISH I	 3	14	: 101	17	421	99
	IFENINSIA A	.		21	24	71	35
	QUEENS.	16	19	, 151	246	251	308
	IST. JOHNS-CHC I	71	11	11	. 111	101	30(

(CONTINUED)

#### ICALTH & HUSFITALS CORFORATION OFFICE OF STRATEGIC FLANHING NEW YORK CITY AIDS DISCHARGES BY PAYOR SOURCE: SPARCS CY1987

11:11 TUESDAY, OCTORER 11, 1980

.

				FRIMARY FAYOR			
	1	SELF PAY	OTHER	MEDICARE	MEDICALD	MUE CPOSS	
		SUM	SUN	SUN	SUM (	SUN (	SUM
		DISCHARCES	DISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	TOTAL FAYOR
HOROUGH	IHOSPITAL						• • • • • • • • • • • • • • • • • • •
QUEENS	IST. JOHNS IEPISCOPAL	2	2	5	22	4	3
	DOOTH MEMORIAL	131	6	21	14	221	5
	ILAGUARDIA/HIP	31	731	21	4	• •	8:
	ASTORIA GENERAL	· · ·	21	•	3	2	
	IDEEPPALE			•	•	31	
	PARKUAY		11	•	1	41	
	PARSONS		11	•	•	•	(
	PHYSICIANS		11	.	.	101	11
:	INARY INNACULATE	22	   13	21	- 50	21	108
	ILIJ - ISCHNEIDERS	1	.	.	161	29j	46
****	INLL	85	2011	501	6781	2481	1,270
STATEH ISLAND	HOSPITAL						
	I POCTORS	.	21			21	4
	ST. VINCENTS	31	11	11	231	141	44
1	IBAYLEY, SEJON	31	61	41	331	81	54
•	RICHMOND MEMORIAL	,	 201	'   	 5	 2	27
	STATEN ISLAND	81	51	51	531	341	165

(CONTINUED)

.

÷

.

#### HEALTH & HOSFITALS CORPORATION OFFICE OF STRATEGIC FLANNING NEW YORK CITY AIDS DISCHARGES BY PAYOR SOURCE: SPARCS CY1907

			FRIMARY PAYOR	1 40 Th 40 40 40 40 40 40 Th 40 Th 40 40 40 40 40 40 40 40 40 40 40 40 40		
	SELF FAY	O1HER I	HEDICARE	MEDICALD	DLUE CROSS	
	SUM	SUM I	SUM I	SUM I	SUM	SUM
	BISCHARGES	PISCHARGES	DISCHARGES	DISCHARGES	DISCHARGES	TOTAL PAYOR
PORDUGH IALL						
STATEN ISLAND	14	34	10	114	42	234
ICITY TOTAL	1,445	1,8561	4571	9, 3361	4,261	17,355

.

#### HEALTH & HOSPITALS CORFORATION OFFICE OF STRATEGIC FLANNING NEW YORK CITY AIDS DISCHARGES AND DAYS SOURCE: SFARCS CY1987

	SUN	SUM (	SUN	1 5UM 1
	DISCHARGES	TOTAL DAYS	ACUTE DAYS	ALTERNATE DAYS
IPOF:OUGH	、			
PROOKLYN	2,997	62,138	54,252	7,896
likonk	3,174	55,327	48,082	7,245
MANHATTAN	9,680	201,500	172,974	20,526
QUEENS	1,270	27,816	23,747	4,069
STATEN ISLAND	234	5,051	4,909	1421
CITY TOTAL	17,355	351,832	303,964	47.868

.

1

#### HEALTH & HOSPITALS CORFORATION OFFICE OF STRATEGIC FLANNING NEW YORK CITY AIDS DISCHARGES AND DAYS SOURCE: STARCS CY1987

		SUM	Sim	SUM	SUM [
		DISCHAFGES	TOTAL DAYS	ACUTE DAYS	ALTERMATE DAYS
OP:OUGH	INOSFITAL				
POOKLYN	IPAFTIST	4	94		•
	PEOOKDALE	206	5,616	5,432	1841
	DE:OOKLYN I	172	3,265	3,093	262
		65	1.835	1,540	295
	CONNUMETY	6	93	93	•
•	COMEY ISLAMD	1991	3,083	2,730	345
	JEWISH/INTERFA-I	312	5,821	5,272	5491
	KTHES COUNTY I	7611	17,2071	14,949	2,258
	IL I COLLEGE	2251	4,7551	3,717	1.9381
	ILUTHERAM I	841	1,8481	1,805	431
,	INATHONIDES I	401	9681	969	e.
	INETHODIST I	1211	2,6961	2,432	264
	IST. I I KNMS/IMTEFFAI-I ITH I	      112	1,8481	1,133	715
	IST. MARYS I	1421	3,2121	2,972	3401
	VICTOPY I	151	398	308	91
	IK INGSBROOK	171	3451	345	••••••
	WYCKOFF HEIGHTSI	311	6541	1,691	-9371
	DOWNSTATE I	491	6701	•	670
	KINGS HIGHWAY	21	311	31	0
	I WOODHULL I	4271	7,5491	5,690	1,8591

¢

1

(COM11MMED)

248 b

## Appendix 4 Needs Assessment Methodology

#### Acute Care

In order to estimate the number of acute care beds that will be needed in New York City to treat people with HIV disease in the next five years, the Needs Assessment Work Group made a decision to calculate the future bed need using a model that projects the future need using trends in the recent past.

After reviewing a number of models that have been used to estimate the number of acute care beds that will be needed in New York City to treat HIV-ill individuals, a decision was made to use a statistical model. The model chosen is a bivariate linear regression in which monthly HIV-related hospital discharges which occurred during a two year time period (1986 -1987) are regressed on monthly estimates of adjusted prevalence for the same period of time. The resulting regression equation is then used with estimates of future prevalence (also adjusted) to calculate the expected annual discharges.

The model chosen to estimate future bed need makes three fundamental assumptions. The first is that the number of discharges for HIV-related illness is related to the prevalence of CDC-defined AIDS. The second assumption asserts that the increase in the number of discharges for HIV-related illness over time is a linear function of the number of persons alive with AIDS and HIV-illness (prevalence) over the same period of time; and three, that the past, generally linear, trend between discharges and prevalence will continue into the future.

Having chosen the model to use, the next step in the development of the acute care model was to assemble the necessary prevalence and discharge data.

#### **Prevalence Data**

There are two broad categories of methodological approach that can be used to estimate the number of persons alive with CDC-defined AIDS: the epidemiological and the statistical; and it is from these estimates of prevalence that the future need for acute beds for the treatment of AIDS and HIV-related disease are derived.

A number of prevalence estimates have been developed using either epidemiological or statistical methods. In choosing the prevalence base to use for the bed projections, the conclusions of the Data Work Group were used as a guide. At the same time, it is noted that to the extent that the statistical method used to project future AIDS cases does not take into account the underreporting of AIDS and the undercounting of HIV-related illness and mortality particularly among intravenous drug users (IVDUs), the projections of future cases may be increasingly unreliable. It is also noted that if the case projections are wrong, they are more likely to be too low rather than too high.

With this in mind, a decision was made to use the prevalence estimates through 1993 that have been developed by the NYCDOH. A description of the method used to estimate incidence and prevalence was issued in March 1989 by the New York City Department of Health. For planning purposes, it is necessary to account for any underestimate of prevalence that may result from underreporting of AIDS cases and undercounting of HIV-related illness, particularly among intravenous drug users (IVDUs). To address this issue, the New York City Department of Health prepared a set of prevalence projections in which the prevalence has been increased by 40% to account for undercounting of severe HIV-related illness for use in the bed projections. This adjustment is based on a two year study of persons hospitalized with suspected AIDS which concluded that the prevalence of severe HIV-illness not embraced by the CDC case definition is in the range of 30 to 40 percent.

A recent report (February 1989) by an expert panel on AIDS case projection methodologies, approves the methods used to produce projections, and states that the proportion of hospitalized individuals not meeting the CDC AIDS case definition has remained constant, despite the expansion of the AIDS case definition. The expert panel recommends that a correction factor of 30 to 40 percent be used in planning for services.

#### **Discharge Data**

The model uses discharges as a measure of the use of hospital beds. The initial source of discharge data for the model is the New York Statewide Planning and Resource Cooperative System (SPARCS). HIV-related discharges from New York City acute care hospitals were selected from all 1986 and 1987 discharges recorded in SPARCS and grouped by month and year of discharge to produce 24 data points. (See Table 1.)

The criteria for including a discharge record is based on the occurrence of an HIV-related ICD-9-CM code in the principal diagnosis field for the codes 279.3 and for 136.3, or in the principal or any one of the four secondary diagnosis fields for the codes 279.10, 179.19, 42.0 - 42.9, 43.0 - 43.9, 44.0 - 44.9, and

795.8. This set of diagnostic codes is generally agreed to be the correct specification to use to define the most complete set of HIV-related discharges for the two year period from 1986 through 1987 that serves as the model period for the acute care bed forecast.

However, it is widely agreed that the discharges in the SPARCS database are an undercount of the actual discharges from hospitals for any period of time. In order to develop the most complete discharge data set for the model, adjustments were made to the monthly discharge counts from SPARCS for Health and Hospitals Corporation and for non-HHC hospitals. The adjustments were made independently for each hospital group and were based on data from different sources.

Discharges from SPARCS for HHC were adjusted using information from an internal HHC discharge database. This HHC database collects information on all discharges and has the capacity to store information on a very large number of secondary diagnosis codes. This makes it more likely that HIVrelated discharges will be identified. In addition, HHC augments this system with a monthly reporting system for HIV-related discharges from each of its hospitals. The combination of the two data sources makes it possible to establish a very good count of the number of HIV-related discharges from HHC hospitals. Table 2 contains the SPARCS discharges for HHC hospitals and the discharges counted using the HHC database. The difference between the discharge counts from the two sources varied from month to month, with a range from 4% to 15% in the first 3 months of 1986, and a range of from 24% to 44% for the period from April 1986 through December 1987. The additional number of HHC discharges compared to SPARCS data using the HHC discharge database, was 28% for 1986; 31% for 1987; and 29% for the two year period.

No single source of data exists to make the comparable adjustments to the HIV-related discharges from non-HHC hospitals. In addition, the non-HHC hospitals represent a wide variety of hospitals which are not likely to be uniform in their coding practices, especially with regard to HIV-related illnesses, and therefore the undercount across hospitals may not be uniform. To make the adjustment to the monthly discharges for the non-HHC hospitals we decided to use the information on average daily census (ADC) which had been collected quarterly for the period from March 1987 through October 1988 under the auspices of the GNYHA and HHC.

The ADC for the non-HHC hospitals for each of the census periods from March 1987 through October 1988 was used as the basis of a linear regression of ADC against time. This regression produced estimates of the ADC for each of the months between March 1987 and October 1988. were then made of the non-HHC ADC census for the months of January and February 1987. The number of monthly discharges that could be expected based on this estimated monthly census was calculated using an average length of stay (ALOS) of 20 days. (See Table 3.)

The monthly estimated HIV-related discharges for 1987 were then compared to those observed using 1987 SPARCS data. The percentage difference between the two discharge counts for each month in 1987 was calculated. To calculate the discharges that would have been expected in 1986, the same monthly percentage difference was applied to each of the 1986 monthly discharge data points to get the adjusted discharges. The monthly adjustments to the SPARCS discharge count for the non- HHC hospital group ranged from a low of 30% to a high of 59%. Overall, this adjustment increased the number of discharges from non-HHC hospitals by 40%. (See Table 4.)

The final set of monthly discharge data that was used to calculate the regression equation for estimating future acute bed need for HIV-infected patients was therefore the result of the adjustments made for undercounting in both HHC and non-HHC hospitals and had approximately 37% more discharges for the two year period than were in the original SPARCS data. Table 5 contains the prevalence estimates and the discharges that were used to generate the regression equation. (See observations 1 through 24.)

The output of the regression is the projected number of discharges that can be expected each year from 1989 through 1993. These discharges are calculated using monthly estimates of prevalence from 1989 through 1993 in the regression equation (See Table 5, observations 37 through 96.)

The regression equation that resulted using the data set in Table 5 is:

## Discharge<sub>month</sub> = (-441.22) + (.41) (Prevalence)<sub>month</sub> The R<sup>2</sup> for the regression is .9673.

Once monthly discharges for the five year period are calculated, they are totaled to get the annual discharges for each year from 1989 through 1993. In order to develop the yearly bed estimates, a number of calculations are required. The first of these is the calculation of the total number of patient days for each year. This calculation requires an average length of stay (ALOS). The SPARCS data for 1986 and 1987 were analyzed for the trends in length of stay (LOS) over the two year period. The analysis included a regression analysis of ALOS against time which indicated no statistically significant trend. In the absence of a trend, the annual ALOS for the most recent year, 1987, was used to calculate the total annual bed days. The ALOS was calculated based on all HIV-related SPARCS discharges for 1987 and was found to equal 19.9 days.

The projected days were then used to calculate the annual average daily census (ADC). The annual ADC is calculated by dividing the total annual bed days by the number of days in the year. Once the ADC has been calculated, it is divided by the assumed occupancy rate to calculate the beds needed. In this model, the occupancy rate used is 90%. Table 6 contains the estimated discharges, bed days, ADC and beds for each year from 1989-1993.

#### Housing, Long Term Care and Home Care

The model developed by the Needs Assessment Work Group to estimate housing, long term care and home health care service needs uses information about hospitalized adults with HIV-related illness to project both the number of persons in need of such services and the nature of the services they require. Given the very limited information available on the post-discharge service needs of the HIV-ill population, we had to construct a model which assumes that these needs are "expressed" (or "observed") at the time of a hospitalization and that all HIV-ill adults in need of such services will, during a given calendar year, enter an acute hospital and have at least one stay of ten days or longer. While we recognize that this does not reflect the way in which service needs always occur in the real world, the available evidence indicates that this assumption is appropriate for modeling purposes and is an improvement on other methods used to estimate housing and LTC needs.

The information which describes the housing and long term care needs of hospitalized adults with HIVillness is derived from the New York State (NYS) AIDS Institute study of the post-discharge needs of hospitalized individuals with AIDS and HIV-related illnesses in New York City (referred to as the AIMS survey), which is the most detailed information currently available. This survey was conducted in mid-1988 at the request of the NYS AIDS Institute and the NYS Department of Health in the twenty New York City hospitals with the largest number of HIV-related discharges.

Post-discharge needs are described in the AIMS survey report based on a combination of observable patient characteristics which included: the ability of the patient and/or the support person to direct care; the functional status of the patient; and the availability and adequacy at discharge of the patient's living arrangement. Based on this combination of characteristics, placement settings are recommended and are described and quantified in a written report of the results of the survey.

The model developed by the Needs Assessment Work Group assumes that the results of the AIMS survey are representative of the housing and long term care service needs of all adult HIV-infected individuals who have at least one hospitalization of 10 days or more in a calendar year (the group surveyed). This assumption, which is central to the model, makes use of the best information available (AIMS survey) on housing and long term care service needs; allows us to link the housing and long term care needs projections to the discharges projected by the acute care model; and builds upon the base case assumptions that service delivery patterns will remain unchanged and that the relationships between prevalence and discharges and between discharges and the need for housing and long term care services, will remain constant over the life of the model. However, as described in the main body of the report, the application of this assumption may also result in service estimates that will likely lag behind actual need and undercount the total population need.

The description that follows contains the details of the model developed by the Work Group. A more general discussion of the assumptions of the model and their application in the development of the projections of housing and long term care needs is contained in the body of the report. The discussion in this section will refer to the spreadsheet tables that are attached and which contain all of the estimates produced at each step in the model. The spreadsheet rows and columns on each page are numbered and will be used as reference markers throughout the discussion. Data for 1989 will be cited when specific examples are used. For each year from 1989 through 1993 there are four spreadsheet pages which form the "set" of data for each year. The spreadsheets are arranged in order by year.

#### Development of an Estimate of the Number of Individuals in Need of Housing, Long Term Care and/or Home Care Services, 1989-1993

The first estimate required in the model is of the number of individuals who have post-discharge needs in a calendar year. This estimate was developed using the number of discharges projected for each calendar year from 1989 through 1993 by the acute care model. (See Row 1, Projected 19XX Discharges.) In 1989 this number is 39,967. Annual projected discharges then had to be made comparable with the AIMS survey data which were collected based on the assessment of adult patients (age greater than or equal to 13) who had a length of stay (LOS) of 10 days or greater.

To achieve comparability, the projected annual discharges were adjusted to remove those discharges where the age was less than 13, and where the LOS at discharge was less than 10 days. In addition, in order not to overcount the need for post-discharge services an adjustment was made to remove those discharges where the discharge disposition was death. The adjustments were made based on the observed proportions of HIV-related discharges in the 1986 and 1987 SPARCS data where age at discharge was less than 13 years, where LOS was less than 10 days and where the discharge disposition was death.

Examination of the SPARCS data indicated that 45.4% of the total discharges in 1986 and 1987 were for pediatrics (age less than 13) or for discharges where the LOS was less than 10 days. Therefore 45.4% of the discharges projected by the acute care model for each calendar year from 1989 through 1993 were removed. Row 2 on the spreadsheet, labelled "Adjusted 19XX Discharges," shows the discharges after the adjustment. These discharges represent those where the age was 13 years or greater and the LOS was 10 days or greater (referred to from this point forward as adult long stay discharges), or 54.6% of the projected annual discharges. In 1989 this number is 21,822.

Discharges in which the disposition at discharge was listed as death were then removed from the adjusted discharges calculated above. This was done to avoid overcounting the need for housing, long term care and home health care resources. However to the extent that deaths occur after long lengths of stay and none of the long stay hospital days are added into the calculations for housing, long term care and home health care services, which is the case here, there is some potential to undercount the need for these services. The SPARCS data showed that 22.4% of the discharges of adults who had a LOS of 10 days or greater had been due to death. Row 3 in the spreadsheet, labelled "Number of Discharges Adjusted for Deaths," contains the discharges after the adjustment for discharges that end in death. In 1989 this number is 16,934.

Once the discharges had been adjusted to make them comparable to the AIMS survey data, it was necessary to estimate the number of individuals who would generate these discharges. This was necessary because the AIMS survey data were expressed in terms of the needs of individuals. To calculate the number of individuals who would generate the adjusted discharges each year, we had to estimate the number of discharges per person per year for adults who had lengths of stay of 10 days or greater and whose discharge disposition was not death. This required matching multiple discharges to a single individual. Since data for all New York City hospitals were not available, the number of discharges per person was estimated from HHC SPARCS data from 1986 and 1987 and applied to the discharges from all New York City hospitals. Based on HHC SPARCS data each adult with HIV-related illness with a length of stay of 10 days or greater who did not die prior to discharge had 1.24 discharges per calendar year.

The projected annual caseload, i.e., the number of individuals each year who will need post-discharge services, is the adjusted number of discharges, 16,934 in 1989, divided by 1.24 discharges per person. This produces an estimate of the number of adult individuals who will be discharged from acute care hospitals after a LOS of 10 days or more and who may need housing, long-term care and/or home care services. In 1989 this number is 13,656.

#### Development of an Estimate of the Level of Service Need and of the Current Housing Status of Individuals in Need of Housing and Long Term Care, 1989-1993

The next step in the development of the model was to determine how to assess the post-discharge service needs of those HIV-ill adults who are discharged from the hospital after a stay of 10 days or longer in a calendar year. Information from the AIMS survey report was used to develop five levels of service need based on a combination of (1) a patient's or the support person's reported ability to direct care; and (2) the level of support services required as measured by the patient's functional status, i.e., the degree of assistance needed in activities of daily living (ADLs) and with instrumental activities of daily living (IADLs.) These five levels of service need are shown in column 6, "Level of Care Needed," on page 2 of information for each year.

The two categories, non-directing and self-directing are a result of the distribution of patients by their ability (or a support person's ability) to direct care: 86% of the patients assessed could direct care or had a support person who could direct care; 14% of the patients assessed could not direct care nor did they have a support person who could direct care. The high, intermediate, and low levels of care for the selfdirecting, and the intermediate and high levels of care for the non-directing are based on information in the report on the patients' functional status.

The proportion of individuals distributed to each level of care is shown in column 7, "% of Total AIDS/HIV Caseload/Level," on page 2 of the data for each year. In summary, 6% of the population will be non-directing and will require an intermediate level of service; 8% will be non-directing and will require a high level of service; 51% of the population will be self-directing and will require a low level of service; 25% will be self-directing and will require an intermediate level of service; and 11% will be self-directing and will require a high level of the category of non-directing and requiring a low level of service need was considered by the Needs Assessment Work Group not to be a likely category and was not developed.

The number of individuals requiring each level of care (column 8) is the product of the total number of individuals in need of service each year (row 5, "Adjusted AIDS/HIV Caseload for 19XX) and the proportion of the total caseload in need of each level of care (column 7.) The total number of individuals each year who will be in need of some level of postdischarge service increases from 13,656 in 1989 to 28,172 in 1993; however, the distribution of the need for post- discharge service remains the same in each year because there was no way to model the potential for this distribution to change over time.

Once the number of individuals at each level of service had been estimated, the Work Group identified two categories of setting for providing postdischarge care: housing and institutional long term care facilities, which include Health Related Facilities (HRFs) and Skilled Nursing Facilities (SNFs.) In this model housing status is a critical element in the calculation of needed resources. Information from the AIMS survey report indicated that 50% of the population had a home to which they could return at discharge. Of the remaining 50%, half (or 25% of the total) were categorized by the Needs Assessment Work Group as being precariously housed and the other half (or 25% of the total) as in need of housing. The precariously housed group contains individuals who were identified in the AIMS survey report as having been admitted to the hospital from their homes, which for a variety of reasons would not be available at discharge without some form of intervention such as rent support and social services. As is noted in the main body of the report the individuals who are precariously housed are not included in the projections for housing. However, without the interventions required to make it possible for those in this group to maintain their housing, the estimated needs for housing each year could double.

These three categories of housing status together with the levels of service need form the critical categories for the calculations of housing and long term care resources. Columns 9A, 9B, and 9C contain the housing status for the individuals at each level of care (column 8.) The proportions in each intersection of a column (9A, 9B, or 9C) and a row (6A through 6E) represent the number of individuals within that level of care who have a given housing status. (Page 3 of each year's projections.) Development of Estimates of the Proportion of the Population at Each Level of Care in Need of Particular Setting of Care, 1989-1993

Once the level of care needed and the current housing status had been established based on the information in the AIMS survey report, the next step was to determine the most appropriate setting of care for individuals with post-discharge needs. While the proportion of the population of adults in each of the levels of care was calculated using information from the AIMS survey report as a guide, the ultimate distribution of individuals to settings of care, i.e., to either housing or institutional long term care, reflects the independent assessment of the Needs Assessment Work Group. In all of our decisions we were guided by the recommendations contained in the Models of Care Report, which have been adopted by the New York City AIDS Task Force, which state that when possible placements for care of the HIV-ill should be to the most appropriate but least restrictive setting. In this case, this was interpreted to mean placement of individuals in their own homes whenever possible.

The information on the level of need and on the current housing status was then used to distribute individuals to settings for care. Based on the information in the AIMS survey report and on consultations with members of the Needs Assessment Work Group and with members of the Needs Model Subwork Group, decisions were made as to the placement of individuals in need of post-discharge care. For those who are non-directing at both the intermediate and high levels of need, the most appropriate placement was determined to be in an HRF (intermediate level of need) or in an SNF (high level of need.) Therefore at the intersection of column 10B and row 6A, it can be seen that 100% of the individuals who are non-directing and require an intermediate level of care are placed in an HRF. In a like manner, 100% of the individuals who are nondirecting and who require a high level of care are placed in an SNF (intersection of column 10C and row 6B.)

For those individuals who are self-directing, a different reasoning went into the determination of the most appropriate setting. For those who are nondirecting, their clinical and functional needs as represented by their non-directing status and by their relative dependence as measured by the need for intermediate and high levels of care, argued for placement in an institutional setting regardless of the current housing status. Therefore all individuals in these two categories are placed in an institutional long term care setting. However, for those who are assessed to be self-directing it was decided that these individuals could be placed in housing settings with

home care services provided for those at the intermediate and high level of need. (The home care estimates will be described in the following section.) In this case the current housing status was important in order to estimate the number of individuals in need of housing units.

As was described earlier, the data from the AIMS survey report indicated that 50% of total population in need of post-discharge services had a home to which they could return at discharge; 25% of the total population was precariously housed; and 25% of the population was identified as in need of a housing placement at discharge. It is this last group, those in need of housing, for whom the housing projections are made by the Needs Assessment Work Group. This will produce conservative estimates of need for reasons described in the main body of the report. Column 10A contains the proportion of those selfdirecting individuals at each level of care who will need housing.

Columns 10A, 10B, and 10C indicate the proportion of the population at each level of care that will need placement in either an HRF, a SNF or in housing. Page 3 of the data contains the same table as is shown on page 2, but contains the number of individuals in each category. The number of individuals in need placement each year increases but the proportional distribution by housing status of individuals into the settings of care remains the same. While it was acknowledged that both housing status and the need for particular settings of care were likely to change with the epidemic over time, we did not have enough information to model the effect of such changes.

The estimate of needed units of housing and of long term care beds involves a series of calculations similar to those necessary to estimate acute care beds in each calendar year: the number of individuals in each setting is multiplied by the average length of stay for each setting. This gives the total annual patient or bed days. The total annual days are then divided by the number of days in the year to give the annual average daily census (ADC) which is then divided by the assumed occupancy rate to arrive at the number of beds or units needed.

Page 4 of the data contains these calculations. The number of individuals in need of a particular setting is shown in column 1. The average length of stay (ALOS) for each setting was derived from assumptions about the average survival of individuals at each level of need and from available information on the current ALOS in existing housing and long term care settings. For housing the ALOS was estimated to be one year; for HRFs the ALOS was estimated to be six months; and for SNFs the ALOS was estimated to be four months.

Because of the long lengths of stay in each category, it was necessary to adjust each ALOS to account for the fact that individuals will enter housing and long term care placements over the course of a full year. Using the unadjusted lengths of stay in the calculations of total days would cause an overestimate of the days of care needed in a given calendar year. The adjustment made to the ALOS for each setting assumes that individuals will be discharged from acute care hospitals in equal numbers in each month over the course of the year and results in the "average days of care per person per year." The average days of care for each setting are shown in column 2. The total days for each setting are shown in column 3, the annual ADC is shown in column 4.

Column 4 is the annual ADC and it is also the number of housing units or beds that would be needed at 100% occupancy. The Needs Assessment Work Group has estimated the housing units and long term care beds in each year using 100% occupancy. While it would be ideal to have the resources necessary to operate at 90% occupancy, there is such a shortage of housing and long term care resources that it was decided to use the estimates at 100% occupancy for housing and long term care. Column 5 shows the number of units and beds needed at 90% occupancy.

It will be noted that while the number of individuals in need of each setting increases in each year from 1989 through 1993, the ALOS and the average days of care remain the same. Again, it was acknowledged by the Work Group that the ALOS could change in either direction as the epidemic changes and as the population with HIV-related illness changes, but we did not have the information required to model the effect of these changes on the housing and long term care resources needed by the HIV-ill population

#### **Home Health Care**

The home health care projections are based on the Needs Assessment Work Group's analysis of the AIMS survey data and are derived from the estimates of the number of individuals who are in need of each of the five levels of service described in the preceding section.

For the estimates of need for home health care services, only self-directing individuals, all of whom will return to their home or will be provided with housing at discharge, were considered initially as the population in need of home care. However, those individuals who were categorized as being selfdirecting and in need of a low level of service support were eliminated from the calculations of home health care service needs. Individuals in this group were assumed to have no functional deficits as measured by ADL and by IADL scores. Therefore, it was assumed that individuals in this group would not need in-home services for either personal care or chore services.

The model developed by the Needs Assessment Work Group projects the number of home health care program enrollment days, and the number of nursing visits and hours of paraprofessional service per year.

A home health care program enrollment day is defined as a day during which an individual is enrolled in a home health care program, however services need not be provided on each home care day. To calculate the home health care enrollment days, the enrollment period for those self-directing individuals at an intermediate level of service need was estimated to be the same as that for an individual in an HRF, six months. For those self-directing individuals classified as needing a high level of service, the enrollment period was assumed to be the same as that for an individual in an SNF, four months. As in the calculation of housing units and long term care beds, it was necessary to adjust the enrollment period to reflect the assumption that people in need of service would enter the "system" at a constant rate during the year. Therefore the calculation for the enrollment days for those at an intermediate level of service need used 136 days as the average enrollment period per person; 100 days was used for those at a high level of service need.

Table 1 contains the estimates for home care enrollment days and for home care average daily enrollment for individuals at both the intermediate and high level of service for the years 1989 through 1993. The number of individuals at each level is from page 3, column 8 of the data for the housing and long term care estimates. The home care daily enrollment days is the product of the number of individuals at each level multiplied by the average days of care for that level of service: 136 days for the intermediate level and 100 for the high level. The total is the sum of days for each level. Home care average daily enrollment is the home care enrollment days divided by the number of days in the year.

Another measure of home health care program activity is the number of periodic nurse visits, the number of continuous LPN or RN hours and the number of paraprofessional hours. The data for these estimates were provided by the Visiting Nurse Service of New York (VNSNY) based on actual services provided to 150 people with AIDS. In each case the visits or hours per day are averages based on the 150 cases studied. The data on periodic visits and nurse and paraprofessional hours do not include provision of therapeutic services such as physical, occupational or respiratory therapies.

Periodic nurse visits are primarily for case supervision and case management and are calculated based on an average of .071 visits per day for each individual at an intermediate level of service need and .143 visits per day for those who are in need of a high level of service. These are average daily figures based on a visit rate of one visit every two weeks for those in the self-directing intermediate group and of one visit every week for those who are self-directing and in need of a high level of service.

Table 1 contains the estimated periodic nurse visits for each year from 1989 through. They are calculated by multiplying the home care enrollment days at each level by the visits per day at that level. The total shown is the sum of the visits at each of the two levels of service.

Continuous LPN and RN hours are any LPN or RN service for more than two hours per day up to 24 hours per day and are calculated based on an average of 2.33 hours of care per day of enrollment for those individuals requiring a high level of service. Information from VNSNY indicated that in general those at the intermediate level do not need continuous nurse services. Based on the data from the VNSNY it is assumed that approximately 40% of those at the high level of service will need continuous nurse services. The average of 2.33 hours/day is calculated for use with the entire group in need of a high level of service and reflects the fact that only 40% of the total group on average will need this home health care service. The hours are shown in Table 1 and are calculated by multiplying the total enrollment days for those at a high level of service need by 2.33 hours.

Paraprofessional service represents services provided by a home attendant or a home health aide and are calculated using an average of 4.25 hours of service per day of enrollment for those who need an intermediate level of service and 9.29 hours per day of enrollment for those needing a high level of service. For those requiring an intermediate level of service need, the average hours per day of enrollment, 4.25, represents the needs of two groups within the larger group: those who need up to 28 hours or service per week (75% of the individuals at the intermediate level); and those who need from 29 to 60 hours of service per week (25% of the individuals at the intermediate level.) The average for those at the high level of service also represents the differential need for paraprofessional services within the group: for those who do not need continuous nurse services, 60% of the group, the average per day is 10.1 hours of paraprofessional care; for those who do receive continuous nurse services, 40% of the group, an average of 7.63 hours per day of

paraprofessional service is required. The overall average for the group is 9.29 hours per day.

Table 1 contains the estimates for the paraprofessional hours needed in each year from 1989 through 1993. The estimates were obtained by multiplying the home care enrollment days for those in the intermediate group by 4.25, and the home care enrollment days for those in the high group by 9.29

#### Ambulatory Care

The model for estimating the volume of ambulatory care services that will be required by individuals with HIV-related illnesses in each year from 1989 through 1993 was the most difficult of the models to develop, less for lack of a conceptual framework than for the lack of the information needed to measure the use of the full range of ambulatory care services by the HIVinfected. Very little information on ambulatory care utilization is currently available; and what is available we used to make our projections.

The model that was developed by the Needs Assessment Work Group begins with an estimate of the total number of individuals in each year from 1989 through 1993 who are likely to be HIV-infected in one of three categories: HIV-infected and asymptomatic; HIV-infected and symptomatic; or HIVinfected with diagnosed AIDS. It is recognized that the each of these categories of HIV-infection is one stage in a continuum of disease, and that in general the utilization of ambulatory care services by each individual will increase as the individual moves across the continuum from asymptomatic infection to full blown AIDS.

The description and the tables that follow provide the details for each of the three steps outlined above. However, a few general notes should be kept in mind regarding the ambulatory care estimates. The first is that while we wanted to produce estimates for the full range of ambulatory care services including physician services, diagnostic, therapeutic and laboratory services, pharmacy services, social work, nutritionist and other professional services, information on the historical use of these services is not available. We attempted to develop estimates for this range of services by speaking with clinicians, but there was such a diversity of opinion both about what should be provided to individuals in each of the three categories of HIV-infection now and what the future would require because of changes in the demography of the epidemic and in the treatment possibilities, that it was impossible to make reasonable estimates. We then decided to use information on the utilization of physician services in ambulatory settings that came from a retrospective cohort study that had been performed by Empire Blue Cross and Blue Shield

(EBCBS.) Consequently, the estimates that are contained in this section only reflect physician services and therefore represent only a slice of the total services required by the HIV- infected.

Second, is that the use of EBCBS visit data probably underestimate the actual need for ambulatory care services as well as the current actual use of these services. This is due to the fact that the EBCBS data are from cohorts of individuals who are identified as having AIDS between 1984 and 1986. Three to five years ago treatment was more limited and there was less willingness on the part of individuals to file claims until they were seriously ill. In addition, the population in the cohorts, privately insured individuals, is not necessarily representative of the current population of HIV-infected individuals.

### Calculation of Number of Individuals in Each of the Three Categories of HIV-Infection in Each Year from 1989 Through 1993

The starting point for the model is the calculation of individuals in each category of HIV-infection each year. The New York Department of Health (NYCDOH) estimate as of December 1988 of a cumulative total of 200,000 HIV-infected individuals in New York City was used to begin the estimate. (See Table 1a.) From this number we subtracted the cumulative mortality of 17,100 individuals that has been estimated by the NYCDOH in the set of incidence and prevalence estimates that were provided for our use and are cited in the acute care section. This gave us an estimate of the total number of HIV-infected in New York City as of the end of 1988. To this we added the number of newly infected individuals that would occur in 1989. According to NYCDOH, this is approximately 2% of the pool of infected individuals at the beginning of each year (considered to be 200,000 for the beginning of 1989.) Two percent is an average for the entire population of infected individuals; the rate of new infection is estimated to be close to zero for homosexual men but is much higher for intravenous drug users, possibly as high as 8%.

This set of calculations produces the estimated number of HIV-infected individuals for each year from 1989 through 1993. Table 1a contains these calculations for each of the five forecast years. The number of HIV-infected individuals is estimated to be 186,900 in the beginning of 1989 and to decrease to 153,194 by the end of 1993. The population of HIVinfected declines due to an assumption of a continuing high level of mortality and a low rate of new infections over the five year period. Should mortality decline or the rate of new infections increase, particularly among IVDUs, the number of HIV-infected could increase between 1989 and 1993. While these were acknowledged as possibilities, we were unable to model the effects of such potential changes.

The next step was to estimate the number of individuals in each of the three categories of HIVinfection each year. This was done using two sources of data: the projections of new cases of AIDS in each year from 1989 through 1993 that were prepared by the NYCDOH and data from the EBCBS cohort study.

The projections of annual new cases, or incidence, were used with estimates of prevalence, also prepared by the NYCDOH to calculate the number of cases of AIDS in each of the five years of the forecast. In Table 1a the first row of the table contains the projection of incident cases for 1989 based on data from NYCDOH. This number is also contained in the intersection of the row labelled "1989" and the column labelled "1989" in the table. Also in this cell is the number 1,251. This represents the difference between the incidence for 1989 and the estimated prevalence in 1989. The total of the two is the prevalence of AIDS cases estimated for 1989 and is shown at the bottom of the table where the row labelled "Alive CDC-AIDS Cases (Prevalence)" intersects with the column labelled "1989."

The number of individuals with symptomatic HIVinfection was estimated using an observation from the cohort study conducted by EBCBS. In the study of each cohort over time it was noted that there was an increase in the ambulatory care utilization in each cohort during the three years prior to identification with AIDS. This observation led us to assume that the increase over time in each cohort was the result of the development of progressively more serious symptomatic HIV-infection. Using this piece of information we assumed that all HIV-infected individuals have symptomatic illness for three years prior to diagnosis with full blown AIDS. Prior to that it is assumed that all HIV- infected individuals are asymptomatic.

This is shown in Table 1a. In the row labelled "1989" it is estimated that there are at least 8,900 HIVinfected individuals who are symptomatically ill during the years 1986 through 1988. These same individuals are the incident cases in 1989. Therefore, these 8,900 incident cases in 1989 are all assumed to be symptomatically ill for each of the three years prior to diagnosis with AIDS. This calculation is repeated for each year from 1989 through 1993. Following this, the number of symptomatically ill individuals in each year is calculated. For example in the column "1989" the symptomatic cases are the sum of those that will be incident in the three years following 1989: 10,750 cases in 1990; 12,500 in 1991; and 14,260 in 1992. The sum of these is shown at the bottom of the table in the row labelled "HIV+ Symptomatic."

The calculation of the number of individuals who are HIV-infected but asymptomatic is the difference between the total number of HIV-infected that was estimated for each year and the sum of those with AIDS and symptomatic infections. This is shown in the row labelled "HIV+ Asymptomatic" at the bottom of Table 1a. It is also calculated in Table 1b, Part A, Calculation of HIV+ Asymptomatic Cases.

#### The Calculation of the Number of Visits Required by Those in Each of the Three Calegories of HIV-infection

Using data from the EBCBS cohort study and from our interviews with various clinicians, we developed estimates of the number of visits per person per year for those in each of the three categories of HIVinfection.

For the HIV-asymptomatic, we had to develop a visit rate per year based on our discussions with clinicians because the EBCBS data did not capture utilization by those who were asymptomatic. Based on these discussions, a rate of four visits per person per year was used in the calculations. This is considered to be a conservative estimate but the best one we could make with the available information.

For those who are symptomatic we used a range of visits that went from four visits per year to seven visits per year. As will be seen in Table 2, the number of visits for those who are symptomatic increases from four visits a year in the second and third years before diagnosis with AIDS to seven visits per year in the year prior to the diagnosis with AIDS. These estimates are conservative but are based on the data from the EBCBS cohort study.

Finally for those who are diagnosed with AIDS in the year of diagnosis it is estimated that they will have 18 visits per year. It is then assumed that for those individuals who survive beyond the year of diagnosis 27 visits per year will be required. This visit rate is applied to those in each year who make up the difference between the new cases for the year and the prevalence for the year. In 1989 this visit rate is applied to the 1,251 individuals who were identified earlier. (See Table 1a.)

Use of these visit rates with the estimates of the population in each of these categories as shown in Table 1a produces the visit estimates shown in Table 3. We have estimated that the total need for physician services will grow from 934,483 visits in 1989 to 1,003,615 visits in 1993. While the rate of increase in the visits for the total population is low, approximately 7.5%, the rate of increase within each of the three categories of HIV-infection is much larger. The total increase is very much weighted by the fact the

majority of the cases in each year are estimated to be asymptomatic and that the visit rate for the category is low and held constant over the five year period.

As with the other models we have developed, we know that the population with HIV-infection and illnesses is changing as are the treatment possibilities but we were not able to model the effect of these changes. In the case of the projections of ambulatory care

•

services however, we know that they are very conservative both because they do not project the need for the full range of ambulatory services, a range that is likely to increase, and because the visit rates used are very conservative especially for the asymptomatic and the symptomatic populations.

December 1988. They are based on cases of AIDS diagnosed through 2/29/88 and reported through 6/30/88 which are then adjusted by 40% to account for the occurrence of severe HIV-illness. The prevalence projections contained in the March 1989 document, "New York City AIDS Case Projections" were prepared after December 1988. These estimates are based on cases of CDC- defined AIDS diagnosed through 8/31/88 and reported through 12/31/88. The estimates contained in this report are not adjusted by 40%. New York City Department of Health: New York City AIDS Case Projections, 1989-1993, March 1989. New York City Department of Health: Report of the Expert Panel on HIV Seroprevalence Estimates and AIDS Case Projection Methodologies, February 1989.

Alderman, M.H., Drucker, E.E., et.al.: Predicting the Future of the AIDS Epidemic and Its Consequences for the Health Care System of New York City. Bulletin of the New York Academy of Medicine 64 (2):175-183, March 1988.New York State Department of Health: Health Care Resource Requirements for AIDS Patients in New York State, 1986 -1991, November 12, 1987.

Pasley and Vernon: Health Care Resource Requirements for AIDS Patients in New York State, Acute Care 1987-1994.Presented at the Annual Meeting of the American Public Health Association, November 1968.

New York City Interagency Task Force on AIDS: A Five Year Plan for AIDS in the City of New York. May 1988. The prevalence estimates used in the acute bed model were prepared in

# TABLES FOR THE ACUTE CARE BED ESTIMATES

18 April 1989

•

TABLE	1	
-------	---	--

Year	Month	HHC Hospitals	Non-HHC Hospitals	Total
1986	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec	249 210 275 298 294 308 322 328 333 356 359 404	532 505 625 671 695 690 759 769 752 809 739 907	781 715 900 969 989 998 1,081 1,097 1,085 1,165 1,098 1,311
1986 Total		3,736	8,453	12,189
1987	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec	332 357 428 469 461 478 503 458 458 458 458 481 468 482	787 877 955 966 995 1,038 1,046 1,034 1,046 1,069 984 1,117	1,119 1,234 1,383 1,435 1,456 1,516 1,549 1,492 1,504 1,550 1,452 1,599
1987 Total		5,375	11,914	17,289
1986-1987 Total		9,111	20,367	29,478

## HIV-Related Discharges<sup>1</sup> from New York City Acute Care Hospitals SPARCS Data for HHC and Non-HHC Hospitals, 1986-1987

<sup>&</sup>lt;sup>1</sup>For 1986 and 1987, HIV-related discharges are defined on the basis of the occurrence of an HIV-related ICD-9-CM code in the principal diagnosis field for the codes 279.3 and 136.3, or in the principal or anyone of the four secondary diagnosis fields for the codes 279.10, 179.19, 42.0-42.9, 43.0-43.9, 44.0-44.9, and 795.8.

Year	Month	SPARCS Discharges	HHC Database Discharges	Percent Difference
1986	.lan	249	266	7%
1500	Feb	210	242	15%
	Mar	275	297	4%
	Ann	275	207	214
	May	290	333 402	274
	lup	209	402	J//0 204
	Jun	308	424	30%
	JUF	322	439	30%
	Aug	328	4/2	44%
	Sep	333	436	31%
	UCT	356	445	25%
	NOV	359	462	29%
	Dec	404	502	24%
1986 Total		3,736	4,776	28%
1987	Jan	332	441	33%
	Feb	357	474	33%
	• Mar	428	579	35%
	Apr	469	581	24%
	May	461	582	26%
	Jun	478	607	27%
	Jul	503	636	26%
	Δυσ	458	565	23%
	Sen	450	585	28%
	Oct	491	505	20%
	Nov	460	615	214
		400	600	J1/0 A2W
	Dec	482	660	43%
1987 Total		5,375	7,022	31%
1986-1987				•
Total		9,111	11,798	29%

# HIV-Related Discharges for HHC Hospitals SPARCS and HHC-Derived Discharges Compared, 1986 - 1987

**258**<sub>c</sub>

## Predicted ADC, Days and Discharges Based on Data from GNYHA/HHC Quarterly Census Survey (For Non-HHC Hospitals Only)

ADC = 753.7361 + (15.05778)\*(time period)R-Squared = .942

Time Period	Time Period Label	Predicted ADC	Actual ADC	Total Days**	Total*** Discharges
1	Dec 1986				
2	Jan 1987	730*		22,630	1,250
3	Feb 1987	750*		23,250	1,285
4	Mar 1987	769	727	23,833	1,317
5	Apr 1987	784		23,516	1,299
6	May 1987	799		24,766	1,368
7	Jun 1987	814	849	24,419	1,349
8	Jul 1987	829		25,700	1,420
9	Aug 1987	844		26,167	1,446
10	Sep 1987	859		25,774	1,424
11	Oct 1987	· 874	885	27,100	1,497
12	Nov 1987	8 <del>89</del>		26,678	1,474
13	Dec 1987	904		28,034	1,549
14	Jan 1988	919		28,501	1,575
15	Feb 1988	934		27,098	1,497
16	Mar 1988	949	967	29,434	1,626
17	Apr 1988	965		28,936	1,599
18	May 1988	980		30,368	1,678
19	Jun 1988	995	990	29,840	1,649
20	Jul 1988	1,010		31,301	1,729
21 ·	Aug 1988	1,025		31,768	1,755
22	Sep 1988	1,040		31,195	1,723
23	Oct 1988	1,055	1,038	32,702	1,807

\*Estimated ADC

\*\*Total Days = Predicted ADC \* # of days in the month
\*\*\*Total Discharges = Total Days/ALOS (ALOS = 20 days)

# HIV-Related Discharges for Non-HHC Hospitals SPARCS and Quarterly ADC-Derived Discharges Compared, 1986-1987

Year	Month	SPARCS Discharges	Quarterly ADC- Derived Discharges	Percent Difference
1986	Jan Feb Mar Apr May Jun	532 505 625 671 695 690 759	845 740 862 902 956 897	59% 47% 38% 34% 37% 30% 36%
	Aug Sep Oct Nov Dec	769 752 809 739 907	1,075 1,024 1,133 1,107 1,258	40% 36% 40% 50% 39%
1986 Total		8,453	11,829	40%
1987	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec	787 877 955 966 995 1,038 1,046 1,034 1,046 1,069 984 1,117	1,250 1,285 1,317 1,299 1,368 1,349 1,420 1,446 1,424 1,424 1,497 1,474 1,549	59% 47% 38% 34% 37% 30% 36% 40% 36% 40% 50% 39%
1987 Total		11,914	16,678	40%
1986-1987 Total		20,367	28,507	40%

# Final Data Set Used in Acute Care Bed Projections for the NYC AIDS Task Force Needs Assessment Work Group.

Obs	MM-YY	Prevalence*	Discharges**	Projected Discharges***
1	Jan-86	3730.6	1111	1089
2	Feb-86	3864.9	982	1144
3	Mar-86	3998.6	1149	1199
4	Apr-86	4116.3	1301	1247
5	May-86	4238.7	1358	1298
6	Jun-86	4393.2	1321	1361
/	Jul-86	4542.1	1469	1422
8	Aug-86	4663./	154/	14/2
9	Sep-80	4/94.3	1460	1520
10	Nov 96	4934.3	15/8	1505
12	Nov-00	5025.1	1309	1659
12	.lan-87	5241.2 5241 A	1601	1709
14	Feb-87	5252 5	1759	1755
15	Mar-87	5480 0	1896	1807
16	Apr-87	5587.7	1880	1851
17	May-87	5678 1	1950	1888
18	Jun-87	5823.9	1956	1948
19	Jul - 87	5929.1	2056	1991
20	Aug-87	6054.0	2011	2042
21	Sep-87	6141.1	2009	2078
22	Oct-87	6308.2	2166	2147
23	Nov-87	6420.2	2089	2193
24	Dec-87	6602.8	2237	2267
25	Jan-88	6746.8		2327
26	Feb-88	6903.2		2391
27	Mar-88	7016.1		2437
28	Apr-88	7134.7		2486
29	May-88	7257.4		2536
30	Jun-88	7383.4		2588
31	Ju1-88	7511.6		2640
32	Aug-88	7642.6		2694
33	Sep-88	7777.6		2749
34	0ct-88	7915.2	-	2806
35	Nov-88	8056.0		2864
36	Dec-88	8199.9		2923
37	Jan-89	8345.1		2982
38	Feb-89	8492.7		3043
39	Mar-89	8642.4		3104
40	Apr-89	8/95.1		316/
41	May-89	8949.5		3230
42	Jun-89	9105.5		3294
43	JUI-89	9262.6		3359
44	Aug-89	9422.4		3424

2587

45	Sep-89	9584.2
46	0ct-89	9746.5
47	Nov-89	9910.5
48	Dec-89	10074.8
49	Jan-90	10240.6
50	Feb-90	10407.9
51	Mar-90	10576.8
52	Apr-90	10747.3
53	May-90	10919.4
54	Jun-90	11092.1
55	Jul - 90	11266.8
56	Aug-90	11443.0
57	Sep-90	11620.7
58	Oct-90	11798.9
59	Nov-90	11978.6
60	Dec-90	12157.8
61	Jan-91	12337.6
62	Feb-91	12517.4
63	Mar-91	12698.0
64	Apr-91	12879.5
65	May-91	13061.7
66	Jun-91	13244.0
67	Ju1-91	13427.3
68	Aug-91	13610.9
69	Sep-91	13795.1
70	Oct-91	13979.1
71	Nov-91	14164.2
72	Dec-91	14349.5
73	Jan-92	14536.0
74	Feb-92	14723.2
75	Mar-92	14911.1
76	Apr-92	15099.0
77	May-92	15286.9
78	Jun-92	15474 9
79	Jul - 92	15662 8
80	Aug-92	15850 7
81	Sen-92	16038 6
82	Oct - 92	16226 5
83	Nov-92	16414 5
84	Dec-92	16602 4
85	.lan_93	16790 3
86	Fab-93	16078 2
87	Mar_03	17166 1
88	Anr-93	17354 0
20	May-02	17542 0
<u>an</u>	1up - 23	17720 0
01	Jul 02	17017 0
02	Aug 02	1/31/.0
52	AUY-93	10105./
32	2eb-23	18293.0
94 05	UCT-93	18481.5
95	NOV-93	18669.5
90	Dec-93	18857.4

 $\begin{array}{c} 3491\\ 3557\\ 3624\\ 3692\\ 3760\\ 3828\\ 3968\\ 3968\\ 4109\\ 4181\\ 4253\\ 4399\\ 4181\\ 4253\\ 4546\\ 4694\\ 4768\\ 2975\\ 5155\\ 5555\\ 5755\\ 5755\\ 5984\\ 6138\\ 6293\\ 6138\\ 62986\\ 6755\\ 2986\\ 6138\\ 62986\\ 6755\\ 2986\\ 6138\\ 5986\\ 66785\\ 69863\\ 7141\\ 7218\\ 7295\\ 7148\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7218\\ 7295\\ 7218\\ 7$ 

258g

- \* Prevalence estimates were prepared in Dec 1988 by the NYC DOH. They are based on cases diagnosed through 2/29/88 and reported through 6/30/88. Prevalence data are adjusted by 40% to account for underreporting.
- \*\* Monthly discharges are adjusted for the undercount in SPARCS data as described. Adjustments are made independently for HHC and Non-HHC hospitals. Total data set for two years contains approximately 37% more discharges than SPARCS data for the same period.

\*\*\* Projected Discharges are calculated using the regression equation: Discharge\_month = (-441.22) + (.41)(Prevalence)\_month

TABLE 6

# Estimated Discharges, Bed Days, ADC and Beds 1989 - 1993

Year	: • •	Discharges	Bed Days	ADC	Beds
1989		39,967	795,343	2,179	2,421
1990		49,779	990,602	2,714	3,016
1991		60,369	1,201,343	3,291	3,657
1992		71,348	1,419,825	3,879	4,310
1993		82,449	1,640,735	4,495	4,995

TABLES FOR THE HOUSING & LONG TERM CARE ESTIMATES

. .

18 April 1989

Long Term Care Projection: NYC AIDS Task Force

1989 Cohort

	PROJECTED 1989		
	DISCHARGES (1)	39, 967	From the acute care model
	ADJUSTED 1989		
	DISCHARGES (2)	21,822	Projected discharges (Row 1) * .546
	NUMBER OF DISCHARGES		
	ADJUSTED FOR DEATHS (3)	16, 934	Adjusted discharges (Row 2) * ,776
	NUMBER OF		
	DISCHARGES/PERSON (4)	1.24	Discharges adjusted for death (Row 3)/1.24
	ADJUSTED AIDS/HIV	INPUT	Estimate of the number of adults who will have a post-discharge need for
	CASELOAD FOR 1989 (5)	13,656	housing, long term care and/or home care. Equal to 42.2% of the total projected
0			discharges in Row 1.

đ

•

 Long Term Care Projections: 1989 Cohort
 Proportion of Persons Needing Care at Each Level of Service and in Each Setting

#### ADJUSTED AIDS/HIV

CASELOAD FOR 1989 (5)	13,656 Estimated number of adults who will have a post-discharge need for housing. long term care and/or home care												
ı					::		(9)		::		(10)		:
					::	Current	Housing Sta	1 U S	::	Settings o	I Care for	Those Who	
· · · · · ·		(7)		(8)	::		•	•	::	Need Housi	ng & Long I	erm Care	
Level of Care	:	% of Total	: N	umber of	::	<b>(9A)</b> :	(98) :	(9C)	::	:		:	:Total in :
Needed (6)	: : C	AIDS/HIV aseload/Leve	:Peop : Lev	le at Eacl el of Cari		Have a : Home :	Precarious: Housing :	Need Housing	::	(10A) : Housing :	(10B) HRF	: (10C) : SNF	: Need of : :Placément:
Non-Directing	:		:		::	:	:		···· ::	:		:	
Intermediate (6A)	:	.*	5 <b>%</b> :	765	<b>i</b> ::	7%	4.7%:	4	<b>7%</b> : :	<b>X</b> :	1009	6: X	100%
	:		:		::	:	:			:		:	
Non-Directing	:		:		:::	:	:		::	:		:	: :
High (6B)	:	. 1	<b>3%</b> :	1, 120	)::	<b>9%</b> :	4 5%:	4	<b>5%</b> : :	X :	X	: 100	%: 100%;
	:		:		::	:	:		::	:		:	: :
Self-Directing	:	1	:		::	:	:		::	:		;	: :
Low (6C)	:	5	1%:	6, 91	0 ::	* 74%:	1 3%:	1	3%: :	13%	X	: X	: 13%:
	:		:		::	:	:	~	::	:		:	: :
Self-Directing	:		•		::	:	:		::	: :		:	•: :
intermediate (6D)	:	2	5 <b>%</b> :	3, 40	D ::	<b>2 5%</b> :	37%;	3	7%: ;	37%:	X	: X	: 37%;
i.	:	•	:		::	:	:		::	: :		:	: :
Self-Directing	:		:		::	. :	:		::	: :		:	: :
High (6E)	:	1	1%:	1, 47	5 ::	45%:	28%:	. 2	8%: :	28%:	x	: 0	%: 28%:
Total	:::	10		13, 67	0::	50%:	2 5%:		5%: :	: 19%:	69	K: 8	<b>%: 33%</b>

Long Term Care Projections 1989 Cohort Number of Persons Needing Care at Each Level of Service and in Each Setting

13.656

#### 1989 Cohnri

258 j3

#### ADJUSTED AIDS/HIV

CASELOAD FOR 1989 (5)

Estimated number of adults who will have a post discharge need for housing long term care and/or home care

6

		•			(9)					(10)		· ·
				Current	Housing Sta	tus	::	Settings	of (	Care for	lhose Who	
		(7)	(8)					Need Hous	ing	& Long 1	erm Care	
tevel of Care	:	% of Tetal	Number of .	(9A)	(98)	(9C)						:Total in '
Needed (6)		AIDS/HIV	People at Each ::	Have a	Precarious:	Need		(10A)	1	(108)	(10C)	Need of
	:	Caseload	Level of Care ::	Home	Housing	Housing	• :	Housing	:	HRF	SNF	: Placement
Non-Directing		• • • • • • • • • • • • • • • • • • • •	······································				•					· · · · · · · · · · · · · · · · · · ·
Intermediate (6A)	÷	<b>6%</b>	765 :::	51	357	357	; •	X	:	765	X	765 :
Non-Directing							::		:		:	: :
High (6B)		8%	1,120	102	509	509	: ·	X		X	1120	1120
Sell-Directing	:				: .		::		:			: :
Lew (6C)	:	51%	6, 910	5134	888 :	888	:.	888	:	X	: X	:
Self Directing	:				:- :		::		:		:	: :
Intermediate (6D)	:	25%	3,400 : :	860	1270 :	1270	::	1270	:	X	: X	: 1270 :
Self-Directine					: .		::		:		:	: :
High (6E)	. :	11%	1, 475	661	407	407	::	407	:	X		: 407 :
Tetal	···.· :	100%	13, 670	6, 808	: 3, 431 :	3, 431	•••• ::	2, 565	•••	765	1, 120	4,450

Long Term Care Projections: 1989 Cohort

Calculation of Total Annual Days, ADC, and Housing Units or Beds at 100% & 90% Occupancy (0. R  $\pm$  for People Needing Flacement

1989 Cohorl

	Setting Needed	: Num : Need :At Ea	ber Who :/ Service :( ich Setting:	Average Days of Care/Person/Yr (days)	: Total : Days : (AvgDystN)	: Annual ADC : 100% O. R. : (Dys/365)	: Housing or : Beds @ 90% : : (ADC/.9) :
	Housing	:	2,565 :	182	466, 844	1,279	: 1, 421 :
	HRF	:	765	136	: 104,007	285	317
	SNF	:	1,120 :	100	: : 111,982	307	: 341 ·
<b>2</b> 58 j4	Total I	:	4,450	MA	682,833	: : 1,871	2.079

Long Term Care Projection: NYC AIDS Task Force

1

1990 Cohort

	PROJECTED 1990		· · · ·
	DISCHARGES (1)	49, 779	From the acute care model
	ADJUSTED 1990		· · · · ·
	DISCHARGES (2)	27, 179	Projected discharges (Row 1) * .546
	NUMBER OF DISCHARGES		
	ADJUSTED FOR DEATHS (3)	21, 091	, Adjusted discharges (Row 2) * 776
	NUMBER OF		
	DISCHARGES/PERSON (4)	1.24	Discharges adjusted for death (Row 3)/1.24
	ADJUSTED AIDS/HIV	INPUT	Estimate of the number of adults who will have a nost discharge need for
	CASELOAD FOR 1990 (5)	17,009	housing, long term care and/or home care. Equal to 42.2% of the total projected
C.R.			discharges in Row 1.
$\mathbf{\omega}$	•		
<b>F</b>			

## Long Term Care Projections: 1990 Cohort Proportion of Persons Needing Care at Each Level of Service and in Each Setting

ADJUSTED AIDS/HIV										
CASELOAD FOR 1990 (5)	17.009	Estimated	n umb e r	of adult	s who will	have a pos	l-discharge	need lor hou	5111g.	
		long term	care an	d/or hom	e care					
					<b>4 •</b> •					·
			::		(9)	:		(10)		:.
			:: <b>C</b>	urrent H	ousing Sta	tus	Settings of	Care for Th	ose Who	
	(7)	(8)	::			:	Need Housin	g & Long Ter	m Care	:
Level of Care	: % of Total	: Number of	:: (9	A) :	<b>(98)</b> :	(9C) :	: :	• :		Total in :
Needed (6)	: AIDS/HIV	People at Each	:: Hav	e a : P	recarious:	Need :	(10A)	(10B) :	(10C)	Need of :
	: Caseload/Level	: Level of Care	:: Ho	me :	Housing :	Housing :	Housing :	HRF :	SNF	Placement:
······	••••••			• • • • • • • •		•••••	• • • • • • • • • • • •	· · · · · · · · · · · · · · ·	• • • • • • • • •	••••
Non-Directing		:	:: .	;	:	:	: :	:		· : .
Intermediate (6A)	69	s: 953	::	<b>7%</b>	47%:	<b>47%</b> :	: X :	100%.	X ·	100%
		:	::	· :	•	;	: :	:		:
Non-Directing	:	:	::	:	:	:	: :	:		: :
High (6B)	: 87	i: 1, 395	::	9%:	4 5%:	45 <b>%</b> :	: <b>X</b> :	× :	100%	100%
	:	;	::	:	:	:	: :	:		: . :
Self-Directing	: •	:	::	:	:	:	: * :	~ :		: :
Low (6C)	: 519	k: 8,607	::	74%:	13%:	) <b>13%</b> :	: 13%:	°х :	. X	: <b>13%</b> :
	:	:	::	:	:	•	: :	:		: :
Self-Directing	:	: ·	::	:	:	:	: :	:		: :
Intermediale (6D)	: 259	6: 4, 235	::	2 5%:	37%:	37%:	37%:	<b>X</b> :	X	: <b>37%</b> :
	:	:	::	:	:	:	: :	:		: :
Self-Directing	:	:	::	;	:	:	: :	:		: :
High (6E)	: 119	6: 1,837	::	45%:	28%:	28%:	: <b>28%</b> :	<b>X</b> :	0%	28%:
Total	: 100	6: 17,026	::	<b>50%</b> :	<b>25%</b> :	<b>25%</b> :	: 19%:	<b>6%</b> :	8%	<b>33%</b>

Long Term Care Projections: 1990 Cohort Number of Persons Needing Care at Each Level of Service and in Each Setting

17,009

1990 Cohort

## ADJUSTED AIDS/HIV

CASELOAD FOR 1990 (5)

### Estimated number of adults who will have a post-discharge need for housing. long term care and/or home care

							Current	t Ho	(9) using Sta	itus	::	Settings	(10) of Care for	Those Who	: : :
	level of Care		(7) Katiotal	(8)	- 1	::	(04)		(08)	(00)	::	Need Hous	ing & Long	lerm Care	: :
·	Needed (6)	:	AIDS/HIV : Caseload :	People at Level of	Each Care	:: ::	(SA) Have a Home	: Pr : H	ecarlous: ousing :	(9C) Need Housing	::	(10A) Housing	(10B) HRF	(10C) SNF	: lotal in : : Need of : :Placement:
	Non-Directing	••••• :	:::::::::::::::::::::::::::::::::::::::		••••	•*::•	• • • • • • • • • • • •	•••• :	•••••••• :		::	•••••	• • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •
N	Intermediate (6A)	:	6%:	•	953	::	64	:	444 :	444	::	X	953	: X	953
0	Non Directing	:	· ·			::		:	:		::			:	: :
<b>k</b> 3	High (6B)	:	8%:	· 1	. 395	::	127	:	634 :	634	::	X	X	: 1395	: 1395 :
	Self-Directing	:	:	•		::		:	:		::	:	· · ·	:	: :
	Low' (6C)	:	51%:	8	1, 607	::	6395	:	1106 :	1106	::	1106	X	: X	: 1106 :
	Self-Directing	:	:			::		:	:		::			:	: :
	Intermediate (6D)	:	<b>25%</b> :		1, 235	::	1072	:	1582 :	1582	::	1582	X	: X	1582 :
	Self-Directing High (SE)	:				::		:			::	-	•	· :	· : : : :
		: • • • • • •	11%:			:: 	823	: 	507 :	507	::	507	X	: 0	: 507 :
	Total	:	100%:	17	. 026		8,480	:	4,273 :	4, 273	::	3, 195	953	: 1, 395	: 5, 542 :

ŧ.,
Long Term Care Projections: 1990 Cohor\*

Calculation of Total Annual Days, ADC, and Housing Units or Beds at 100% & 90% Occupancy (O.R.). for People Needing Pracement

#### 1990 Cohnrt

258 k 4

Setting Needed	: Number : Need Ser :At Each S	Who:Aver vice:Care etting:	age Days of /Person/Yr : (days) :	Total Days (AvgDys®N)	: Annual ADC:   : 100% O.R. : E : (Dys/365) :	lousing or leds @ 90%: (ADC/.9)
Housing	:	3,195 :	182 :	581, 455	1, 593 :	1.770
HRF	:	953	136	129, 541	355	394
SNF	:	1,395	100	139, 474	382	425
Total		5, 542 :	NA :	850,470	2,330	2, 589

Long Term Care Projection-NYC AIDS Task Force

÷1.

1991 Conort

PROJECTED 1991		
DISCHARGES (1)	60, 369	From the acute care model
ADJUSTED 1991		
DISCHARGES (2)	32, 961	Projected discharges (Row 1) * .546
NUMBER OF DISCHARGES		
ADJUSTED FOR DEATHS (3)	25, 578	Adjusted discharges (Row 2) * 776
NUMBER OF		
DISCHARGES/PERSON (4)	1.24	Discharges adjusted for death (Row 3)/1.24
ADJUSTED AIDS/HIV	INPUT	Estimate of the number of adults who will have a post discharge need for
CASELOAD FOR 1991 (5)	20, 628	housing, long term care and/or home care. Equal to 42.2% of the total projected discharges in Row 1

Long Term Care Projections 1991 Cohort Proportion of Persons Needing Care at Each Level of Service and in Each Setting

ADJUSTED AIDS/HIV

CASELOAD FOR 1991 (5)

20,628 Estimated number of adults who will have a post-discharge need for housing. long term care and/or home care

		:	:	(9)			(10)	:	
		-	: Current	Housing Sta	itus :	Settings o	f Care for T	hose Who :	
	(7)	(8) :	:		:	Need Housin	ng & Long Te	rm Care	
Level of Care	: % of Total	Number of :	: (9A) :	(9B)	(9C)		:	: 1	lotal in <sup>.</sup>
Needed (6)	AIDS/HIV	People at Each :	: Have a :	Precarious:	Need	(10A) :	(10B)	(10C)	Need of :
	: Caseload/Level	: Level of Care :	: Home :	Housing	Housing	Housing	HRF	SNF : P	Placement
Non Directing	· · · · · · · · · · · · · · · · · · ·		• • • • • • • • • • • • • • • • • • • •						•••••••••
Intermediale (6A)	6%	1, 155	: <b>7%</b> .	47%:	47%	<b>X</b> .	100%	X	100%
Non-Directing			:	•	:	: :	:	-	,
High (6B)	8%:	<b>1,691</b> :	: <b>9%</b> :	<b>45%</b> :	45%	: <b>X</b> :	<b>X</b> :	100%	100%
Self-Directing					:		:		:
Low (6C)	: 51%	<b>10,438</b> :	74%	1.3%:	1 3%	: 13%:	<b>X</b> :	<b>X</b> :	1 3%:
Sell-Directing		: · ·				: :	:		
Intermediate (6D)	25%	5,136 :	: 25%	37%:	37%:	: 37%:	<b>X</b> :	<b>X</b> :	<b>37%</b> :
		: :	: :	:	:	: :	:	:	:
Sell-Directing	:	: :	: :	:	:	: :	:	:	:
High (6E)	11%	2,228	. :	28%:	28%:	: 28%:	X :	0%:	28%:
Total	100%	20, 648 :	50%	2 5%:	2 5%	: <b>19%</b> :	<b>6%</b> :	<b>8%</b> :	33%

Long Term Care Projections. 1991 Cohort Number of Person's Needing Care at Each Level of Service and in Each Setting

20, 628

#### 1991 Cohnrt

ADJUSTED AIDS/HIV

CASELOAD FOR 1991 (5)

Estimated number of adults who will have a post discharge need for housing long term care and/or home care

						11		(	(9)		٠.			(10)					
						::	Current	Housi	ing Sta	itus	::	Settings	ef C	are for	Th	ose Who	·		;
			(7)		(8)	::					::	Need Hous	ing .	& Long	Ter	m Care	;		:
	Level of Care	:	% of Total	: Nur	wher of	::	(9A)	: (9	<b>)B)</b> :	(9C)					:		: To	tal in	
	Needed (6)	:	AIDS/HIV	People	at Each	::	Have a	: Preca	rious:	Need	::	(10A)	:	(108)	:	(10C)	: N	eed 'of	
		:	Caseload	: Level	of Care	::	Home	Hous	ing :	Housing	;;	Housing	:	HRF	:	SNF	: Pt	a c emen t	ł
	Non-Directing	:		:		• : :	· · · · · · · · · · · · · · ·						:		•••		••••		
N	Intermediate (6A)	:	6	<b>X</b> :	1, 155	;::	11		539 :	539	::	X	:	1155	:	X	:	1155	;
2		:		: .		::		;	:		::		:		:		:		:
8	Non-Directing	i,				::		:	:		::		:		:		:		:
S	High (6B)	:	8	<b>X</b> :	1,691	::	154	;	769 :	769	::	X	:	X	:	1691	:	1691	:
		. :		:		::		:	:		• ;		:		:		:		;
	Self-Directing	;		:		::			. :		::		:		:		:		:
	Low (6C)	• :	51	<b>%</b> :	10, 438	::	7755	:	1341 :	1341	::	1341	:-	X	:	X	:	1341	:
		:		:		::		: .	:		::		:		:		:		:
	Self-Directing	:		:		11		:	- :		::		;		:		:		:
	Intermediate (6D)	:	25	<b>%</b> :	5, 136	::	1299		1918 :	1918	::	1918	:	X	:	X	:	1918	:
		:		:		::		:	:		::		:		÷		:		:
	Self-Directing	:		:		::		:	. :		::		:		:		:		:
	High (6E)	:	11	<b>%</b> :	2,228	::	998	:	615 :	615	::	615	:	X	:	0	:	615	:
	Total		100	<b>%</b> :	20, 648	••••	10, 284	: 1	5, 182 :	5, 182	::	3, 874	:	1, 155		1, 691	:	6, 721	:

# WARK CITY AIDS TASK FORCE

Long Term Care Projections: 1991 Cohor\* Calculation of Total Annual Days. ADC, and Beds at 90% Occupancy for People Needing Placement

1991 Cohort

Setting Needed	.: Number Who : Need Service :At €ach Setti	: A1 : Ca ng:	verage Days of are/Person/Yr : (days) :	Total Days (AvgDys*N)	: Annual ADC: 100% O. R. : : (Dys/365) :	Housing or Beds @ 90%. (ADC/.9)
Housing	3, 87	4 :	182 :	705, 154	1,932	2, 147
HRF	1, 15	5	136	157,099	430	478
SNF	1,69	1	100	169, 146	463	515
N Total	6, 72	1	NA :	1,031,399	2,826	3, 140

Long Term Care Projection-NYC AIDS Task Force

1992 Cohort

PROJECTED 1992		
DISCHARGES (1)	71, 348	From the acute care model
ADJUSTED 1991		
DISCHARGES (2)	38, 956	Projected discharges (Row 1) * .546
NUMBER OF DISCHARGES		
ADJUSTED FOR DEATHS (3)	30, 230	Adjusted discharges (Row 2) * ,776
NUMBER OF		
DISCHARGES/PERSON (4)	1.24	Discharges adjusted for death (Row 3)/1.24
ADJUSTED AIDS/HIV	INPUT	Estimate of the number of adults who will have a post-discharge need for
CASELOAD FOR 1991 (5)	24, 379	housing, long term care and/or home care. Equal to 42.2% of the total projected
		discharges in Row 1

258 m1

# NEW YORK CITY AIDS TASK FORCE

## Long Term Care Projections. 1992 Cohor<sup>1</sup> Proportion of Persons Needing Care at Each Level of Service and in Each Setting

24.379

#### ADJUSTED AIDS/HIV

CASELOAD FOR 1992 (5)

#### Estimated number of adults who will have a post-discharge need for housing. long term care and/or home care

					11		(9)	•		(10)		:
					:: C	urrent Ho	using Statu	us ::	Settings o	f Care for 1	hose Who	
		(7	)	(8)	: *			11	Need Housi	ng & Long To	rm Care	
	Level of Care	: % of T	otal : I	Number of	:: (9	A) :	(9B)	(9C)	:	:		Total in
1	Needed (6)	: AIDS/	HIV : Peo	ple al Each	:: Hav	e a 🛛 : Pr	ecarious:	Need ::	(10A) :	(108)	(10C)	Need of :
		: Caseload	/Level : Le	vel of Care	.: Ho	me : H	ousing 🗧 I	lousing	Housing :	HRF :	SNF	Placement
	Non-Directing							· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		
5	Intermediate (6A)		<b>6%</b> :	1, 365		7%	4.7%:	4.7%	X ·	100%	x	100%
11	Non-Directing	• •					:		:			
D	High (6B)	. •	8%:	1, 999		<b>9%</b> :	45%:	45%: :	<b>X</b> :	<b>X</b> :	100%	100%
)	Sell-Directing				::	:	:	::	:	:		:
	Low (6C)	:	51% <sup>-</sup>	12, 336		74%:	13%:	13%: :	13%:	X	x	13%
	Self-Directing	:			•••			::	. :	:		
	intermediate (6D)	:	25%:	6,070	::	2 5%	37%	37%::	37%	<b>X</b> :	x	37%
	Self-Directine	· .	:		::	:	:	::	:	:		:
	High (6E)		11%:	2,633	::	45%	28%	28%: :	28%:	<b>X</b> :	0%	28%
	Total	· · · · · · · · · · · · · · · · · · ·	100%:	24, 403	····· ::	50%:	25%	25%	19%:	 6%:		

Long Term Care Projections: 1992 Cohor<sup>1</sup> Number of Persons Needing Care at Each Level of Service and in Each Setting

1992 Cohnrl

## ADJUSTED AIDS/HIV

	CASELOAD FOR 1992 (5)	24.379	Estimated tong term	nu ca	mber of adu re and/or l	ults who home car	o wit re.	l have a p	ost	-dischar	ie i	need for	housi	ng		
				. •		(!	9)					(10)				
	·			:':	Current	Housi	st.	atus	::	Settings	o f	Care for	Thos	e Who		
		(7)	(8)	::			•		::	Need Hous	. i n	g & Long	Term	Care	:	1
	Level of Care	% of Total	Number of	:	(9A)	(9)	3)	(9C)	::				:		: Total 'in	j.
	Needed (6)	AIDS/HIV	People at Each	::	Have a	Preca	ious	Need	: :	(10A)		(10B)	: (	10C)	Need of	
		Caseload	Level of Care	::	Home	Hous	ing	Housing	::	Housing	:	HRF	:	SNF	: Placemen	t.
N	Non Directing		•••••					·····	• : :						:	•••
C) C)	Intermediate (6A)	6%	1, 365		91		637	637	::	X	:	1365	:	X	: 1365	:
	Non-Directing	*							•••		:	•				
22	High (6B)	: 8%	i 1, 999		182		909	909		X	:	X	:	1999	: 1999	) :
		:	:	::		, •		:	::		:		:		:	
	Sell-Directing	:	:	: •		:		:	::		·		:		:	:
	Low (6C)	51%	12, 336	::	9165	: 1	585	: 1585	::	1585	:	x	:	X	: 1585	:
		:	: •	::		:		•	::		:		:		:	:
	Sell-Directing	:	:	::		:		:	::		÷		:		:	:
	Intermediate (6D)	: 25%	6,070	::	1536	: 1	2267	2267	::	2267	:	·X	:	X	: 2267	:
		:	:	::		:		:	11		:		÷		:	:
	Sell-Directing		:	:;		:		:	• : :		:		: .		:	:
	High (6E)	:	2,633	::	1180		121	: 727	::	727	:	X		0	: 727	:
	Total	100%	24, 403		12, 154	: 6,	125	6, 125	::	4, 579	:	1, 365	:	1, 999	7,943	) :

Long Term Care Projections: 1992 Cohpri Calculation of Total Annual Days, ADC, and Beds at 90% Occupancy for People Needing Flacement

1992 Cohort

Setting Needed	· Number Who : : Need Service : :At Each Setting:	Average Days of: Care/Person/Yr : (days)	Total Days (AvgDys®N)	: Annual ADC : 100% O. R. : (Dys/365)	:Housing or :Beds @ 90%. : (ADC/.9)
Housing	4, 579	182 :	833, 397	2,283	2, 537
HRF	1, 365	136	185, 670	509	565
SNF	1, 999	100	199, 907	548	609
Total	7, 943	NA :	1, 218, 974	3, 340	3,711

258 m4

Long Term Care Projection-NYC AIDS Task Force

1993 Cohort

	PROJECTED 1993		
	DISCHARGES (1)	82.449	From the acute care model
	6001 G117111 G		
	DISCHARGES (2)	45,017	Projected discharges (Row 1) * .546
	NUMBER OF DISCHARGES		
	ADJUSTED FOR DEATHS (3)	34, 933	Adjusted discharges (Row 2) * 776
	NUMBER OF		
	DISCHARGES/PERSON (4)	1 24	Discharges adjusted for death (Row 3)/1.24
	ADJUSTED AIDS/HIV	INPUT	Estimate of the number of adults who will have a post discharge need for
	CASELOAD FOR 1993 (5)	28, 172	housing, long term care and/or home care. Equal to 42.2% of the total projected
3	1		discharges in Row 1.
00			
1 1			

. . .

Long Term Care Projections 1993 Cohort Proportion of Persons Needing Care at Each Level of Service and in Each Setting

28.172

## ADJUSTED AIDS/HIV

.

CASELOAD	FOR	1993	(5)	

Estimated number of adults who will have a post-discharge need for housing for four housing term care and/or home care

						:.			(9)		; .			(10)			
						::	Curre	ent	Housing Sta	tus .	::	Settings	01	Care for	Those Wh	0	
		(7)		(8)		::					::	Need Hous	sing	& Long	lerm Care		
	Level of a se	: % of Total	:	Numb e r	01	::	(9A)	:	(98)	(9C)	::		·			Tot	al in .
	Needed (6)	: AIDS/HIV	: P	People at	Each	::	Have a	:	Precarious:	Need	11	(10A)	:	(108)	(10C)	: Ne	ed of .
		:Caseload/Lev	el :	Level of	Care	::	Home	;	Housing :	Housing	::	Housing	:	HRF	SNF	Pla	c emeņt
	Non-Directing	••••••	· · · · · · :			· · · ·					• • •			• • • • • • • • • •		••••	•••••
	Intermediate (6A)		<b>6%</b> :		1, 578	÷ .		<b>7%</b> :	47%	47	× ·	x		100	6 X		100%
で			:			::											
C	Non-Directing		;			: -		:	1				:			:	
00	High (6B)		8%:	:	2, 310	::		<b>9%</b> :	45%:	45	<b>X</b> ::	X	;	X	. 10	0%:	100%
2		:	:			::		;	:		: '		:			:	
ng:	Sell-Directing	:	:			::			· ;		:.				:	:	:
	Lew (6C)	:	51%:	14	1, 255	::	2	74%:	13%:	13	<b>X</b> . :	1 39	6:	X	: X	:	1,3%
		:	:			::		:	. :		::		:		:	:	:
	Self-Directing	:	:			::		:	:		::		:		:	:	:
	Intermediate (6D)	:	25%:		7,015	::		2 5%:	37%:	37	<b>%</b> :::	379	<b>K</b> :	X	: X	:	37%:
		: .	:			::		:	:		::		:		:	:	:
	Self-Directing	:	:			::		:			::		:		:	:	:
	High (6E)	:	11%:		3, 043	::		45%:	28%:	28	<b>%</b> :::	289	K:	X	:	<b>0%</b> :	28%:
	Total	: 1	00%:	2	8,200	••••		50%:	<b>2 5%</b> :	25	<b>%</b> ::	191	 K:	65		<b>8%</b> :	33%:

# NEW YORK CITY AIDS TASK FORCE

Long Term Care Projections: 1993 Cohort Number of Persons Needing Care at Each Level of Service and in Each Setting

1993 Cohor

ADJUSTED AIDS/HIV CASELOAD FOR 1993 (5)

NOLLAND LAW 1333 (3)

28.172 Es

Estimated number of adults who will have a post discharge need for housing long term care and/or home care.

					;			(9)			::		(10)		:	• :
					;	: Cu	rrent	Housing S	ital	tus	::	Settings	of Care for	Those Who	•	:
			(7)	(8)	;						: :::	Need Hous	ing & Long	lerm Care		;
	Level of Care	:	% of Total	Numb e r	of :	: (9A	)	(98)	÷	(91)	11				: Total	ih :
	Needed (6)	ed (6) : AIDS/HIV : People at Each :: Have a : Precario		S:	Need	1	(10A)	(10B)	(10C)	: Need	ed of "					
2		:	Caseload :	Level of	Careit	: Hom	9	Housing	;	Housing	::	Housing	: HRF	SNF	: Placew	nen t :
5	Non-Directing		:		•••••					• • • • • • • • • •	•					:
3 n 3	Intermediate (6A)	:	<b>6%</b> :	1	, 578 :	:	106	736	:	736	::	X	: 1578	B : X	; 15	78
	Non-Directing				:	:			:		::		•		: .	:
	High (6B)	:	8%:	. 2	310 :	: .	210	1050	) :	1050	::	X	: <b>X</b>	2310	: 23	10 :
	Sell-Directing	:			:	:		:	:		4 : : :		•	:	:	:
	Low (6C)	:	51%:	14	, 255 :	: 1	0591	1832	:	1832	::	1832	: X	X	: 18	32 :
	Sell-Directing	:	:					: :	:		::			:	:	:
	intermediate (6D)	:	2 5%:	7	, 015 :	:	1775	2620	):	2620	::	2620	: X	: <b>X</b>	: 26	20 :
	Self-Directing	:	:		:	:		:	:		::		:	:	:	:
	High (6E)	:	11%:	3	, 043 :		1 36 3	840	):	840	::	840	: X	: 0	: 8	40 :
	Total	····· :	100%:		, 200			7,077	 1 : :	7: 077	••••	5, 292	: 1, 571	B: 2,310	: 9,1	····: 79 :

Long Term Care Projections: 1993 Cohor+ Calculation of Total Annual Days. ADC. and Beds at 90% Occupancy for People Needing Flacemen!

258 n4

Setting Needed	: Number Who :Av : Need Service :Ca :Al Each Selling:	erage Days of: re/Yr/Person : (days) :	Totai Days (AvgDys*N)	ADC (Dys/365)	: Beds : : (ADC/. 9)
Housing	5, 292	182 :	963, 065	2,639	2,932
HRF	1, 578	136	214, 558	. <b>588</b>	653
SNF	2, 310	100	231,011	633	703
Total	9. 179	NA 2	1, 408. 634	3, 859	4.288

THE WORK GITY AIDS TASK I CAN

<sup>1993</sup> Cohort

TABLE FOR HOME HEALTH CARE PROGRAM ESTIMATES

18 April 1989

### Home Care Estimates for the NYC AIDS Task Force Needs Assesment Work Group Report

		Home Care	Home Care	Home Care	Periodic	Continuous	Para-
	Number of	Enroliment	Avg Daily	Enroliment	Nurse	LPN or RN	Professional
Level of Service	Individuals	Days	Enroliment	Days	Visits	Hours	Hours
Intermediate	3, 400	462,400	1, 267	462,400	32,830	0	1, 965, 200
High	1, 475	147, 500	404	147, 500	21,078	343, 675	1, 370, 275
Total	4, 875	609, 900	1,671	609, 900	53,908	343, 675	3, 335, 475
				: .			
Intermediate	4, 235	575, 960	1,578	575, 960	40, 893	0	2, 447, 830
High	1,837	183, 700	503	183, 700	26, 251	428, 021	1, 706, 573
Total	6,072	759, 660	2,081	759,660	67, 144	428,021	4, 154, 403
Intermediate	5,136	698, 496	1, 914	698, 496	49, 593	0	2, 968, 608
High	2, 228	222, 800	610	222, 800	31, 838	519, 124	2, 069, 812
Total	7, 364	921, 296	2, 524	921, 296	81, 431	519, 124	5, 038, 420
Intermediate	6,070	825, 520	2, 262	825, 520	58, 612	0	3, 508, 460
High	2,633	263, 300	721	263, 300	37,626	613, 489	2, 446, 057
Total	8, 70,3	1, 088, 820	2, 983	1, 088, 820	96, 237	613, 489	5, 954, 517
Intermediate	7,015	954, 040	2,614	954, 040	67, 737	0	4, 054, 670
High	3,043	304, 300	. 834	304, 300	43, 484	709, 019	2, 826, 947
Total	10, 058	1,258,340	3, 448	1, 258, 340	111,221	709, 019	6, 881, 617
	Level of Service Intermediate High Total Intermediate High Total Intermediate High Total Intermediate High Total Intermediate High Total	Number of IndividualsIntermediate3,400High1,475Total4,875Intermediate4,235High1,837Total6,072Intermediate5,136High2,228Total7,364Intermediate6,070High2,633Total8,703Intermediate7,015High3,043Total10,058	Home Care   Number of Enrollment   Level of Service Individuals Days   Intermediate 3,400 462,400   High 1,475 147,500   Total 4,875 609,900   Intermediate 4,235 575,960   High 1,837 183,700   Total 6,072 759,660   Intermediate 5,136 698,496   High 2,228 222,800   Total 7,364 921,296   Intermediate 6,070 825,520   High 2,633 263,300   Total 8,703 1,088,820   Intermediate 7,015 954,040   High 3,043 304,300   Total 10,058 1,258,340	Home Care Number of Level of ServiceHome rof IndividualsHome Care EnrollmentHome Care Avg Daily EnrollmentIntermediate3,400462,4001,267High1,475147,500404Total4,875609,9001,671Intermediate4,235575,9601,578High1,837183,700503Total6,072759,6602,081Intermediate5,136698,4961,914High2,228222,800610Total7,364921,2962,524Intermediate6,070825,5202,262High2,633263,300721Total8,7031,088,8202,983Intermediate7,015954,0402,614High3,043304,300834Total10,0581,258,3403,448	Home Care EnrollmentHome Care EnrollmentHome Care EnrollmentHome Care EnrollmentLevel of ServiceIndividualsDaysEnrollmentDaysIntermediate3,400462,4001,267462,400High1,475147,500404147,500Total4,875609,9001,671609,900Intermediate4,235575,9601,578575,960High1,837183,700503183,700Total6,072759,6602,081759,660Intermediate5,136698,4961,914698,496High2,228222,800610222,800Total7,364921,2962,524921,296Intermediate6,070825,5202,262825,520High2,633263,300721263,300Total8,7031,088,8202,9831,088,820Intermediate7,015954,0402,614954,040High3,043304,300834304,300Total10,0581,258,3403,4481,258,340	Home Care IntermediateHome Care IndividualsHome Care EnrollmentHome Care Avg Daily EnrollmentHome Care EnrollmentHome Care EnrollmentHome Care EnrollmentHome Care EnrollmentHome Care EnrollmentHome Care EnrollmentHome Care EnrollmentHome Care 	Home Care Home Care Home Care Home Care Home Care Enrollment Nurse LPN or RN   Level of Service Individuals Days Enrollment Days Visits LPN or RN   Intermediate 3,400 462,400 1,267 462,400 32,830 0   High 1,475 147,500 404 147,500 21,078 343,675   Total 4,875 609,900 1,671 609,900 53,908 343,675   Intermediate 4,235 575,960 1,578 575,960 40,893 0   High 1,837 183,700 503 183,700 26,251 428,021   Total 6,072 759,660 2,081 759,660 67,144 428,021   Intermediate 5,136 698,496 1,914 698,496 49,593 0   High 2,228 222,800 610 222,800 31,838 519,124   Intermediate 6,070 825,520 2,262

a.

# TABLES FOR THE AMBULATORY CARE ESTIMATES

18 April 1989



# Table La - Calculation of the Number of Cases at Various Stages of Disease Progression Who Will Require Ambulatory Care Visits at Different Levels of Necc

Table 16 -- Calculation of HIV+ Asymptomatic Cases and the Increase in the HIV Infection Post

Cumulative HIV Infection Pool (1988) Less Cumulative Mortality (as of 12/31/88)	200.000
Cumulative HIV Infection Pool (as of 1/1/89) plus New Entrants into HIV Infection Pool *	182,900
Cumulative HIV Infection Pool (1989)	186, 900

4

(A) Calculation of HIV+ Asymptomatic Cases	1989	1990	1991	1992	1993	1994
		· · · · · · · ·		· · · · · · · ·	, • • • • • • • •	
Cumulative HIV Infection Pool	186, 900	183, 578	178,660	172,013	163, 553	153, 194
less CDC-AIDS and HIV+ Symptomatic Cases	47, 751	55, 118	62, 596	70, 130	77, 761	
	· · · · · · ·	· · · · · · · ·	••••	• • • • • • • •	· • • • • • • •	
HIV+ Asymptomatic Cases	139, 149	128,460	116,064	101 883	85, 792	

# (B) Calculation of New Entrants to the

. .........

Infection Pool

258 p3

Cumulative HIV Infection Pool (as of 1/1/xx). Jess Annual Mortality	186, 900 7, 060	183, 578 8, 590	178,660 10,220	172,013	163, 553 13, 630
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·	••,•••••	· · · · · · · · ·	••••••	
HIV Infected Cases (Alive as of 12/31/kk)	179,840	174, 988	168, 440	160, 113	149, 923
plus Newly Infected Persons (at a rate of 2%					
of 1988 Cumulative HIV Infection Pool) *	3,738	3, 672	3, 573	3, 440	3, 271
· · · · · · · · · · · · · · · · · · ·		·····.			· · · · · · · ·
	183, 578	178,660	172,013	163, 553	153, 194

Yeers as w/ CDC-Years Following Diagno Years as HIV+ Symptomatic AIDS of CDC-AIDS HIV+ Asympt 3 2 1 0 1 2									
Years as HIV+ Symptomatic AIDS of CDC-AIDS HIV+ Asympt 3 2 1 0 1 2			Yes	112 83		w/ CDC-	Years Folio	wing Dia	inos i s
HIV+ Asympt 3 2 1 0 1 2		Years as	HIV+ Symptomatic AIDS		of CDC-AIDS				
	Ŧ	HIV+			<b></b>				
		A symp t	· 3	. 2	-1	0	1	2	3

# Table 2 - Number of Ambulatory Care Visits Required over the Course of Disease Progression

#### Visits per Person 18 27 27 27 1 Per Year



• • • • • • • •







Table 3 -- Estimate of Physician Visits in No

	1989	1990	1991	1992	1993
	33.777				
	161,820				
	75.250	42, 876			
		193, 500			
	50,000	87, 500	54, 972		
			225,000		
	57, 040	57,040	99, 820	68, 310	
				256, 680	
		64,080	64,080	112, 140	84, 267
					288, 360
			71,120	71, 120	124, 460
				78, 160	78,160
					85, 200
	· · · · • • • •			•••••	
CDC - AIDS	195, <b>59</b> 7	236, 376	279, 972	324, 990	372,627
HIV+ Symptomatic	182, 290	208,620	235, 020	261, 420	287, 820
HIV+ Asymptomatic	556, <b>59</b> 6	513,840	464, 254	407, 531	343, 168
Total Visits	934, 483	958, 836	979, 246	<b>9</b> 93, 941	1. 003, 615

# New York City AIDS Task Force

Section IV

# Cost Assessment

# Cost Assessment Work Group Membership

#### Co-Chairmen:

Mark J. Kator Executive Director Coler Memorial Hospital

#### Members:

Jeffrey Frerichs Executive Vice President Cabrini Medical Center

Gerry Goodrich Manager Peat Marwick Main & Co.

Thomas J. Hayes Executive Vice President, Finance Beth Israel Medical Center

Eileen Hanley, R.N.,B.S.N. Director, AIDS Services Visiting Nurse Home Care Services of New York

James Knickman, Ph.D. Professor and Director, Health Research Program New York University Michael R. McGarvey, M.D. Corporate Vice President, Health Affairs Empire Blue Cross Blue Shield

Donna Parrish Senior Director, Corporate Reimbursement Services Health and Hospitals Corporation

Dana Eisenman Sherwin Vice President, Health Finance Greater New York Hospital Association

Peter Ungvarski, M.S., R.N., C Clinical Nurse Specialist - HIV Infection Visiting Nurse Home Care Service of New York

Mitchell Waife Vice Chairman The Jewish Home and Hospital for the Aged

The Work Group is indebted to the following individuals for their invaluable input:

Paula Gambill Health Policy Specialist Empire Blue Cross Blue Shield

Caroline Greene Vice President for Planning Cabrini Medical Center (alternate for Jeffrey Frerichs) Linda McBride Associate Director Coler Memorial Hospital

Dov Schwartzben Director, Economics Greater New York Hospital Association (alternate for Dana Eisenman Sherwin)

#### Support staff for the Data Work Group:

Suzan Carrington Associate Director New York City AIDS Task Force

Glenna R. Michaels Director New York City AIDS Task Force Special thanks to:

John M. Kenney *Principal* Architecture for Health, Science and Commerce, P.C.

# **Executive Summary**

HIS report estimates for the period 1989-1993 the cost of providing selected health and social services to persons with AIDS and HIV-related illnesses in New York City to be \$7,036 million.

Figure 1 sets forth these costs by year and by type of service.

The impact of these costs on Federal, State and City governments as payors for care, is set forth in Figure 2 below. Estimates of the impact on private insurers are also displayed.

Capital costs associated with the development of needed facilities are estimated to be \$712 million. Figure 3 below sets forth the allocation of capital funds among categories of facilities to be renovated or constructed.

# Approach to Estimating Costs

This report is the product of one of six interrelated working groups of the New York City AIDS Task Force and builds upon the body of analysis previously completed by the other groups.

Figure 1 Summary of Costs for Selected HIV-Related Services in New York City, 1989-1993 (\$ millions)								
Services	1989	1990	1991	1992	1993	Total*		
Acute Care	\$628	\$ 782	\$ 955	\$ 938	\$1,105	\$4,409		
SNF Care**	21	26	26	75	87	235		
HRF Care***	-	6	11	53	61	130		
MD Visits	88	94	99	105	111	496		
Home Hith.Care	70	- 88	121	161	194	634		
Sup.Housing	2	3	41	86	100	233		
Proph. drugs & blood transf.	172	176	181	184	186	899		
Total*	\$980	\$1,176	\$1,435	\$1,602	\$1,844	\$7,036		

The report estimates the cost of providing needed services to persons with AIDS and HIV-related illnesses in New York City for the period 1989-1993. It undertakes no analysis of the adequacy of current insurance systems to pay for the services, nor does it attempt to assess the capacity of City, State or private organizations to absorb these costs. Rather, the Cost Assessment Work Group has attempted to set forth

Figure 2 Allocation of Five Year Costs by Payor (\$ millions)									
Services	Federal	State	City	Private Insurers	Other*	Total			
Acute Care	\$1,206	\$ 543	\$ 791	\$1,294	\$573	\$4,40			
SNF Care	112	89	22	•	12	23			
HRF Care	62	49	12	-	7	130			
MD Visits	136	61	89	146	64	490			
Home Hith.Care	301	216	54	63	0	634			
Proph. Drugs & blood transfusic	246 on	111	161	264	116	899			
	\$2,063	\$1,069	\$1,129	\$1,767	\$772	\$6,80			
% Health Care Co	osts 30%	16%	17%	26%	11%				
Supportive Housi	ng					233			
					Total	\$7.03			

what it believes to be the best and most reasonable estimates of the cost of delivering some major HIVrelated services through 1993.

The Cost Assessment Work Group has taken as its service units the projections of needed services developed by the Needs Assessment Work Group. For the methodologies and assumptions employed in projecting needed services reference should be made to the report of the Needs Assessment Work Group.

The basic methodology of this report was derived by determining a unit price for each type of service, e.g.,

#### 262 NEW YORK CITY AIDS TASK FORCE

	Capital Cor Health Ca	) nstruction ( re Beds an 1989-199	Figure 3 Costs for N d Supporti 3 (\$ thous	ew and Renov ve Housing U ands)	vated inits
	Acute Care	SNF Care	HRF Care	Housing	Total
Total	\$434,415	\$50,661	\$61,776	\$165 <i>,</i> 490	\$712,342

cost/paitent day, cost/visit, and multiplying the unit price by the projected volume of service for each year. To determine the cost of home health care services, a new methodology was developed. This report explains how the unit prices were developed and what specific methodologies were used to arrive at the estimates. Most unit costs are based on existing reimbursement rates. In some instances they are adjusted to reflect actual costs and are so noted.

No attempt has been made to adjust future costs to reflect inflation factors. All costs are stated in 1989 dollars.

Cost estimates are provided for six categories of service: acute inpatient services, skilled nursing facility (SNF) services, health related facility (HRF) services, outpatient physician visits, supportive housing, and home health care services. In addition, the cost of prophylactic pharmaceuticals and blood transfusions is also estimated.

Because of time constraints and lack of sufficient data, the work group was unable to project the cost for many other important services such as inpatient and outpatient pediatric services, substance abuse treatment, mental health services, dentistry and HIV counseling and testing. Nor was the work group able to estimate the cost of nonclinical HIV-related programs such as community-based support services, research and epidemiological studies, prevention and education programs, legal and anti-discrimination services and administrative and coordinating activities.

New acute care beds, new SNF care beds, new HRF care beds, and new housing units will need to be developed in order to

provide adequate services to persons with AIDS and HIV-related illnesses. This report estimates the capital costs associated with the development of these added units.

The additional beds and housing units will be developed through a combination of renovation and existing facilities and construction of new facilities and are added to the system at various times over the next five years.

For each of the services costed out, a discussion of findings and methodology is presented. Where possible, unit costs have been developed based on existing payment rates for that service. In some instances these rates have been adjusted for reasons explained in the text.

The annualized costs attributable to capital costs construction plus financing—are included as a component of operating costs and displayed in the relevant tables and figures.

Throughout the report the numbers in the "Figures" are expressed in round numbers. "Tables" refer to detailed sets of numbers found in Appendix A.

# **Report of the Cost Assessment Work Group**

# **Construction Cost of Health Facilities**

and Supportive Housing

To meet the needs of persons with AIDS and HIVrelated illnesses, new health facilities and additional supportive housing will be required. Figure 4 indicates their estimated construction costs. These estimates do not include land acquisition costs, but do include design fees. The needed capital outlays are estimated to be \$712 million over the next five years. This amount will produce 1,191 additional acute care beds, 961 SNF and HRF beds and 2,546 units of housing. The estimated capital construction costs for new construction are: for acute care \$534,440/bed; for SNF care \$117,000/bed and; for supportive housing \$65,000/unit. The renovation costs for acute care are estimated to be \$219,147/bed.

# Annual Operating Costs of Providing HIV-Related Services

As indicated in Figure 5, the total five year cost of providing services to persons with AIDS and HIV-

related illnesses is estimated to be \$7,036 million. If funds are expended as esti-mated, over the five year period 63% of all costs will be for acute care services, 7% for physician services, 13% for prophylactic pharmaceuticals and blood transfusions and 17% for residential services (SNF, HRF, home health care and housing).

•	Estin Acute (S	Figure 6 nated Cost of Inpatient Care \$ millions)
		5 Year
•	1989 1990 1991 1992 1993	\$ 626 762 955 938 1,105
	Total	\$4,409
	*Total does	not add due to rounding.

#### **Acute Inpatient Services**

METHODOLOGY: The operating cost of inpatient acute care was calculated by multiplying the projected days

	Figure 4 Capital Construction Costs for New and Renovated Health Care Beds and Supportive Housing Units 1989-1993 (\$ thousands)				
	Acute Care	SNF Care	HRF Care	Housing	Total
New Construc. Renovation	<b>\$293,942</b> 140,473	\$50,661	\$61,776 -	\$165,490	\$571 <i>,</i> 869 140,478
Total	\$434,415	\$50,661	\$61,776	\$165,490	\$712,342

Figure 5 Summary of Costs for Selected HIV-Related Services in New York City, 1989-1993 (\$ millions)							
Services	1989	1990	1991	1992	1993	Total*	%
Acute Care	\$628	\$782	\$ 955	\$ 938	\$1,105	\$4,409	63
SNF Care	21	26	26	75	87	235	3
HRF Care		6	11	53	61	130	2
MD Visits	88	94	99	105	111	496	7
Home Hith.Care	70	88	121	161	194	634	9
Sup.Housing	2	3	41	86	100	233	3
Proph. drugs & blood transfusic	172 הא	176	181	184	186	899	3
Total*	\$980	\$1,176	\$1,435	\$1,602	\$1,844	\$7,036	100%
* Totals do not add due	to rounding						

of care by a per diem rate of \$800. The \$800 per day figure was derived from an average daily rate established for AIDS Designated Center hospitals, net of bad debt and charity care pool funds and increased by a factor of 7.5% to reflect additional costs of care for AIDS patients not included in the rates of the sample hospitals. The 1988 rates were also adjusted upward by the current Medicaid tread factor of 1.063%.

Other key assumptions used to calculate the cost of inpatient acute care include:

• The current complement of approximately 1,700 acute care beds occupied by AIDS patients will remain in use as "AIDS beds" and will continue to receive an average \$34 per diem capital payment.

#### 264 NEW YORK CITY AIDS TASK FORCE

- Additional beds for AIDS patients in 1989 and 1990 will come from the existing complement of medical/surgical beds, not from new construction or renovation, and they will remain in use as "AIDS beds" through 1993.
- Additional beds for AIDS patients in 1991 will result from renovation of existing renovation of existing facilities, and this renovation is estimated to cost \$219,147 per bed.
- New beds for AIDS patients added to the system from 1992 on will result from construction of new beds, and these beds are estimated to cost \$534,440 per bed.
- Total operating costs assume that 10% of HIVrelated acute care patient days will be on alternate level of care and will receive a per diem rate of \$320 (40% of \$800/day).
- Construction costs are amortized over 40 years at an interest rate of 10%.

#### Skilled Nursing Facility Services (SNF)

Figure 7 Estimated Cost of Skilled Nursing Services (\$ millions) 5 Year		
		es
1989	\$ 21	P
1990	26	A
1991	26	
1992	75	si
1993	- 87	th
		C
Total	\$ 235	\$
		ם ב

METHODOLOGY: Days of NF care were multilied by \$350 per day o derive an annual perating cost. The 350 represents an stimate of the costs of roviding services to IDS patients at the NF level of care and gnificantly exceeds ne average New York ity Medi-caid rate of 122/ day currently aid to SNF's

The \$350 Figure was developed based upon two primary considerations. First, the cost of care for AIDS patients at Goldwater and Coler Hospitals (chronic care municipal hospitals within the Health and Hospitals Corporation system) indicate that \$350 per day is a reasonable estimate. Second, a number of cost finding studies conducted on behalf of various organizations reviewing the possibility of providing long-term care services to AIDS patients also suggest that \$350 is a reasonable cost assumption.

The dapital cost estimate of \$177,000 (which excludes land acquisition costs) was developed in conjunction with an architectural study completed as part of the Cost Assessment Work Group's effort. This figure exceeds likely capital caps (although AIDS beds are partially exempted from caps) to be in effect when such beds would be built. (The mid-point construction cap for 1992 for residential health care facility (RHCF) beds is currently set at \$96,000 per bed for New York City.)

Newly constructed beds are added to the system in 1992; and the 44 beds added to the system in 1990 are beds under construction.

#### Health Related Facility Services (HRF)

METHODOLOGY: Days of HRF care are multiplied by \$250 per day to derive an annual operat- ing cost. The \$250 per day represents	Figure 8 Estimated Cost of Health Related Facility Services (\$ millions) 5 Year		
an estimate of the	1989	\$ 0	
cost of providing	1990	6	
services to AIDS	1991	11	
patients at the	1992	53	
HRF level of care. The \$250 figure	1993	61	
was derived based	Total	\$ 130	
upon discussion with a number of	"Total does not ac	ld due to rounding	

managers of residential long-term care facilities. It was concluded that HRF services would represent approximately 65-70% of the resource consumption associated with the operation of a SNF.

The construction costs associated with an HRF bed were considered to be equivalent to those of an SNF. Therefore, the dollar amount is the same as an SNF bed, \$117,000. Sixty beds from new construction are added in 1990; 42 in 1991; additional beds are added in 1992.

#### **Outpatient Physician Visits**

Methodology: The	
New York State De-	
partment of Health	
has approved the	
following outpatient	
rates for AIDS	
Designated Centers	
(operating compo-	
nent only, excludes	
capital):	
-	
Initial visit (1/lifetim	e)
Subsequent visit (1/v	ear

ETHODOLOGY: The ew York State De- artment of Health as approved the	E Outpa	Figure 9 stimated Cost of tient Physician Visits (\$ millions)	
tes for AIDS	5 Year		
esignated Centers operating compo- ent only, excludes opital):	1989 1990 1991 1992 1993	\$ 88 94 99 105 110 <b>\$ 496</b>	
l			
Initial visit (1/lifetime	<b>\$</b> 264.14		
Subsequent visit (1/ye	<b>\$243.4</b> 5		
Intermediate visit (6/	\$174.30		
<b>、</b> ,	· · · · · · · · · · · · · · · · · · ·		

Routine visit (unlimited)	\$ 66.21
Therapeutic visit (unlimited)	\$ 33.54
Transfusion - blood (proposed rate)	\$258.05
Infusion - chemotherapy	\$ 89.27
(includes selected pharmaceuticals)	

Except for blood transfusion visits, Table 7 (Appendix A) applies these rates to the estimated visit volumes. The distribution of physician visits per patient was developed with assistance from clinicians currently caring for AIDS patients.

Other key assumptions include:

- Physician visits include visits to all sites, e.g., physician offices, hospital clinics and other outpatient settings.
- AIDS Designated Center rates are applied to each visit regardless of site so as to include the cost of ancillary services such as laboratory tests or radiology procedures.

According to a cost analysis performed by the Greater New York Hospital Association in 1988, the average true cost of a blood transfusion visit is \$305,00 This has been used to determine the cost of this service.

 Costs do not include the cost of most chemotherapeutic agents.

#### Supportive Housing

METHODOLOGY: The operational costs of three types of supportive housing have been included in this report: scatter-site, group housing and clustered apartments. The per client per year operating costs for scatter-site and group housing, \$40,000 and \$22,000 respectively,

Figur Estimated Cost of S (\$ mill	e 10 upportive Housing lions)	
5 Ye	ar	
1989	\$ 2	
1990	3	
1991	41	
1992	86	
1993	100	
Total	\$ 233	
"Total does not add due to rounding		

are based on the New York City Human Resources Administration's experience of costs associated with the operation of Bailey House (a group home for persons with AIDS) and the average cost of operating scattersite apartments for similar populations.

There are no cluster apartments

for persons with AIDS in New York City at this time. The level of services associated with cluster apartments would be between those provided in a group home and those in scatter-site apartments. The operational cost for this type of housing has been estimated to be \$30,000 per client per year.

The projected units of needed supportive housing were multiplied by \$65,000 to arrive at the estimated capital cost of building new housing units. It was assumed that due to the severe housing shortage in New York City, current housing stock is not available for this type of use and must consequently be constructed. The \$65,000 was based on estimates provided by architectural consultants and the Partnership for the Homeless. The capital costs have been amortized over a 25 year period.

#### **Home Health Care Services**

METHODOLOGY: Home care costs are generally calculated in terms of hours and/or visits. However, in order to compare the cost of home health care services to the cost of institutionalized long-term care services a per diem cost for home health care had to be devel-

Figu Estimate Home Health (\$ mi	Figure 11 Estimated Cost of Home Health Care Services (\$ millions)		
5 Y	'ear		
1989	\$ 70		
1990	- 88		
1991	121		
1992	161		
1993	194		
Total	\$ 634		

oped. In order to develop these costs, weighted average costs of daily care for intermediate and high levels of home care services were developed. The total cost includes personnel costs and an estimated cost for basic supplies and pharmaceuticals. Home care costs usually reflect only personnel costs; supplies and pharmaceuticals are billed separately. For this analysis, basic average costs have been combined to reflect the full cost of home care. However, cost of expensive prophylactic pharmaceuticals and most equipment costs are not included.

The definition of intermediate and high levels of home health care services and the range of costs within each group are:

Intermediate: This level of care is equal to that provided in an HRF setting. For the purposes of calculating costs it includes at the lowest level intermittent visiting nurse (VN) visits (once every two weeks) and ranges up to 60 hours of paraprofessional service per week with periodic VN visits at the highest level. The cost ranges from \$6.36/day (for someone receiving periodic nursing visits only) to \$128.20/day (for 60 hours/week of paraprofessional service and periodic VN visits).

High: This level of care is equal to that provided in a SNF setting. For the purposes of calculating costs it includes 61 or more hours/week of paraprofessional service and can include a maximum of 24 hours/day registered professional nursing service and one VN visit per week. The costs range from \$137.02/day to \$1,063.15/day (for 24 hours/day RN services plus weekly VN visits).

#### 266 NEW YORK CITY AIDS TASK FORCE

An "average cost per day" for each level of care was calculated using a sample of 150 Visiting Nurse Service AIDS home care cases. The actual costs for each level of service during a one month period were totalled and divided by the average length of home health care enrollment for cases within that category to derive average costs per day.

The estimated average personnel cost per enrollment day for an intermediate level of care is \$89.00 and for a high level of care \$358.00. The rates used to calculate costs were:

RN visit	<b>\$</b> 95. <b>3</b> 8/visit
Home attendant/	
home health aid	\$14.16/hour
Continuous RN	\$43.73/hour
Continuous LPN	<b>\$30.81/hour</b>

Calculations for supplies and pharmaceuticals were based on a range of supplies used from the least costly (gloves) to the most costly (total parenteral nutrition) and the number of cases utilizing each with the total cost spread over the study sample to allow for services within the range. High cost pharmaceuticals, e.g., AZT, were not included and are discussed separately in this report.

Days of enrollment at each level of service were defined by the Needs Assessment Work Group (see report).

Days of home health care enrollment (and consequently, the total costs of home health care per year) may be overcounted to the extent that hospitalization occurs periodically over the course of an individual's stay at home. (See Needs Assessment, Appendix 4.) It is recognized that this approach obscures one of the major advantages of home health care which is flexibility of services offered. The care needs of HIVinfected patients are very labile and home care can be adjusted quickly to respond to those changing needs However, for purposes of cost comparison, this methodology assumes that a patient receives the same level of home health care services throughout the entire enrollment period.

Prop	hylactic	Pharmaceuticals	and Blood	Transfu	ions
------	----------	-----------------	-----------	---------	------

METHODOLOGY: Currently, there are only a few drugs such as zidovudine (AZT)	Fig Estimated Co Pharmaceuticals a (\$ n	sure 12 st of Prophylactic nd Blood Transfusions nillions)
and aerosol pen- tamidine that	5	Year
show promise of delaying or pre-	1989	\$ 172
venting the onset	1991	161
symptoms and	1992 1993	104 186
for HIV-infected individuals.	Total	\$ 899
However many		

pharmaceutical companies are in the process of developing drugs that are expected to be more efficacious than anything currently available and therefore, will prevent or drastically reduce the progression to HIV disease. Most of these new drugs will be extremely expensive. Some predict that they may cost \$11,000 or more per year per person.

		Fig	ure 13					
Allocation of Costs by Source of Funds (\$ millions)								
Services	Federal	State	City	Private Insurers	Other*	Total		
Acute Care	\$1,206	\$ 543	\$ 791	\$1,296	\$572	\$4,409		
SNF Care	112	89	22	-	12	235		
HRF Care	62	49	12	-	7	130		
MD Visits	136	61	89	146	64	496		
Home Hith Care	301	216	54	63	0	634		
Proph. drugs & blood transf.	246	111	161	264	116	899		
	\$2,063	\$1,069	\$1,129	\$1,767	\$772	\$6,803		
% Health Care Co	sts 30%	16%	17%	26%	11%			
Supportive Housing	7					233		
	-				То	tal \$7,036		
*Includes self-pay, philar	nthropy and othe	r Insurers.						

The following analysis estimates what the pharmaceutical costs for AZT and pentamidine or similar prophylactic drugs might be in New York City if such drugs were given, when tolerated, to all persons with **CDC-defined AIDS** and to those HIVinfected persons who have a CD4 cell count of 200 or less. For this calculation, existing drug cost have been used; all

#### Cost Assesment 267

other associated expenses such as supplies, laboratory tests and the cost of office visits have been excluded

The cost of expensive drug therapies, such as AZT and pentamidine, are not included in institutional or outpatient reimbursement rates. Thus, the costs identified in this section are in addition to other costs for AIDS and HIV-related services.

Assumptions: Fifty-five percent of all CDC-defined AIDS patients will tolerate AZT at 75 percent of the full dose or have a similar drug cost (=\$6,000/ year/patient.)

Ten percent of all symptomatic and asymptomatic HIV-infected persons will have CD4 cell counts of 200 or less. Of these, 75 percent will tolerate AZT at the full dose or have a similar drug cost (=\$8,000/ year/patient).

visit is based on a cost analysis of transfusion visits performed by the Greater New York Hospital Association in early 1988. It includes the cost of two units of packed cells, disposable supplies, compatibility testing and staffing costs. Some hospitals, however, routinely give three or four units of packed cells during each transfusion which increases the costs (\$437 and \$569, respectively). Currently, hospitals that are designated AIDS centers are reimbursed at \$179 per transfusion visit, regardless of the number of units of packed cells given.

#### Paying for Needed Services, Source of Funding

This report estimates the cost of caring for persons

All HIV-infected persons with a CD4 cell count of 200 or less will receive pentamidine (=\$1,200/ year/ patient).

## **Cost of Blood** Transfusions Associated with **AZT Treatment**

AZT is a highly toxic antiviral drug that is used to treat many persons with HIV disease. One of the side effects of taking AZT is that it causes severe anemia which must be treated by giving repeated blood 1.A transfusions. The additional cost of blood transfusions is estimated to be \$94 million.

Assumptions: Twenty- 3. H five percent of all persons receiving AZT will require blood transfusions.

Each person needblood trans- 6.H ing fusions will be transfused on the average 13 times/year.

The estimated cost for each transfusion is

Estimated Cost Allocation by Payor (\$ millions)							
Payor Class	Acute Care	SNF Care	HRF Care	MD Visits	Home Hith. Care	Proph. Pharm.	Total
Self Pay	\$ 331	\$ -	\$ -	\$ 37	<b>\$</b> -	\$ 67	\$ 435
Medicare	119	-	-	13	32	24	188
Medicaid	2,174	223	124	245	538	443	3,747
Blue Cross	1,036	. <b>-</b>	-	117	32	211	1,396
Commercial	260	-	• •	29	32	53	374
No Charge	66	-	-	7	-	13	86
Other	423	12	6	48	-	86	576
	\$4,409	\$235	\$130	\$496	\$634	\$899	\$6,803
Supportive Hou	sing						233
						Total	\$7,036

Figure 14

Allocation by Payor Mix

۱	Acute Care:	49.30% Medicaid, 2.70% Medicare, 23.5% Blue Cross, 24.5% other*.	1.	Acute Care	Self Pay: Medicare: Medicaid: Blue Cross: Commercial:	75% City, e.g., HHC, 25% other 100% Federal 50% Federal, 25% State, 25% City 100% Private insurers 100% Private insurers
2	. SNF:	95% Medicaid, 5% other.			No Charge: Other:	100% Other 100% Other
3	. HRF:	95% Medicaid, 5% other.	2	SNF Care	Medicaid: Other:	50% Federal, 40% State, 10% City 100% Other
4	. Supportive Housing:	Not allocated by payor.	3.	HRF Care	Medicaid: Other:	50% Federal, 40% State, 10% City 100% Other
5	. Physician Visits:	Same allocation as acute care.	4	Housing		Not allocated by payor
6	Home Health Care:	90% Medicaid	5	<b>Physician</b>	Visits	Same allocation as acute care
•		5% Medicare, 5% Private insurance.	6	Home Health Care	Medicare: Medicaid: Blue Cross:	100% Federal 50% Federal, 40% State, 10% City 100% Private Insurers
7	Piophylactic Pharmaceuticals &	Same allocation as acute care.			Commercial:	100% Private insurers
	Blood transfusions:		7.	Prophylax Pharmac	etic euticals and	Same allocation as acute care
	SOLICO ALISIO NEW YOR	STORE INFOLIOD 1987 "NVS/DOH				

Allocation to Source of Funds

\$305. This cost per Source: "AIDS in New York State Through 1987," NYS/DOH, p. 76.

#### 268 NEW YORK CITY AIDS TASK FORCE

with AIDS and HIV-related illness to be \$7,036 million over the period 1989-1993. The costs of providing this care will be distributed across Federal, State and City governments and private health insurance plans. Costs will also be borne by individuals and at times by philanthropy.

Because the epidemic will, in the future, fall disproportionately on public insurance plans and public medical care facilities it is likely the New York State and City governments will bear a significant portion of the \$7,036 million.

Significant capital resources—\$712 million—are needed over the next five years to pay for the cost of constructing new facilities. A combination of City, State, Federal and private resources needs to be developed quickly to assure that this level of borrowing can be achieved and at reasonable interest rates.

#### Additional Work Required

As better information on needed services and unit costs of services are identified, refined estimates should be developed.

This report does not include cost estimates for many clinical services closely associated with the HIV epidemic such as mental health services, dentistry, and HIV counseling and testing. Nor does it estimate the cost of providing vital non-clinical HIV related services such as community-based support services, research and epidemiological studies, prevention and education programs, legal and anti-discrimination services and administrative and coordinating activities. Future work should include cost estimates of these services.

The Cost Assessment Work Group discussed but did not analyze in detail the cost of alternative scenarios that substitute one set of services for another. Such an analysis is warranted to identify the potential for cost savings.

The estimated cost allocation by payor warrants further study.

# SUMMARY OF COSTS OF MAJOR SERVICES

# 1989-1993

	1989	1990	1991	1992	1993	5 Year Total
Acute Care	\$628,109,082	\$ 782,477,072	\$ 955,138,434	\$ 937,701,921	\$1,105,437,024	<b>\$4,408,863,53</b> 3
HRF Care	-	6,197,700	10,536,090	52,593,952	60,737,460	130,065,202
SNF Care	20,555,340	26,353,000	26,353,000	75,015,344	86,884,235	235,160,919
Ambulatory	87,571,294	93,579,586	99,486,370	105,092,396	110,508,961	496,238,607
Home Health	70,468,950	87,835,530	121,260,924	161,023,373	193,848,960	634,437,737
Housing	2,200,000	3,000,000	41,330,016	86,406,984	99,880,872	232,817,872
Pharmaceutical	171,505,484	176,197,889	180,543,229	184,012,779	186,302,859	898,562,241
Total	\$980 A10 150	\$1 175 6A0 777	\$1 A34 648 063	\$1 601 846 749	\$1 843 600 371	\$7 036 146 111

269

# NEW YORK CITY AIDS TASK FORCE

# NUM VODI GEL AVESTERKI BROK

#### TABLE 2

### ACUTE CARE COST PROJECTIONS

#### 1989-1993

Year	Total Beds	ADC 090%	Incremental Beds	Total Pt Days	Operational Costs	Capital Cost Per Diem	Annualized Capital Costs	Total Cost
1989	2,421	2,179	721	795,299	\$ 598,064,472	\$ 82,314	\$30,044,610	\$ 628,109,082
1990	3,016	2,714	595	990,756	\$ 745,048,512	\$102,544	\$37,428,560	\$ 782,477,072
1991	3,657	3,291	641	1,201,325	\$ 903,396,024	\$141,760	\$51,742,410	\$ 955,138,434
1992	3,466	3,119	0	1,141,700	\$ 885,959,510	\$141,760	\$51,742,410	<b>\$ 937,701,921</b>
1993	4,016	3,614	550	1,319,256	\$1,023,742,656	\$223,820	\$81,694,368	\$1,105,437,024

# Assumptions:

- (1) Reflects development of long term care alternatives.
- (2) Current AIDS beds (1,700) stay in system and continue to receive \$34 per diem capital reimbursement.
- (3) New beds added to system in 1989-1990 come from existing capacity and stay in system.
- (4) New beds in 1991 result from renovation of existing facilities and stay in system.
- (5) New beds from 1992 forward result from construction of new facilities and stay in system.
- (6) Total reflects the summation of current and incremental costs.
- (7) Operational costs are projected at \$800/acute care day. For 1989-91, ALOC days represent 10% of total days at 40% of the acute care cost. For 1992-3, ALOC days represent 5% of total days at 40% of the acute care cost.
- (8) Operational costs based on a sample of voluntary and municipal hospital rates (net of Bad Debt and Charity Care funds) trended to 1989 dollars using the NYS Medicaid trend.
- (9) 1992 is a leap year.

## ACUTE CARE CAPITAL COST PROJECTIONS

#### 1989-1993

Capital Pass Thru Year	Bed Need	Incremental Beds	Per Diem Capital Costs (see note 2)	Per Diem Capital Cost (see note 3)	Per Diem Capital Cost (see note 4)	Per Diem Capital Cost (see note 5)	Total Per Diem Capital Cost	Annualized Capital Cost
1989	2,421	721	\$57,800	\$24,514	N/A	N/A	\$ 82,314	\$30,044,610
1990	3,016	595	\$57,800	\$44,744	N/X	N/A	\$102,544	\$37,428,560
1991	3,657	641	\$57,800	\$44,744	\$39,216	N/A	\$141,760	\$51,742,410
1992	3,466	0	\$57,800	\$44,744	\$39,216	N/X	\$141,760	\$51,742,410
1993	4,016	550	\$57,800	\$44,744	\$39,216	\$82,060	\$223,820	\$81,694,368

Assumptions:

(1) Reflects development of long term care alternatives.

- (2) Current beds (1,700) stay in system and continue to receive \$34 per diem capital reimbursment. Figure based on average pass through amounts attributable to current capacity.
- (3) Additional beds added to system in 1989 1990 come from existing capacity and also receive an identical \$34/day capital reimbursement.
- (4) New beds in 1991 result from renovation of existing facilities and carry a \$61/day capital reimbursement.
- (5) New beds from 1992 forward result from new hospital construction and carry a \$149/day capital reimbursement.

# ESTIMATED COST OF SKILLED NURSING FACILITY SERVICES

# 1989-1993

Year	Required SNF Beds	Actual SNF Beds	Actual Pt Days	Operational Cost ● \$350	Annualized Capital Cost	Total Cost Projection
1989	307	156	56,940	\$19,929,000	\$ 626,340	<b>\$20,</b> 555,340
19 <b>90</b>	382	200	73,000	\$25,550,000	\$ 803,000	\$26,353,000
1991	463	200	73,000	\$25,550,000	\$ 803,000	\$26,353,000
1992	548	548	200,568	\$70,007,000	\$5,008,344	\$75,015,344
1993	633	633	231,044	\$80,865,750	\$6,018,485	\$86,884,235

# Assumptions:

(1) Beds from new construction enter into system in 1992.

(2) Increase of 44 beds in 1990 results from current system capacity.

(3) Average Daily Census (ADC) is calculated at 100% occupancy.

(4) 1992 is a leap year.

## ESTIMATED COST OF HEALTH RELATED FACILITY SERVICES

# 1989-1993

Year	Required HRF Beds	Actual HRF Beds	Actual Pt Days	Operational Cost © \$250	Annualized Capital Cost	Total Cost
1989	285	0	-	<b>\$</b> -	s <b>s</b> –	\$ -
1990	355	60	21,900	\$ 5,475,000	\$ 722,700	\$ 6,197,700
1991	430	102 •	37,230	\$ 9,307,500	\$1,228,590	\$10,536,090
1992	509	509	186,294	\$46,446,250	\$6,147,702	\$52,593,952
1993	588	588	214,620	\$53,655,000	\$7,082,460	\$60,737,460

## Assumptions:

(1) 60 beds from new construction enter system in 1990.

(2) 42 beds from new construction enter system in 1991.

(3) Additional beds from new construction enter system in 1992.

(4) Average daily census (ADC) calculated at 100% occupancy rate.

(5) 1992 is a leap year.

# NEW YORK CITY AIDS TASK FORCE
#### TABLE 6

#### LONG TERM CARE CAPITAL COST PROJECTIONS

#### 1989-1993

Year	HRF Bed Need	Now HRF Beds	Per Diem Capital Cost (see note 3)	Annualized Capital Cost	SNF Bed Need	Current Beds	Per Diem Capital Cost (see note 4)	New SNF Beds	Per Diem Capital Cost (see note 3)	Total Per Diem Capital Cost	Annualized Capital Cost
1 <b>9</b> 89	285	0	\$ -	\$ -	307	156	\$1,716	_	\$ -	\$1,716	\$ 626,340
<b>1990</b>	355	60	\$ 1,980	\$ 722,700	382	200	\$2,200	-	\$ -	\$2,200	\$ 803,000
<b>199</b> 1	430	42	\$ 3,366	\$1,228,590	463	200	\$2,200	-	\$ -	\$2,200	\$ 803,000
1 <b>992</b>	509	407	\$16,797	\$6,147,702	548	200	\$2,200	348	<b>\$11,484</b>	\$13,684	\$5,008,344
<b>199</b> 3	588	79	\$19,404	<b>\$7,082,46</b> 0	633	200	\$2,200	85	\$1 <b>4, 289</b>	<b>\$16,489</b>	<b>\$6,018,48</b> 5

#### Assumptions:

(1) Beds from new construction and renovation enter system beginning in 1990 (HRF) and 1992 (SNF).

(2) Increase of 44 SNF beds in 1990 results from current system capacity.

(3) New bed construction for both SNF and HRF carry a \$33/day capital reimbursement.

(4) Current SNF system capacity carries an \$11/day capital reimbursement.

(5) 1992 is a leap year.

## TABLE 6A

## SUMMARY OF LONG TERM CARE CAPITAL COST PROJECTIONS

#### 1989-1993

Year	Combined HRF & SNF Per Diem	Costs Annualized			
1989	\$ 1,716	\$ 626,340			
1990	\$ 4,180	\$ 1,525,700			
1991	\$ 5,566	\$ 2,031,590			
1992	\$30,481	\$11,156,046			
1993	\$35,893	\$13,100,945			

NEW YORK CITY AIDS TASK FORCE

#### THELE 7

#### ESTIMATED COSTS OF AMBULATORY PHYSICIAN VISITS

#### 1509-1993

			AIDS Casgntd Center Rate	Annual Vst/Pt	t Dist.	1989	1990	1991	1992	1993
1.	HIV	Asymptomatic Visit	5			556,596	513,840	464,254	407,531	343,168
		Initial	\$264.14	0	0%	s –	\$ -	s -	\$ -	<b>\$</b> -
		Subsequent	\$243.45	0	04	\$ -	\$ -	\$ -	\$ -	ş -
		Intermediate	\$174.30	0	Ok	ş –	\$ -	\$ -	\$ -	\$ -
		Routine	\$ 66.21	4	100%	\$36,852,221	\$34,021,346	\$30,738,257	\$26,982,628	\$22,721,153
		Transfusion*	\$305.00	0	0%	\$ -	\$ -	\$ -	\$ -	\$ -
		Total		4	100%	\$36,852,221	\$34,021,346	\$30,738,257	\$26,982 <b>,628</b>	\$22,721,153
2.	HIV	Symptomatic Visits				182,290	208,620	235,020	261,420	287,820
		Initial	\$264.14	0.5	10%	\$ 4,913,274	\$ 5,622,948	\$ 6,334,508	\$ 7,046,069	\$ 7,757,630
		Subsequent	\$243.45	0.5	10%	\$ 4,528,418	\$ 5,132,504	\$ 5,838,328	\$ 6,494,153	\$ 7,149,977
		Intermediate	\$174.30	2	41%	\$12,968,631	\$14,841,823	\$16,719,994	\$18,598,16 <b>6</b>	\$20,476,337
		Rout 🖉 🤨	\$ 66.21	1.9	39%	\$ 4,679,980	\$ 5,355,957	\$ 6,033,731	\$ 6,711,505	\$ 7,389,279
		Tra	\$305.00	0	0%	\$ -	\$ -	\$ -	\$ -	\$ -
		Total		4.9	100%	\$27,090,303	\$31,003,231	\$34,926,562	\$38,849,893	\$42,773,224
3.	AID	S Visits				195,597	236,376	279,972	324,990	372,627
		Initial	\$264.14	0	Ok	s -	\$ <b>-</b>	\$ -	\$ -	\$ -
		Subsequent	\$243.45	1	5%	\$ 2,441,953	\$ 2,951,063	\$ 3,495,343	\$ 4,057,375	\$ 4,652,105
		Intermediate	\$174.30	6	31%	\$10,490,018	\$12,677,027	\$15,015,114	\$17,429,464	\$19,984,273
		Routine	\$ 66.21	11.5	59%	\$ 7,637,461	\$ 9,229,755	\$10,932,045	\$12,689,850	\$14,549,938
		Transfusion*	\$305.00	1	5%	\$ 3,059,338	\$ 3,697,163	\$ 4,379,049	\$ 5,083,177	\$ 5,828,268
		Total		19.5	100%	\$23,628,770	\$28,555,009	\$33,821,551	\$39,259,875	\$45,014,584
4.	<b>A11</b>	HIV & AIDS Visits				934, 483	958,836	979,246	993, 9 <b>4</b> 1	1,003,615
		Initial	\$264.14			\$ 4,913,274	\$ 5,622,948	\$ 6,334,508	\$ 7,046,069	\$ 7,757,630
		Subsequent	\$243.45			\$ 6,970,372	\$ 8,133,567	\$ 9,333,671	\$10,551,528	\$11,802,082
		Intermediate	\$174.30			\$23,458,649	\$27,518,850	\$31,735,108	\$36,027,629	\$40,460,610
		Routine	\$ 66.21			\$49,169,662	\$48,607,058	\$47,704,033	\$46,363,992	\$44,660,370
		Transfusion*	\$305.00			\$ 3,059,338	\$ 3,697,163	\$ 4,379,049	\$ 5,083,177	\$ 5,828,268
		Total				\$87.571.294	\$93,579,586	\$99,486,370	\$105,092,396	\$110,508,961

#### Assumptions:

(1) Estimate of annual physician visits at all provider sites (i.e. hospital and non-hospital based).

(2) AIDS Designated Center ambulatory care rates as noted.
(3) AIDS Designated Center ambulatory care rates for visits regardless of site to account for laboratory and radiology costs.
(4) Costs do not include chemotherapuetics.

(5) Transfusion costs based on GNYHA survey (1988).

NEW YORK CITY AIDS TASK FORCE

276

#### ESTIMATED COSTS OF SUPPORTIVE HOUSING

#### 1989-1993

		HOUS	SING UNI	TS		OPERATIONAL COSTS				Total
Year	Total	Scatter	Group	Cluster	Scatter (\$22,000)	Group (\$40,000)	Cluster (\$30,000)	Total	Amortization Cost	Housing Cost
<b>1989</b>	64	20	44		\$ 440,000	\$ 1,760,000	-	\$ 2,200,000	N/A	\$ 2,200,000
1990	93	40	53	-	\$ 890,000	\$ 2,120,000	_	\$ 3,000.000	N/A	\$ 3,000,000
<b>19</b> 91	1,092	360	371	360	\$ 7,927,920	\$14,851,200	\$10,810,800	\$33,589,920	\$ 7,740,096	\$41,330,016
<b>1992</b>	2,283	<b>7</b> 53	776	<b>75</b> 3	\$16 <b>,574,58</b> 0	\$31,048,800	\$22,601,700	\$70,225, <b>09</b> 0	\$16,181,904	\$86,406,984
<b>199</b> 3	2,639	871	897	871	<b>\$19,159,140</b>	\$35,890,400	\$26,126,100	\$81,175,640	\$18,705,232	\$99,880,872

Assumptions:

(1) New units from 1991 forward are distributed as 33% scatter, 34% group, and 33% cluster.

(2) Construction costs of \$65,000 per unit are amortized for 25 years at 10% interest.

(3) Existing units remain in system during projection period.

NEW YORK CITY AIDS TASK FORCE

#### TABLE 9

#### ESTIMATED COST OF HOME HEALTH CARE

#### 1989-1993

	ENROLLMEN	T DAYS	
	Intermediate	High	Total Cost
	● \$89	●\$358	
1989	346,800	110,625	\$ 70,468,950
1990	432,720	137,775	\$ 87,835,530
1991	600,707	189,380	\$121,260,924
1992	792,499	252,768	\$161,023,373
1993	954,040	304,300	\$193,848,960

Assumptions:

(1) To account for the lack of housing alternatives, home care services as projected by the Needs Assessment Work Group were reduced as follows: 1989 - 1990 @ 75% of need; 1991 @ 85% of need; 1992 @ 96% of need and

1993 • 100% of need.

#### PROJECTED CONSTRUCTION COSTS

## 1989-1993

	Acute	SNF	HRF	Housing	Total
1989	N/A	N/A	N/A	N/A	<b>\$</b> -
1990	N/A	N/A	\$ 7,020,000	N/A	\$ 7,020,000
1991	\$140,473,000	N/A	\$ 4,914,000	\$ 64,935,000	\$210,322,000
1992	N/A	\$40,716,000	\$47,619,000	\$ 77,415,000	\$165,750,000
1993	\$293,942,000	\$ 9,945,000	\$ 9,243,000	\$ 23,140,000	\$336,270,000
Total	\$434,415,000	\$50,661,000	\$61,776,000	\$165,490,000	\$712,342,000

NEW YORK CITY AIDS TASK FORCE

#### PROJECTED COST OF PROPHYLACTIC PHARMACEUTICALS AND ASSOCIATED BLOOD TRANFUSIONS FOR HIV+ AND CDC-DEFINED AIDS PATIENTS

#### 1989-1993

#### 1. PROPHYLACTIC PLARMACEUTICALS

AIDS Patients			HIV	HIV Infected Patients			HIV+ & AIDS Patients			Total Patients & Costs		
Year	AIDS Patients	% That Tolerate AZT € 55	AZT Cost \$ • \$6,000	HIV+ Patients With CD4 <200	% That Tolera AZT ● 75%	te AZT Cost • \$8,000	Total Patients Yith CD4 <200	% That Tolerat Pentam at 65%	e Pentam Cost @ \$1,200	Total Patients Receiving Pharmac.	Cost of g AZT & Pentam	
1989	8,345	4,590	\$27,538,500	17,666	13,249	\$105,995,400	26,011	16,907	\$20,288,502	34,746	\$153,822,402	
1990	10,241	5,633	\$33,795,300	17,124	12,843	\$102,744,000	27,365	17,787	\$21,344,700	36,263	\$157,884,000	
1991	12,338	6,786	\$40,715,400	16,412	12,309	\$ 98,474,400	28,750	18,688	\$22,425,312	37,783	\$161,615,112	
1992	14,536	7,995	\$47,968,800	15,522	11,642	\$ 93,133,800	30,058	19,538	\$23,445,474	39,174	\$164,548,074	
1993	16,790	9,235	\$55,407,000	14,441	10,831	\$ 86,646,000	31,231	20,300	\$24,360,180	40,365	\$166,413,180	

2. BLOOD TRANSFUSION COSTS ASSOCIATED WITH AZT

3. TOTAL COSTS

	Patients Receiving	25% That Require	Transfusion Costs (13		
Year	λZT	Blood	• \$305 each)	Year	Total
1989	17,839	4,460	\$17,683,082	198 <b>9</b>	\$171,505,484
1990	18,476	4,619	\$18,313,889	1990	\$176,197,889
1991	19,095	4,774	\$18,928,117	1991	\$180,543,229
1992	19,637	4,909	\$19,464,705	1992	\$184,012,779
1993	20,065	5,016	\$19,889,679	1993	\$186,302,859

#### Assumptions:

(1) Ambulatory visits and associated costs required to administer and monitor the impact of the pharmaceuticals are excluded.

#### SURGARY OF ESTIMATED HEALTH CARE COSTS BY PAYOR

#### 1989-1990

	Acute Care	HRF Care	SHF Care	Ambulatory	Home Health	Pharmaceuticals	Total*
Self Pay	\$ 330,664,765	<b>\$</b> -	\$ -	\$ 37,217,896	\$ -	\$ 67,392,168	\$ 435,274,829
Medicare	\$ 119,039,315	\$ -	\$ -	\$ 13,398,442	\$ 31,721,887	\$ 24,261,180	\$ 188,420,824
Medicaid	<b>\$2,173,569,722</b>	\$123,561,942	\$223,402,873	\$244,645,633	\$539,272,076	\$442,991,185	\$3,747,443,431
Blue Cross	\$1,036,082,930	\$ -	\$ -	\$116,616,073	\$ 31,721,887	\$211,162,127	<b>\$1,395,58</b> 3,017
Commercial	\$ 260,122,948	\$ -	\$ -	\$ 29,278,078	\$ 31,721,887	\$ 53,015,172	\$ 374,138,085
No Charge	\$ 66,132,953	\$ -	\$ -	\$ 7,443,579	\$ -	\$ 13,478,434	\$ 87,054,966
Other	\$ 423,250,899	\$ 6,503,260	\$ 11,758,046	\$ 47,638,906	\$ -	\$ 86,261,975	\$ 575,413,086
Total	\$4,408,863,532	\$130,065,202	\$235,160,919	\$496,238,607	<b>\$634,4</b> 37,737	\$898,562,241	<b>\$6,8</b> 03,328,238

\*Excludes supportive housing costs of \$232,817,872.

## NEW YORK CITY AIDS TASK FORCE

#### ESTIMATED COST OF ACUTE CARE BY PAYOR

#### 1989-1993

	Expected Payor*	1989	1990	1991	1992	1993	Total
Self Pay	7.50%	\$ 47,108,181	\$ 58,685,780	\$ 71,635,383	\$ 70,327,644	\$ 82,907,777	\$ 330,664,765
Medicare	2.70%	\$ 16,958,945	\$ 21,126,881	\$ 25,788,738	\$ 25,317,952	\$ 29,846,800	\$ 119,039,315
Medicaid	49.30%	\$309,657,777	\$385,761,196	\$470,883,248	\$462,287,047	\$ 544,980,453	\$2,173,569,722
Blue Cross	23.50%	\$147,605,634	\$183,882,112	\$224,457,532	\$220,359,951	\$ 259,777,701	\$1,036,082,930
Commercial	5.90%	\$ 37,058,436	\$ 46,166,147	\$ 56,353,168	\$ 55,324,413	\$ 65,220,784	\$ 260,122,948
No Charge	1.50%	\$ 9,421,636	\$ 11,737,156	\$ 14,327,077	\$ 14,065,529	\$ 16,581,555	\$ 66,132,953
Other	9.60%	\$ 60,298,472	\$ 75,117,799	\$ 91,693,290	\$ 90,019,384	\$ 106,121,954	\$ 423,250,899
Total	100.00%	\$628,109,082	\$782,477,072	\$955,138,434	\$937,701,921	\$1,105,437,024	\$4,408,863,533

\* Source: AIDS IN NEW YORK STATE THROUGH 1987. New York State Department of Health, 1987. Percentages taken from table titled "HIV/AIDS Hospitalizations by Primary Expected Payor by Year" on page 76.

## ESTIMATED COST OF HRF CARE BY PAYOR

#### 1989-1993

	Expecte Payor	1989	1990	1991	1992	1993	Total
Medi	caid 95.00%	\$0	\$5,887,815	\$10,009,286	\$49,964,254	\$57,700,587	\$123,561,942
Othe	r 5.00%	\$0	\$ 309,885	\$ 526,805	\$ 2,629,698	\$ 3,036,873	\$ 6,503,260
Tota	100.00%	\$0	\$6,197,700	\$10,536,090	\$52,593,952	\$60,737,460	\$130,065,202

283

## NEW YORK CITY AIDS TASK FORCE

#### ESTIMATED COST OF SNF CARE BY PAYOR

#### 1989-1993

	Expected Payor	1989	1990	1991	1992	1993	Total
Medicaid	95.00%	\$19,527,573	\$25,035,350	\$25,035,350	\$71,264,577	\$82,540,023	\$223,402,873
Other	5.00%	\$ 1,027,767	\$ 1,317,650	\$ 1,317,650	\$ 3,750,767	\$ 4,344,212	\$ 11,758,046
Total	100.00%	\$20,555,340	\$26,353,000	\$26,353,000	\$75,015,344	\$86,884,235	\$235,160,919

284

#### ESTIMATED COST OF AMBULATORY CARE BY PAYOR

#### 1989-1993

	Payor*	1989	1990	1991	1992	1993	Total
Self Pay	7.50%	\$ 6,567,847	\$ 7,018, <b>4</b> 69	\$ 7,461,478	\$ 7,881,930	\$ 8,288,172	\$ 37,217,896
Medicare	2.70%	\$ 2,364,425	\$ 2,526,649	\$ 2,686,132	\$ 2,837,495	\$ 2,983,742	\$ 13,398,442
Medicaid	49.30%	\$43,172,648	\$46,134,736	\$49,046,781	\$ 51,810,551	\$ 54,480,918	<b>\$244,645,6</b> 33
Blue Cross	23.50%	\$20,579,254	\$21,991,203	\$23,379,297	\$ 24,696,713	\$ 25,969,606	\$116,616,073
Commercial	5.90%	\$ 5,166,706	\$ 5,521,196	\$ 5,869,696	\$ 6,200,451	\$ 6,520,029	\$ 29,278,078
No Charge	1.50%	\$ 1,313,569	\$ 1,403,694	\$ 1,492,296	\$ 1,576,386	\$ 1,657,634	\$ 7,443,579
Other	9.60%	\$ 8,406,844	\$ 8,983,640	\$ 9,550,692	\$ 10,088,870	\$ 10,608,860	\$ 47,638,906
Total	100.00%	\$87,571,294	\$93,579,586	\$99,486,370	\$105,092,396	\$110,508,961	\$496,238,607

\* Assumes same payor mix as acute care costs.

NEW YORK CITY AIDS TASK FORCE

285

#### TABLE 17

#### ESTIMATED COST OF HOME HEALTH CARE BY PAYOR

#### 1989-1993

	Expected						
	Payor	1989	1990	1991	1992	1993	Total
Self Pay	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Medicare	5.00%	\$ 3,523,448	\$ 4,391,777	\$ 6,063,046	\$ 8,051,169	\$ 9,692,448	\$ 31,721,887
Medicaid	85.00%	\$59,898,608	\$74,660,201	\$103,071,785	\$136,869,867	\$164,771,616	\$539,272,076
Blue Cross	5.00%	\$ 3,523,448	\$ 4,391,777	\$ 6,063,046	\$ 8,051,169	\$ 9,692,448	\$ 31,721,887
Commercial	5.00%	\$ 3,523,448	\$ 4,391,777	\$ 6,063,046	\$ 8,051,169	\$ 9,692,448	\$ 31,721,887
No Charge	0.00%	-	\$ -	\$ -	\$ -	\$ -	\$ -
Other	0.00%	-	\$ -	\$ -	\$ -	\$ -	\$ -
Total	100.00%	<b>\$70,468,9</b> 50	\$87,835,530	\$121,260,924	\$161,023,373	\$193,848,960	\$634,437,737

#### ESTIMATED COST OF PROPHYLACTIC PARMACEUTICALS AND BLOOD BY PAYOR

1989-1993

	Expected Payor*	1989	1990	1991	1992	1993	Total
Self Pay	7.50%	\$ 12,862,911	\$ 13,214,842	\$ 13,540,742	\$ 13,800,958	\$ 13,972,714	\$ 67,392,168
Medicare	2.70%	\$ 4,630,648	\$ 4,757,343	\$ 4,874,667	\$ 4,968,345	\$ 5,030,177	\$ 24,261,180
Medicaid	49.30%	\$ 84,552,204	\$ 86,865,559	\$ 89,007,812	\$ 90,718,300	\$ 91,847,310	<b>\$442,991,18</b> 5
Blue Cross	23.50%	\$ 40,303,789	\$ 41,406,504	\$ 42,427,659	\$ 43,243,003	\$ 43,781,172	\$211,162,127
Commercial	5.90%	\$ 10,118,824	\$ 10,395,675	\$ 10,652,051	\$ 10,856,754	\$ 10,991,869	\$ 53,015,172
No Charge	1.50%	\$ 2,572,582	\$ 2,642,968	\$ 2,708,148	\$ 2,760,192	\$ 2,794,543	\$ 13,478,434
Other	9.60%	\$ 16,464,526	\$ 16,914,997	\$ 17,332,150	\$ 17,665,227	\$ 17,885,074	\$ 86,261,975
Total	100.00%	\$171,505,484	\$176,197,889	\$180,543,229	\$184,012,779	\$186,302,859	\$898,562,241
							· · ·

\* Assumes same payor mix as acute care costs.

ME Y YORK O'TY AIDS TASK FORCE

287

#### TABLE 19

#### ALLOCATION OF COSTS BY SOURCE OF FUNDS

	Federal	State	City	Private Insurers	Other	Total*
Acute Care	\$1,205,824,176	\$ 543,392,430	\$ 791,391,004	\$1,296,205,879	\$572,050,043	<b>\$4,408,863,5</b> 33
SNF Care	111,701,437	89,361,149	22,340,287	-	11,758,046	235,160,919
HRF Care	61,780,971	49,424,777	12,356,194	-	6,503,260	130,065,202
Ambulatory	135,721,259	61,161,408	89,074,830	145,894,150	64,386,959	496,238,607
Home Health	301,357,925	215,708,830	53,927,208	63,443,774		634,437,737
<b>Pharmaceutical</b> :	8 245,756,773	110,747,796	161,291,922	264,177,299	116,588,451	898,562,241
Total	\$2,062,142,540	\$1,069,796,391	\$1,130,381,445	\$1,769,721,101	\$771,286,759	\$7,036,146,110
Distribution	30%	16%	17\$	26*	11*	100**

\*Excludes supportive housing costs of \$232,817,872.

## New York City AIDS Task Force

Section V

# Health Care Personnel

#### Co-Chairmen:

Stanley Hill Executive Director District Council 37, AFSCME, AFL-CIO

Alternate: Kathy Schrier, Administrator District Council 37 Education Fund, AFSCME, AFL-CIO

#### Members:

Allen Abramson, Senior Vice President, Human Resources Interfaith Medical Center

George Adams, President Lutheran Medical Center

Ronald Bayer, Ph.D., Associate Professor Columbia University - School of Public health

Jo Ivey Boufford, M.D., President New York City Health and Hospitals Corporation Alternate Patti Weinberg, Senior Management Consultant AIDS INITIATIVE New York City Health and Hospitals Corporation

Spencer Foreman, M.D., President Montefiore Medical Center

Janet Freedman, M.D., President Committee on Interns and Residents

Eli Ginzberg, Ph.D., Director, Conservation of Human Resources Columbia University

Edwina E.H. Hamby, University Associate Dean Health and Education Programs City University of New York

Alternate: Delores Washington, R.N., Ed.D., Faculty Fellow City University of New York

Kenneth E. Raske President Greater New York Hospital Association

Alternate: Mary Carroll, Assistant Director **Regulatory and Professional Affairs** Greater New York Hospital Association

Patricia Hurley, Ph.D., R.N., Co-Director New York University AIDS Projects Elsie Griffith, Chief Executive Officer Visiting Nurse Service of New York Alternate Eileen Hanley, R.N., Director, AIDS Services Visiting Nurse Service of New York

Kathleen McMahon, R.N., AIDS Nurse Clinician Memorial Sloan-Kettering Cancer Center and New York Counties Registered Nurses Assn.

Dennis Rivera, Executive Vice President Local 1199, Drug, Hospital and Health Care Union, RWDSU, AFL-CIO

Alternate: Lenora S. Colbert, Health and Safety Coordinator Local 1199, Drug, Hospital and Health Care Union, RWDSU, AFL-CIO

Allan Rosenfield, M.D., Dean, School of Public Health Columbia University

Edward Salsberg, Director, Bureau of Health Resources Development New York State Department of Health

Debra Spicehandler, M.D., Director, The Spellman Center St. Clare's Hospital and Health Center

Loretta Cole, Director, Health Policy Development New York County Medical Society

The Work Group is indebted to the following for their invaluable input: Robin Mary Gillespie, Director Elizabeth Sommers, Vice President Health and Safety Program **Regulatory and Professional Affairs** National Union of Hospital and Health Care Employees, Greater New York Hospital Association AFL-CIO

Support staff for the Health Care Personnel Work Group: Jeff Hyman, Safety Trainer, Occupational Health and Safety Local 1199, Drug, Hospital and Health Care Union,

Ralph G. Horton, Ph.D., Associate Director New York City AIDS Task Force

Glenna R. Michaels Director, New York City AIDS Task Force RWDSU, AFL-CIO

## **Executive Summary**

HE Health Care Personnel Work Group's mission is to examine the impact of AIDS on health care personnel and identify appropriate actions to be taken to assure an adequate and trained workforce that can provide quality care. This focus is not meant to diminish the importance of other factors related to the nationwide shortage of health care personnel. These factors are described at length in the health services research literature which cites compensation, working conditions and alternative career opportunities for women among the reasons for the current shortage of nurses and other health care workers. In point of fact, to date, most of the studies have not identified AIDS as a factor in the current shortage. However, the Work Group recognizes that there may be a need for further research on the general shortage that would focus specifically on the New York City experience.

New York City's health care system is experiencing serious difficulties and the AIDS epidemic only highlights a much larger systemic problem. The health care system, as currently structured, financed, and staffed, has been overburdened and denied the resources necessary to meet the extraordinary day-today demands currently placed upon it. This often results in health care workers and management personnel feeling frustrated about their abilities to provide optimal health care to all patients.

Caring for chronically or terminally ill patients has long created stress and a unique set of medicalmanagement issues for health care workers. In addition to the obvious and often overwhelming patient care needs, caring for chronically and terminally ill patients forces health care workers to confront painful treatment choices, many with moral, ethical and religious implications. Health care workers caring for the terminally ill must also deal repeatedly with issues of death and dying.

Caring for patients with HIV infection highlights the above concerns. AIDS is a particularly difficult disease for health care workers because they must grapple with the limits of their abilities to treat the disease and their frustration may also be heightened by the scarcity of discharge options available to HIVinfected patients, especially housing. Furthermore, health care workers must deal with their own concerns about an important, although small, additional risk that has been introduced into the workplace. A related personnel issue concerns health care workers who experience an exposure to HIV and who must decide whether to be tested, how often to be tested if the initial test is negative, what to tell their friends and family regardless of the test result, and potential insurance coverage issues.

The problems of treating people with HIV infection are further complicated by the fact that most PWAs are homosexuals, bisexuals, IV drug users or minorities. Consequently, attitudes about these populations may become intertwined with attitudes about the disease itself.

In addition to their own perceptions about the disease and those with the disease, health care workers' association with HIV patients may elicit a negative response from friends and family members who do not understand how the disease is transmitted and who, therefore, fear contagion. his may make workers feel isolated from others.

The problems listed illustrate the complexities related to treating HIV-infected patients which may pose different issues for health care workers than those posed by the treatment of other patients. This report will explore the impact AIDS is having on health care personnel in the areas of recruitment and retention, education and training of personnel, special protections and precautions, psycho-social support systems and different resource needs for the care of HIV-infected patients.

The delivery of health care services is laborintensive by nature. With widely acknowledged shortages of personnel and new demands being placed on workers, those who labor in health care exhibit special commitment. The Work Group commends health care personnel in New York City they are unsung heroes.

## **Report of the Health Care Personnel Work Group**

#### **Recruitment and Retention of**

#### Health Care Personnel

#### Background

A report released by the New York State Department of Health entitled the Preliminary Report of the New York State Labor-Health Industry Task Force on Health Personnel, 1988 documented widespread shortages of health care workers including: nurses, nurse's aides, home care workers, physical, occupational, and respiratory therapists, pharmacists, physician's assistants, clinical laboratory technicians, radiology and radiotherapy technologists, mental health aides and social workers.

Recent Bureau of Labor Statistics (BLS) information highlights the need to better utilize personnel currently employed in health care settings. The data from the BLS suggest that the supply side of the equation is not likely to improve in the near future. According to the BLS, the overall work force is expected to grow 18 percent between 1986 and 2000 compared to 35 percent during the period of 1972-1986. Moreover, the number of 16 to 24 year olds entering the work force will actually decline .4 percent between 1986 and 2000. Thus, employers who rely heavily on recruiting new graduates of allied health programs will experience increasingly severe shortages of personnel.

While nurses are not the only health care personnel presently in short supply, they are the group that has received the most attention. Interestingly, the current supply of registered nurses (RNs) is larger than ever before and the labor force participation rate of RNs is higher than in any other recent period. It appears that the supply of nurses has not kept pace with the demand for their services. With 80 percent of all nurses already employed in nursing, it becomes questionable whether solely increasing nursing salaries will have a significant long-term effect on recruitment efforts. Furthermore, there is a need to search for new ways to recruit, train and retain a qualified work force. These strategies should include efforts to retrain the present work force and recruit youth from inner city communities.

#### New York City Experience

New York City has been particularly hard hit by the short supply of health care workers because many factors known to affect recruitment are exaggerated in New York City – lack of available housing and the high cost of living, among others. Moreover, while most of the rest of the country is experiencing a significant decline in the utilization of hospital services, demand for health and hospital services has increased in New York City during the past two years and, consequently, the demand for health care workers has increased. Almost all hospitals in New York City are reporting occupancy rates in excess of 90 percent. Further, in New York City, inpatient psychiatry days increased 15 percent between 1985 and 1987; one third of the days were for patients with mental illness diagnoses and related substance abuse problems, and those accounted for 12 percent of all patient days. In contrast, during this same period, AIDS accounted for 3% of patient days. Between 1985 and 1987, the proportion of unscheduled admissions to hospitals in New York City increased from 36 percent to more than 46 percent. Other major factors which contribute to the increases in demand for health care services are substance abuse, especially the crack epidemic; limited access to primary care; an inadequate number of communitybased services; lack of available housing; unemployment and homelessness. These factors place a strain on health care resources, especially on personnel.

The rate of HIV infection in New York City has, no doubt, had some effect on the New York City health care community's ability to meet health care personnel needs. However, it is not yet possible to attribute with any certainty how much of the increased demand for health care workers is directly related to the presence of AIDS and HIV-related illness. It is important to recognize, however, that not all of the increase in demand for hospital services occurred because of AIDS.

In New York City, the health care labor force that is and could be further utilized to care for HIV patients is composed of, among others, licensed practical nurses, nurses aides, personal care workers, orderlies and home care workers. According to the State Council on Home Care Services, issues that specifically affect the recruitment and retention of home care workers include pay scale and benefits, career ladders, job structure and range of duties, work assignments and potential for worker abuse. Health industry management and unions have begun discussions on expanding programs to upgrade and promote this supply of workers within the health care work force. Additionally, to address the overall health care personnel shortage, various groups in New York City have already designed programs aimed at recruiting and retaining nursing personnel, but with an eye toward recruiting and retaining other health care personnel also in short supply.

Expanded recruitment efforts alone will not resolve

the shortage of health care personnel. For many health care professionals, such as nurses, job responsibilities have broadened over the years. As a result, many undertake tasks which could be performed by workers with fewer skills and less specialized training. Labor and management will need to evaluate new ways to deploy the present work force in order to enable employees to perform job functions related to their training and schooling.

In addition to nursing and allied health personnel shortages, New York hospitals are also experiencing difficulty in recruiting resident physicians in certain specialties, which would appear to reflect a nationwide trend. AIDS is anecdotally identified as one reason. Studies to assess the impact of AIDS, among other factors, on residency choice are currently underway by at least two groups. In the face of known recruiting difficulties and general health care personnel shortages, new State regulations restricting working hours of resident physicians will require a reassessment of current staffing patterns and will necessitate hiring additional staff.

Currently, there would appear to be no acute shortage of practicing, trained physicians in New York City. However, there are Federal and state-designated medically underserved areas for certain geographic areas in New York City that indicate a shortage of primary care physicians. Some of these areas correspond to areas with high incidence of HIVinfected individuals.

The AIDS epidemic will require an increase in personnel in health care settings and a more integrated and coordinated patient care delivery system. The resource-intensive staffing needed to care for HIV-infected patients serves to highlight the widely acknowledged shortage of nurses and other health care personnel. However, with the information currently available, it is impossible to distinguish any specific impact AIDS has had or is having on recruitment and retention from other factors known to be contributing to the nationwide shortage of health care personnel.

#### **Recommendations**

- 1. Initiatives and incentives in both the public and private sector to recruit all levels of personnel in all health care settings need to be significantly increased.
- 2. To more effectively utilize the existing work force in the care for HIV-infected patients in patient care settings, health care management and unions in New York City should increase efforts to expand programs which upgrade and promote health care personnel.
- 3. In conjunction with State reimbursement changes,

New York City should expand the availability of home care services to persons with AIDS and AIDSrelated illnesses.

- 4. Government may influence the supply of nurses and allied health professionals by supporting educational programs. Government funding that has been reduced or eliminated should be restored to educational programs. Stipends and tuition support should be provided to non-traditional and low-income students.
- 5. Additional research needs to be performed in three areas: 1) to assess more accurately how significant a role the AIDS epidemic is playing in the health care personnel shortage, 2) to determine how to better deploy nurses and other health care personnel, and 3) to evaluate issues related to personnel supply vis-a-vis their relationships to the present work environment in order to improve recruitment and retention.
- 6. To better quantify the specific effect AIDS has on recruitment and retention, health care providers should include questions on AIDS as part of their exit interview process.

#### Education and Training

#### Background

Currently there is a lack of hard evidence demonstrating a correlation between the presence of AIDS and difficulties encountered recruiting health care personnel. However, regardless of the number of patients or the health care setting, certain issues are common to all health care institutions caring for patients with HIV-related illness, particularly the need to educate staff about AIDS. Education remains perhaps our most effective way to ensure an available, adequate and trained work force. Education allows staff to learn to treat HIV-infected individuals safely and without unreasonable fear of contagion. Further, educating the general population about AIDS may assist in allaying any fears of those interested in entering allied health career tracks.

Additionally, health care facilities are under mandates from accreditation groups, health departments and the Occupational Safety and Health Administration (OSHA) to plan and implement AIDS training. It is important that health care management teams work with employees and their unions in the planning, implementation and monitoring of AIDS education programs. In this way, the training will more likely address workers' actual concerns and needs.

#### Discussion

Training should not be limited to those employees who have direct patient contact. Given the importance both of training to prevent transmission

of the virus as well as to address workers' questions, perceptions and fears, it is wise to educate all personnel. To perform their jobs more efficiently and effectively, personnel at all levels and in all health care settings, need a clear presentation of the facts surrounding HIV infection. Training should be both job specific and generic. Broad-based educational programs should lessen anxiety among health care personnel, reduce the inappropriate use of barrier precautions, encourage use of appropriate precautions and contribute to more widespread accurate knowledge about HIV-related illness. Where appropriate, health care personnel should receive additional information on how to better and more safely perform their jobs, any special care needs of HIV-infected patients and the importance of patient maintaining confidentiality.

Most of the training in HIV-related illnesses will have to be on-the-job and through continuing education. A first step is to ensure that there is adequate and appropriate training for existing health care personnel in all health care settings. One method to reach large numbers of workers is the "train-the-trainer" model. Whatever education and training model is used, the curriculum should be updated routinely because knowledge of the disease's history, epidemiology and treatment is continually changing. Skilled individuals, e.g., with backgrounds in infectious disease, should be involved in developing and updating both the education and training models as well as the curricula on HIVrelated illness.

The person(s) or group providing AIDS education and training may vary by facility. Department supervisors, infection control nurses, social workers, and others may be identified as the person or department responsible for AIDS education. Some health care providers may contract with City agencies, universities and community-based organizations to conduct training. Whoever conducts the programs, AIDS educational programs for health care workers should reflect the unique needs of each patient care setting.

Because an increasing number of individuals with HIV-related illnesses are being cared for in the community, there is an increasing need for the provision of more comprehensive and integrated knowledge about HIV among community-based practitioners. Primary care providers need AIDSspecific training in taking thorough medical histories that include relevant information on drug use and sexual behavior. In the education and training of physicians and other private practitioners, the psychiatric, the ethical and the behavioral practices related to prevention and transmission of the disease and sexual practices need to be addressed. Additionally, because IVDUs compose a significant portion of those with AIDS in New York City, it is important that all health care personnel in all patient care settings also receive training that will help them to understand the disease concept of chemical dependency.

All health professions schools should develop curricula for the training of all students in the skills, attitudes, and knowledge required for comprehensive care. This curriculum should include prevention, diagnosis, treatment and management of persons with HIV infection.

#### Recommendations

- 1. Training in diagnosis, prevention and treatment of HIV infection for all medical, human and social services, dental, nursing and allied health professionals should be continued and, where appropriate, expanded and enhanced.
- 2. State and federal funding should be made available for coordinated and structured, generic and specific AIDS training for all health care personnel in all patient care settings.
- 3. All health care personnel in all health care settings should receive training that will help them to understand the disease concept of chemical dependency. This training should focus both on clinical issues of enabling, manipulation, denial, and relapse prevention as well as attitudes and feelings about providing care to HIV-infected patients with substance abuse problems.
- 4. Education about transmission, prevention, recognition, treatment and management of HIV infection/illness should be provided for all primary care practitioners, including physicians.
- 5. Representatives from the public and private sectors, university-affiliated programs, labor unions and professional associations should be encouraged to create a local AIDS education and training resource center for all levels of personnel caring for HIV-infected patients.

#### **Special Protections and Precautions**

#### Background

Continuing to ensure a safe environment for health care providers is a major challenge raised by the presence of AIDS. Health care personnel want assurances that they are at minimal risk of becoming infected while caring for patients with HIV disease. Although the risk of HIV transmission from patient to health care provider is considerably lower than the risk of transmission of other diseases, AIDS is perceived by many as a more serious risk. This perception is fueled in part by the absence of any vaccine for preventing HIV infection or cure for HIVrelated illnesses.

Health care workers in the City of New York have been caring for HIV-infected people since the beginning of the AIDS epidemic. As information about the disease was publicized there were obvious concerns among workers about the safety of doing their jobs. Despite these fears, most chose to continue to carry out their duties.

Better information that has recently become available helps reduce the risk associated with HIV infection. The most widely accepted approach to minimizing the risk of infection is the use of universal precautions including protective barriers. Implementing universal precautions to prevent exposure to blood and body substances is the method endorsed by the American Hospital Association, Centers for Disease Control (CDC) and OSHA.

#### Discussion

Specifically, implementing universal precautions as a way of caring for patients requires the consistent use of protective barriers and practices for avoiding exposure to potentially infected blood and body fluids. The recommendations made in the Report of the Presidential Commission on the Human Immunodeficiency virus Epidemic, call for the use of universal precautions, emphasize the need for all health care workers to consider all patients as potentially infected with HIV and other blood-borne pathogens and to adhere rigorously to infection control precautions for minimizing the risk of exposure to blood and body fluids. Health care personnel cannot always know when an individual may be infected with HIV or other blood-borne agents. Universal precautions include the use of gloves to protect hands, masks and protective eye wear to protect mucous membranes, and the provision and use of appropriate containers for safe disposal of needles and other sharps to prevent needlestick exposures.

Universal precautions may protect health care personnel and patients from a variety of other infectious diseases, and the use of such precautions helps to maintain a workplace free of recognized hazards. Compliance with the tenets of universal precautions needs to be monitored, including ensuring that the needed equipment and supplies are readily available and used correctly. Implementing universal precautions policies and procedures will necessarily increase expenses. To date, no reimbursement mechanism has been developed and implemented to meet the increased costs accrued when providing supplies such as gloves, masks gowns, aprons and other protective garments. Other factors which may contribute to supplies and equipment not always being available and accessible are purchasing delays, distribution problems and hoarding. Suppliers and insurers will have to recognize and respond to these new demands for supplies and equipment. The success of implementing universal precautions is also heavily dependent upon the availability of sufficient direct and support staff, funding for inservice training, and adequate time for workers to complete tasks and adhere to protective practices.

Others who provide public safety and emergency care—police, firefighters, emergency medical technicians and paramedics come into direct contact with blood. It is important to recognize them both as members of the health care team as well as their need for training in universal precautions. There must be continued concerted efforts to educate these workers about HIV-related illness and how to implement universal precautions in their unique work settings.

#### Recommendations

- 1. In collaboration, health care managers, employee unions and professional associations must place a high priority on developing, implementing, and updating infection control policies and guidelines.
- 2. All health care personnel and emergency workers should be required to participate in infection control education programs appropriate to their roles and function. Unions can play a role in educating their membership.
- 3. Health care facilities need to monitor compliance with policies on the implementation of universal precautions and must ensure that the equipment and supplies are readily available and are used properly.
- 4. The State should require and reimburse all licensed home care agencies to provide all home care workers with proper supplies and equipment.
- 5. Containers for the disposal of sharps and handwashing facilities should be readily accessible to all health care personnel.
- 6. Adequate funds must be made available through all reimbursement systems to cover the additional costs incurred by the implementation of universal precautions.

#### Psycho-Social Support Systems

#### Background

In addition to AIDS education, training and infection control policies, employees caring for HIVinfected individuals need psychosocial support systems. While education and training may reduce unreasonable fear of contagion among health care personnel and adhering to universal precautions may reduce the risk of exposure to HIV, psychosocial

support systems are needed to help employees cope with the stress and anxiety often associated with caring for HIV-infected individuals. Existing support systems vary widely in their design and target audience. Some believe that structured support systems are needed, while others argue that personnel caring for this population should not be treated differently from employees caring for patients with other illnesses.

#### Discussion

Just as the scope and design of psychosocial support systems for health care personnel treating HIVinfected patients vary by institution, the person or department responsible for providing such support also varies widely by patient care setting. Some examples include: a support group headed by a psychiatrist, a bereavement program and meetings of multidisciplinary teams. In many instances unions, university-based AIDS mental health projects, community-based organizations and city agencies complement and supplement institutionally based psychosocial support systems.

Because of the work environment, home care personnel usually care for patients alone and do not have the advantage of working as part of a team. The Work Group heard testimony as to the importance of colleagial support – especially when there is a large AIDS patient caseload. Labor and management should find ways to enhance the support systems available to home care workers including bringing home health care workers together in an environment that is conducive for them to have an exchange with others about the care of home bound patients.

Regardless of the setting or the provider of psychosocial support, many of the issues and concerns raised by health care personnel are universal: dealing with IV drug users who have multiple treatment needs; coping with a constantly changing environment and expanding knowledge about HIV infection and AIDS; dealing with the fears expressed by family and friends of the health worker who may not fully understand the disease; and possibly, coping with an exposure to HIV-infected blood or body fluids.

When establishing health care personnel support systems, those workers who are seropositive must be provided assurance that their confidentiality and rights of privacy are protected. Additionally, employers should protect HIV-infected workers' rights to perform their jobs as long as they are capable. Labor and management should work together to find a way to permit workers who need to be reassigned or work part-time to be given the opportunity to do so. Workers should be able to discuss health insurance issues and employee benefits in a confidential setting. These issues are important to ensure that workers receive the necessary support. A method for addressing all of these and other concerns must be available to health care workers who request such support. Support may be provided through a wellplanned and formalized system or on a more ad-hoc basis depending upon the particular issue and an individual employee's preference.

#### Recommendations:

- 1. At a minimum, employees need easy access to support systems and such support must be provided by knowledgeable and qualified individuals who respect the employee's concerns.
- 2. Education and counseling for health care workers who feel they have been exposed to HIV need to be available. Family and friends should be included in such counseling sessions if the health care worker requests their participation.
- 3. Employee confidentiality and rights of privacy must be assured and protected. Employees should be aware of their legal recourse if they believe their rights have not been protected.
- 4. Research should be conducted to test the effectiveness of psychosocial programs to alleviate stress in health care personnel who care for HIVinfected individuals. Once it can be demonstrated that particular approaches are effective, information about them should be widely disseminated.

#### **Resource** Differentials

#### Background

As a result of the AIDS epidemic, all hospitals in New York City are expending additional resources. The programs and recommendations discussed in this report will require hospitals and other health care providers to continue to devote additional staff and financial resources to caring for HIV patients.

Because HIV patients often require more treatment and tend to need more emotional support than the average medical patient, and because utilizing barrier precautions is time-consuming, more nursing care hours are generally required for HIV patients than for other medical/surgical patients. Providing additional nursing care hours per patient per day is difficult, particularly in light of the current shortage of nurses and other health care personnel.

Planning efforts to meet the future resource needs of persons with HIV-related illnesses must be sensitive to the fact that a greater proportion of those presenting with the disease are IV-drug users. This population will place greater demands on a health care and a substance abuse treatment system already strained for resources because of the patients' multiple treatment needs. Additionally, because IVdrug users have additional needs, as they compose a greater proportion of all AIDS patients, more health care workers will most likely need to be employed to care for them.

#### Discussion

As the AIDS epidemic continues, New York City health care facilities will be confronted with continued pressure to expand available resources because of the presence of AIDS. For example, in 1986, AIDS patients occupied two percent of all medical/surgical beds in hospitals in New York City. By 1991, these figures are expected to rise to 8.1 percent. With respect to hospital treatment costs in 1986, AIDS cases accounted for 3.1 percent of total inpatient costs in New York City; by 1991 these costs are projected to rise to 8.4 percent. The enormous increase in health care resources devoted to AIDS treatment between 1986 and 1991 will certainly increase the demand for health care personnel and support.

As part of the Designated AIDS Center model, the New York State Department of Health recommends 6.4 hours of direct patient care per AIDS patient per day in contrast to the 4.4 hours recommended for the general medical/surgical patient. AIDS patients generally require 40 percent more staff time (including nurses, nurse's aides, orderlies and physicians' assistants) than general medical/surgical patients. Additionally, psychosocial support for personnel, inservice training, educational programs, and adhering to infection control policies (i.e., with the additional supplies and equipment they necessitate) require the devotion of additional resources by health care providers.

The home care situation mirrors that of the acute care environment in that providers often spend more time with patients with HIV-disease than they do with patients with other diagnoses. Patients with HIVdisease also require more case management time than do patients with other diseases.

It is apparent that resources for effectively staffing and providing support services will need to be significantly increased. How best to approach this increased demand for resources already in short supply (i.e.,health care workers) deserves serious attention by health care policy makers at the federal, state and local level.

#### Recommendations

- 1. Policy makers must plan for and budget adequately to meet all of the direct and indirect costs related to staff (e.g., training and psychosocial support systems) and other costs (additional supplies, equipment, diagnostic procedures and pharmaceuticals) in caring for HIV-infected patients.
- 2. Studies should continue to evaluate resource differentials related to caring for AIDS patients and educating and training staff members about HIVrelated illnesses.
- 3. The New York State Legislature in conjunction with the New York State Department of Health should hold a public hearing so that workers can describe how the AIDS epidemic has changed the nature of their work. Public officials need to understand the demands placed on the system by an increasing number of patients with HIV-related illnesses in order to plan appropriately for and budget to meet those demands.

## Bibliography

- Aberth, J. "AIDS: The Human Element." Personnel Journal, August 1986, pp. 119-23.
- "The AIDS Epidemic and Business." Business Week, March 23, 1987, pp. 122-32.
- American Management Association. AIDS, The New Workplace Issues. New York: American Management Association, 1985.
- American Academy of Hospital Attorneys of the American Hospital Association, AIDS Task Force. AIDS and the Law: Responding to the Special Concerns of Hospitals. November 1987. Available from the American Hospital Association, 840 North Lake Shore Drive, Chicago, IL 60611. (This publication contains an extensive legal bibliography compiled by Professor Arthur Leonard of New York Law School.)
- Bayer, Ronald, and Oppenheimer, Gerald. "AIDS in the Work Place: The Ethical Ramifications." Business and Health, January/February 1986, pp. 30-34.
- Bunker, John F., Eriksen, Michael P., and Kinsey, Jennifer. "AIDS in the Workplace: The Role of EAPs." The Almacan, September 1987, pp. 18-25.
- Lambda Legal Defense and Educational Fund, Inc. AIDS Legal Guide: A Professional Resource on AIDS-Related Issues and Discrimination. Available from Lambda Legal Defense and Education Fund, Inc., 666 Broadway, New York, New York 10012.
- Leonard, Aurther S. "AIDS in the Workplace," in AIDS and the Law: A Guide for the Public Edited by Harion L. Dalton, Scott Burries, and the Yale AIDS Law Project. New Haven: Yale University Press, 1987, pp. 109-25.
- New York Business Group on Health, Inc. AIDS and the Employer. Guidelines on the Management of AIDS in the Workplace. Available from the New York Business Group on Health, Inc., 622 Third Avenue, New York, New York 10017.

- Pozo-Olano, Juan de Dios. "AIDS Education in the Workplace: Corporation Role Includes Counseling." Occupational Health 6<sup>st</sup> Safety, December 1987, pp. 30-34.
- Pucket, Sam B. "When a Worker Gets AIDS." Psychology Today, January 1988, pp. 26-27.
- Ritter, David B., and Turner, Ronald. "AIDS: Employer Concerns and Options." *Labor Law Journal*, Vol. 38, No. 2 (February 1987), pp. 67-83.
- Rowe, M.; Russell-Einborn, M.; and Baker, M. "The Fear of AIDS." Harvard Business Review, July-August 1986, pp. 28-36.
- Schachter, Victor, and von Seeburg, Susan. AIDS: A Manager's Guide. New York: Executive Enterprises, Inc., 1986. (Available from Executive Enterprises, 22 West 21st Street, New York NY 10010.)
- Singer, Ira. "AIDS in the Workplace." Nations Business, August 1987, pp. 36-39.
- U.S. Public Health Service, Centers for Disease Control, "Recommendations for Prevention of HIV Transmission in Health-Care Settings," *Morbidity and Mortality Weakly Report*, Vol. 36, No. 25, (August 21, 1987), pp. 3S-17S.
- U.S. Public Health Service, Centers for Disease Control. "AIDS in the Workplace, 1985. Available free from the National AIDS Information Clearinghouse, P.O., Box 6003, Rockville, MD 20850. Orginally published as "Summary: Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus in the Workplace," Morbidity and Mortality Weekly Report, Vol. 34, No. 45 (November 15, 1985), pp. 682-95.

## New York City AIDS Task Force

Section VI

# **Prevention and Education**

February 1989

## Prevention and Education Work Group Membership

#### Co-Chairmen:

Megan McLaughlin, DSW Executive Vice President Federation of Protestant Welfare Agencies

#### Members:

Amelia Betanzos, President Wildcat Service Corporation

Alternate: Betsy Arnold, Wildcat Service Corporation

Robert Bixler, *Deputy Director*, AIDS Education and Training Narcotic & Drug Research Institute

Joyce Bove, Vice President New York Community Trust

The Most Reverend Edward M. Egan, Vicar for Education Archdiocese of New York

Jerome Goldsmith, PhD, *Executive Vice President* Jewish Board of Family & Children Services

Milton Gosset, Chief Executive Officer Saatchi & Saatchi DFS Compton

Alternate: Charles Abrams, Saatchi & Saatchi DFS Compton

Craig Harris AIDS Education Specialist

Anna Hopkins, Executive Director Grand Street Settlement House

Sally Kohn, *Executive Director* AIDS Services Delivery Consortium Ellen Rautenberg Assistant Commissioner, Division of AIDS Program Services New York City Department of Health

Mathilde Krim, PhD, Founding Director American Foundation for AIDS Research

Carol Levine, *Executive Director* Citizens Commission on AIDS

Michael Levine, Special Assistant to the Chancellor New York City Board of Education

Alternate: Sylvia Schechter, Director Family Living/Health Education Unit

Charles McKinney, PhD, Director of Education Gay Men's Health Crisis

Pauline Miles, *Director*, Health Education Empire Blue Cross Blue Shield

Marie St. Cyr, *Executive Director* Women & AIDS Resource Network

Maria Tapia-Burch, Senior Health Program Analyst New York City Health & Hospitals Corporation

Katy Taylor New York City Commission on Human Rights

Reverend Lee Wesley Minority Task Force on AIDS

The Work Group is indebted to the following consultants for their invaluable input:

Michael Baker Director of AIDS Planning New York City Department of Health Peggy Clarke Former Assistant Commissioner Division of AIDS Program Services

Support staff for the Prevention & Education Work Group:

Ralph G. Horton, PhD Associate Director New York City AIDS Task Force

Glenna R. Michaels Director New York City AIDS Task Force

## **Executive Summary**

HE primary means for reducing the spread of HIV infection is education. Effective education motivates people to avoid behavior which places them at risk of contracting or transmitting HIV. Risk behavior rather than risk groups should be the focus of all HIV prevention and education efforts. Promoting safer sex for men having sex with men, drug users, men and women having sex with IV drug users or bisexuals, and adolescents exploring their sexuality; encouraging IV drug users to enter treatment and/or avoid sharing needles should be the goal of preventive education.

Increasing individual knowledge about AIDS is necessary but not sufficient to reduce risk-related behavior. Self-empowerment skills must be integrated into HIV prevention strategies, and the availability of selfhelp groups must be expanded. Whole communities must be educated to support behavior change among individuals at risk. AIDS is the result of a virus that is spread as a result of specific risk behaviors; social and economic conditions place some communities of New York City at greater risk than others.

The relationship between poverty, drug use and AIDS is critical in understanding why minorities are disproportionately affected by this epidemic. In New York City the poor are disproportionately black and Hispanic and HIV infection is increasingly found in communities where poverty, crime and drug use are endemic. Improvements in employment, education, housing and accessible health care could forestall the onset of behavior that puts people, and especially impoverished people, at risk for AIDS.

In addition to citywide efforts that are ongoing and in need of expansion, considerably more attention must be paid to community-based organizations which can effectively communicate with distinct populations not yet reached by mainstream organizations and AIDS education efforts to date. Support for community-based organizations to do AIDS education and outreach must be expanded.

A critical component of effective education is the coordination and expansion of funding and technical assistance to community-based organizations both in terms of program development in this area and in administrative/financial management.

General principles of changing health-risk related behavior are relevant to AIDS prevention and education. Public health campaigns have shown that educational messages alone can change people's health-related beliefs and behavior to a limited extent; mass media and print materials must be combined with more personal approaches. All HIV prevention and education messages and activities should be scientifically accurate and culturally relevant, conveyed through an appropriate, accessible and credible medium, and presented in a simple, clear, and consistent manner. An educational program increases its effectiveness by combining messages with hands-on, personal communication at the community level.

HIV prevention campaigns must not only focus on those engaging in risk behavior, but also those who are in a position to influence community attitudes. Emphasis should be placed on how HIV is and is not transmitted, and should include massages which encourage compassion and discourage discrimination. Successful prevention and education efforts can only occur in a environment of non-discrimination.

Multiple approaches, e.g., mass media, information dissemination, individual counseling and referral, group forums, workshops and community-level activities have been implemented in New York City.

It remains unclear, however, what impact these approaches have had on changing risk behavior. Where changes in behavior have been reported they cannot be directly linked to any particular approach. Acknowledging the difficulties in measuring the effectiveness of education and prevention programs, well designed and executed studies should be conducted to determine what interventions are most effective and should be replicated.

#### Major Recommendations

- 1. Community-based organizations (CBOs) serving clients in their community must be encouraged, to provide AIDS education and outreach through provision of greatly expanded financial and technical assistance. The public and private sectors should provide additional funds for CBO technical assistance program, which includes program development and evaluation, financial management, grantsmanship and development of educational materials.
- 2. New York City elected officials should seek federal and state funding allocations to enable an immediate largescale expansion of drug treatment capacity in New York City. Treatment on demand must be the ultimate goal.
- 3. New York City and State government should provide funding to enable CBOs to provide outreach programs and support groups for the drug-using population in both high- and low-incidence areas and should be focused on providing behavior change approaches, which seem most acceptable to that individual at that point in time.
- 4. The City of New York must assure that individual counseling with the option of anonymous and/or confidential testing for the HIV antibody is readily accessible in all communities. Funds should be increased to ensure that these services are offered at

sites offering anonymous testing, drug treatmen centers, sexually transmitted disease clinics, family planning/ prenatal care clinics, hospital outpatient departments and community health centers. All such programs should be able to provide directly or make referrals to ongoing support services including self-help groups, primary care, social services and mental health programs.

- 5. All children in grades K-12 should be provided with age appropriate comprehensive health education which focuses on AIDS issues. The Board of Education must give priority to hiring AIDS staff to provide increased and accelerated staff development, parent leadership, peer leadership, and resource people for technical assistance and monitoring.
- 6. The Board of Education must expand school-based drug prevention and education programs to cover K-12, with grades 4-6 receiving priority. These programs must be universally implemented and provided in sufficient quantity and of sufficient quality to maximize prevention ofdrug use.
- 7. Steps should be taken to cause minority leadership to emerge to heighten the awareness of the minority population concerning the disproportionate and devastating impact of AIDS on their communities; to

increase receptivity of these communities to AIDS education and AIDS services; to advocate for an appropriate share of AIDS funding; and to broaden community involvement in AIDS issues.

- 8. In partnership, the public and private sectors should establish a New York City AIDS Clearinghouse which serves as a resource for community-based organizations, the general public, and health providers.
- 9. New York City and State government should require that an AIDS education and prevention component be built into every existing contract with CBOs delivering services to a high risk population, e.g., job training contractors working to place ex-offenders and exaddicts should be used in reaching this population at risk with AIDS education. Additionally, all contracts for provision of day care, foster care, youth services, mental health, literacy, etc. should be reviewed to determine how the agency can best contribute to this effort and what resources are necessary.
- 10. The New York City Human Resources Administration (HRA) should develop a comprehensive plan and secure resources to assure that populations receiving HRA's directly operated services are provided with AIDS education and prevention services.

## **Report of the Education and Prevention Work Group**

#### Introduction

The primary measure for reducing the spread of HIV infection is preventive education. Effective education extends beyond the transfer of knowledge to induce, persuade and motivate people to avoid behavior which place them at risk of contracting or transmitting HIV. Because HIV is transmitted primarily through sexual contact and sharing needles, open and frank discussion of sex and drugs is essential to control its spread.

The beliefs that people hold about AIDS, whether true or false, impact on what actions individuals as well as groups take to protect themselves against the disease. The fact that much of the general public perceives itself as immune has retarded community efforts at educating and organizing for self-protection.

Most prevention and education efforts have not adequately addressed the values and beliefs of threatened groups. Many pamphlets, brochures, and advertisements are excellent tools for providing information on the nature of the disease and how it is transmitted. However, these approaches must be coupled with activities aimed at mobilizing and empowering, whether for individual and group behavior change, development of support services or political pressure to increase AIDS funding.

In New York City there have been bold initiatives to educate the general public and populations who are at risk. Yet, major obstacles to the achievement of the most effective AIDS prevention and education remain:

- Leadership provided by a variety of individuals and groups is needed to set the tone for a coordinated educational response against HIV infection.
- Increased funding is needed for AIDS prevention and education services and activities.
- Debate concerning the content of AIDS messages prevents the public but particularly children from receiving clear and appropriate information about the prevention of the disease.
- A full-fledged attack on AIDS must not be impeded by discrimination and stigmatization.
- Campaigns which promote the use of condoms in both heterosexual and homosexual intercourse need to be expanded.
- Efforts to reach the IV drug user, his/her sexual or needle-sharing partners, and their offsprings need to be expanded and increased. New approaches are needed to effectively reach this population.
- New ways to educate the population about the needs to modify behavior must be explored, developed and implemented.

 Approaches need to be developed to educate the users of non-IV drugs, particularly crack.

#### Risk Behavior: Changes in Knowledge and Behavior

Since the first AIDS cases were diagnosed, people have become more knowledgeable about AIDS. Public health officials, community groups and the mass media have contributed to the growth in knowledge among both the general population and distinct groups. Although some progress has been made, increased awareness about how HIV is transmitted, has not been associated with universal changes in behavior necessary to stop transmission. In addition, as reported in the 1988 Office of Technology Assessment staff paper, many misconceptions continue to exist related to routes of transmission such as believing that a person can become infected by working near someone with AIDS. Other misconceptions in the general population relate to preventive measures, such as not recognizing that using condoms and spermicide can prevent infection. Often those at risk do not perceive themselves to be at risk, although they report engaging in risky behavior or having partners who do so.

From a public health perspective, it has sometimes seemed necessary to identify those populations within which persons may easily engage in behavior which puts them at risk of HIV infection. However, population identification has led to blame, prejudice and discrimination. Furthermore, speaking of "risk groups" may seem to suggest that anyone who does not belong to one of the groups is safe. The term "risk behavior" rather than "risk group" should be the focus of prevention and education activities.

Progress is most notable in the dramatic behavioral change which has occurred among white homosexual males, especially in San Francisco and New York City. One study documented that from 1985 to 1987 the proportion of homosexual men who engaged in unprotected receptive anal intercourse fell from 34 percent to 8 percent, and the proportion who engaged in unprotected insertive anal intercourse fell from 37 percent to 3 percent (Ekstrand and Coates, 1988). However, reports from geographical areas in which AIDS education and prevention efforts have occurred on a smaller scale than in New York or San Franscisco, show that as of 1986-1987, 55 percent of male homosexuals continued to engage in unprotected insertive anal intercourse, and 48 percent in unprotected receptive anal intercourse, sometimes despite knowledge regarding safer sex (Fox, et al, 1987).

Especially in minority communities, men who have sex with men do not always consider themselves homosexuals. Even if they do recognize the nature of their behavior, they do not wish to be singled out as having a particular risk behavior. A study recently conducted by the New York City Department of Health at Sexually Transmitted Disease Clinics shows that white men who have sex with men have reduced unprotected anal intercourse to a far greater extent than have men of color who have sex with men.

Limited information is available for men of color who have sex with men, but it is generally assumed by AIDS educators that they have less knowledge and have changed behavior less than whites.

Many IV drug users have learned about AIDS from the mass media, various outreach efforts and by word of mouth within the drug-using subculture. In a New York City study, more than half of a group of methadone patients reported that they had made at least some changes in their drug using behavior. Only fourteen percent, however, reported having changed their sexual behavior (Friedman, DesJarlais and Sotheran, 1988). IV drug users report more changes in sexual behavior with casual sexual contacts, e.g., use of condoms with prostitutes, than with partners with whom they have a long-term relationship.

Risk reduction for IV drug users depends on the availability of options for behavior change. Some drug users can be persuaded to enter treatment, others to stop sharing needles, others to clean their needles and still others to use clean needles provided by someone else. All should be encouraged to use condoms. In reality these options are not available for intravenous drug users: drug treatment capacity is severely restricted; information and counseling is not sufficiently available; and clean needles as well as condoms are not easily accessible. Without expanded treatment capacity, increased educational efforts, clean needles and condoms, we can not expect necessary behavioral change to occur in this group and transmission will continue unabated. Currently, the New York City Department of Health is conducting an experimental needle exchange program for 200 IVDUs. The availability of clean needles is a necessary option but only one piece of a comprehensive and varied strategy. Although politically controversial, one needs to look at the data from the needle exchange program and, based upon the results, determine the next steps.

Adolescents engage in both sex and drug behavior that put them at risk for HIV. Surveys have found that although adolescents are very knowledgeable about how HIV is transmitted, few appear to be changing their sexual behavior because of the threat of AIDS (Kirby, 1988). Although many adolescents are at risk and require significant amounts of education and counseling, of particular concern in New York City are homeless and street youth who engage in prostitution, IV drug and crack use. The emphasis in HIV education has been placed primarily on reaching gay males and IV drug users who are predominantly male. Many women, particularly those who are the sex partners of men at risk, are unaware of their risk of contracting and transmitting HIV infection; limited information is available to document their knowledge levels, attitudes and risk-associated behavior. Risk reduction, particularly for women, depends on educational approaches based on a solid understanding of the distinctive problems women from different cultures may face when confronted with sexual decision- making. Educational efforts must concentrate on giving women not just the information but the skills necessary to protect themselves, their partners and their babies.

The behavior associated with AIDS, sex and intravenous drug use, is difficult to change. These modes of behavior have considerable psychological and social implications. These are areas in which private decisionmaking not public policy, is the traditional method of dealing with personal efforts at change (Becker, M.H., 1988). A major purpose of AIDS education is to influence individuals to adopt or maintain modes of behavior that do not allow for HIV transmission. By ceasing to engage in risky behavior, people who are already infected can avoid transmitting the virus to others, and people who are not infected can protect themselves from the virus.

Because the spread of the virus involves behavior over which people have some control, preventive education involves a focus on risk-taking, impulse control and compulsivity; this includes alcohol and drug-taking behavior. Intravenous drug use, crack and cocaine use, and recreational drug/alcohol use are likely avenues for the spread of HIV. Evidence from a small number of studies suggests that users of mind and mood-altering substances may be at considerable risk for contracting and spreading HIV, because they tend to be involved in frequent and unsafe sexual activity (President's Commission Report, 1988). AIDS prevention and education strategies will be facilitated by an adequate drug/alcohol treatment system and by educational efforts which accurately portray recreational drug and alcohol use as transmission risks.

Increasing individual knowledge is necessary to reduce risk-related behavior but it is not necessarily sufficient to eradicate it. To effect sustained behavioral change, attitudes and beliefs must be developed which reinforce behavioral change. Specific skills for implementing safer sex and drug use practices are necessary and need to be integrated into the design and implementation of all prevention strategies. Support and self-help groups are an important tool for behavioral change, which have not been sufficiently utilized in HIV prevention programs; skillbuilding is important for people who, despite a widespread understanding of the specific behavior which facilitates HIV infection, continue to place themselves and others at risk. The analogy to smoking can be made—after twenty years of sustained education, community attitudes and beliefs have shifted significantly and individuals are changing behavior, some with the help of programs which seek to develop understanding and skills to change the smoker's behavior.

#### **Minorities and AIDS**

AIDS is not only the result of a virus, but also of social and economic conditions which place some individuals and communities in New York City at greater risk than others. The relationship between poverty, drug use and AIDS is critical to the understanding of why minorities are being disproportionately affected by this epidemic. As the President's Commission looked at patterns of HIV infection, the relationship between the spread of HIV and longstanding societal problems became apparent. Whereas in the gay community considerable attention to education has produced measurable achievement in reducing transmission, evidence was presented to the Commission that the occurrence of HIV infection is increasingly found in communities where poverty, crime and drug abuse are endemic.

In New York City the poor are disproportionately black and Hispanic. Unemployment as well as persistent poverty remain far higher among non- whites than whites. Unemployment rates for black and Hispanic males are twice that of white males; dropout rates for black and Hispanic students are 50 percent higher than for whites; and black and Hispanic families are three times more likely to be headed by single women than are white families - and are at great risk of becoming and remaining poor. People in poverty are also frequently medically underserved and have higher rates of acute and chronic illness. The HIV epidemic presents an array of new problems in prevention and care for a population already receiving what many consider inadequate health and social services. These conditions are so intertwined that no one of them can be solved in the long term without addressing the societal infrastructure issues: employment, education, housing, and accessible health care. Improvements in these areas would enhance both individual and community dignity and hope for the future which could diminish behavior that puts people at risk for AIDS.

In New York City, we believe that transmission patterns vary by race. A greater percentage of blacks and Hispanics are becoming infected with HIV than are whites. Over half of New York City's reported cases of AIDS are among black and Hispanic New Yorkers. Though blacks and Hispanics together comprise close to 50% of New York City's population, they account for 57% of the cumulative AIDS cases. In white males, HIV is spread mainly by sexual contact between men; only 4% of white adult men who have been reported with AIDS have been infected solely through IV drug use. For black men with AIDS, however, 43% were infected through sharing of needles and other drug paraphernalia and for Hispanic men, 47%.

Minority women who are intravenous drug users or the sex partners of drug users are similarly disproportionately affected.

Because HIV infection in whites is mainly found in the homosexual population, it has not spread rapidly to the white heterosexual population. This is not the case with blacks and Hispanics, who are more likely than whites to have become infected by sharing IV needles. Because of the high rate of HIV infection in minority drug users, there is a high rate of AIDS in their sexual heterosexual partners. In New York City, black and Hispanic women account for almost 85% of adult women with AIDS. White women account for only 15%. Over 60% of minority women with AIDS are IV drug users and have most likely become infected through sharing contaminated needles. Over 20% are not IV drug users and became infected through heterosexual contact with an infected man. Over 30% of the national total of children with AIDS are located in New York City. Ninety-two percent of children with AIDS in New York City were born to black and Hispanic women.

In addition to neighborhoods which are poor, certain settings are disproportionately affected by AIDS. For example, the HIV epidemic creates unique and major problems in the New York City jails and the state prisons. According to the New York State Commission on Correction, "AIDS has become the leading cause of death in New York State correctional facilities". Between 1981 and mid-1987, more than 400 AIDS-related deaths have been reported in New York prisons and jails, 51 of which occurred in New York City facilities. The majority of the individuals in these cases had IV drug histories, came from New York City, and were black (39%) or Hispanic (46%). Because large numbers of individuals who come into contact with the criminal justice system have histories of IV drug use, the population of pretrial defendants, sentenced prisoners, and persons who are under probation supervision, on parole or participating in alternatives to incarceration is increasingly at risk for AIDS, infected by HIV, or ill with AIDS.

While the HIV epidemic affects all segments of society, each segment has its own unique needs. Prevention and education programs must account for socio-economic realities and culture and lifestyle diversity.

#### Recommendations

- 1. New York City elected officials should seek federal and state funding allocations to enable an immediate largescale expansion of drug treatment capacity in New York City. Treatment on demand must be the ultimate goal.
- All children in grades K-12 should be provided with age appropraite comprehensive health education which focuses on AIDS issues. The Board of Education must give priority to hiring AIDS staff to provide increased

and accelerated staff development, parent leadership, peer leadership, and resource people for technical assistance and monitoring.

- 3. The Board of Education must expand school-based drug prevention and education programs to cover K-12, with grades 4-6 receiving priority. These programs must be universally implemented and provided in sufficient quantity and of sufficient quality to maximize prevention of drug use.
- 4. New York State and City government should provide funding to enable CBOs to provide outreach programs and support groups for the drug-using population in both high- and low- incidence areas and should be focused on providing behavior change approaches, which seem most acceptable to that individual at that point in time.
- 5. Self-help support groups should be readily available in the community to assist individuals who are making difficult behavioral changes or who are coping with personal risk or their own infection status.
- 6. Public funding and support should be increased to expand services for the homeless, adolescents, prisoners and parolees/ probationers. These funds should be used to initiate or expand programs to provide appropriate HIV-related education and referrals. Wherever feasible, community-based organizations should be used as the vehicle for delivery of these services.
- 7. Private grantmaking organizations and foundations should fund new approaches and models of HIV prevention and education for hard-to-reach populations.
- Education programs should be expanded at universities, community colleges, vocational and technical schools. Resources should be made available to provide students with peer education, confidential counseling, testing and referral services.
- 9. Steps should be taken to cause minority leadership to emerge to heighten the awareness of the minority population concerning the disproportionate and devastating impact of AIDS on thier communities; to increase receptivity of these communities to AIDS education and AIDS services; to advocate for an appropriate share of AIDS funding; and to broaden community involvement in AIDS issues.
- 10The New York City Department of Health (DOH) should serve as the lead agency in an effort to increase knowledge and decrease misconceptions about HIV. That effort should assure the availability of a comprehensive range of prevention services accessible and appropriate for the various communities of New York City.

#### Community-based Prevention and Education: Collaboraion and Coalition Building

A critical component of effective prevention and education efforts is the linking together of federal, state

and local efforts in order to reach communities. The organizational bases from which HIV prevention and education activities in New York City are planned and implemented should be diverse. Community-based organizations have not been recognized as the important vehicle they are for reaching diverse populations. There should be a wide range of community-based organizations in varied settings supported financially and technically to educate particular groups and the public at large about HIV and its prevention. Uniform messages coming from numerous credible sources will facilitate the learning necessary for behavioral change. Attention must be paid to community-based organizations which can effectively communicate with distinct populations not yet reached by more established organizations and methods. This should include organizations oriented to gay and bisexual men of color, women of color, substance abusers and their sex partners, out-of-school youths, adolescents and heterosexuals who have unprotected sex with multiple partners.

Many community-based organizations are already serving these populations with non-AIDS programming such as job training, pregnancy prevention, literacy training, foster care, day care, recreation, social and mental health services. It is important for government and private funders to support existing community-based organizations in their efforts to develop and integrate HIV prevention and education programs which: (1) create a background of community understanding and compassion for HIV-infected individuals and those who have AIDS, (2) strengthen individual knowledge and skills for behavioral change, (3) promote the concept of making informed choices, (4) promote community-wide AIDS education, (5) educate service providers, (6) foster coalitions and networking, and (7) influence policy and legislation. For community-based organizations to craft HIV prevention and education strategies to meet the specialized needs of their distinct service populations, they will need to work, where possible, on each of these seven levels.

Throughout New York City there are a number of community-based HIV prevention and education programs in place but these efforts are limited and need to be expanded and sustained. To expand what exists and to develop what does not exist demands considerable planning, collaboration and networking. This is particularly critical in minority communities. Collaborative relationships between all agencies, groups and organizations need to be enhanced to (1) determine gaps in service and establish new programs, (2) identify existing services and refer people for appropriate services, (3) share information, data and expertise on program planning, (4) provide technical assistance in the development of education materials and activities, (5) provide or receive grant money, office space, materials and equipment, and (6) participate in policy making and lobbying efforts.

To reduce insensitivity, create more tolerance and compassion and move education forward, community leaders including politicians, ministers and business leaders must work in partnership with established community-based organizations to educate the community about AIDS. These leaders can significantly influence knowledge, beliefs and practices of those at risk. It is imperative that community-based groups and leaders begin to coordinate across agendas and politics. A monolithic consensus cannot be expected, but a collaborative partnership can become a reality.

#### Health-related Public Education Programs

General principles concerning ways to change non-AIDS, health-related behavior can be applied to AIDS prevention and education. A review of a few health education programs demonstrates which elements have been successful in changing health-related behavior.

In general, mass media programs alone can change knowledge and attitudes, but have less influence on behavior than when combined with other educational approaches. Mass media programs to promote the use of family planning techniques were found to have limited success in changing people's behavior (Udry, J.R., et al, 1972). During the early 1970's, several educational efforts were undertaken to discourage drug use, particularly among adolescents and young adults. In one program, public service announcements were consistently aired outside prime-time hours; did not expose target groups to specific messages; failed to consider social networks, peer groups and sources of information credible to drug users; and used strong fear messages (Joseph, J., 1988). There is consensus that these efforts during the 1970's failed to influence drug users.

Perhaps the best designed studies of intervention through mass media campaigns come from programs to reduce the risk of cardiovascular disease among entire communities. Stanford researchers found that over a three year period, risk of cardiovascular disease fell and remained significantly lower in the two communities which had been the object of educational intervention. Mass media alone successfully promoted behavior, particularly nutritional behavior, to lower cardiovascular risk about 25 percent. Combining mass media with faceto-face instruction achieved even greater changes, about a 40 percent reduction. The researchers concluded that sustained community- based education with a mix of approaches can achieve behavioral change which results in risk reduction (Farquhar, J.W., 1984).

Social norms regarding smoking have changed dramatically. The unique role of mass media and antismoking campaigns in this change is not clear. It is clear, however, that large-scale campaigns, combining mass media messages, self-help programs, printed material, workshops, and group discussion sessions not only improved people's awareness, knowledge, and motivation, but also reduced smoking prevalence. None of the intervention using mass media alone reduced smoking and maintained this reduction as well as those that combined mass media with face-to-face approaches (Flay, B.R., 1987).

Efforts to control syphilis may provide particular insights into principles for AIDS prevention and education, since both are transmitted sexually. During World War I, 13 percent of the men drafted were infected with either syphilis or gonorrhea. The approach undertaken by the military against venereal disease centered on promotion of sexual abstinence and repression of prostitution. Posters, films, and other material warned soldiers about the health risks of sex with prostitutes. Although the efficacy of condoms in preventing syphilis was recognized, the military did not provide them to the troops because it was feared that such a step would encourage sexual relations. Instead, soldiers were required to undergo disinfectant treatment after sexual exposure.

Soldiers who contracted a sexually transmitted disease lost their pay and were subject to court- martial (Brandt, A.M., 1985). Despite these measures, rates of syphilis remained high during the war.

During World War II, the military not only undertook an educational program, but also provided condoms and sought to treat soldiers rapidly without punishing them. Rates of syphilis infection fell during the early 1940's, a decline that accelerated with the introduction of penicillin in late 1943. The experience with syphilis indicates that intensive education and provision of condoms during World War II protected soldiers from infection, while attempts during World War I to prevent infection through abstinence, fear, and appeals to morality were not successful.

Public health campaigns have shown that educational messages alone can change people's health-related beliefs and behavior only to a limited extent. An educational program, however, increases its effectiveness by combining use of mass media with interpersonal communication and by helping people develop skills to implement their new beliefs and motivations.

#### Messages and Content

A necessary condition for effective prevention and education is that the message reach the intended audience; this depends on the number of messages, when and how they are presented, and their duration of display.

AIDS prevention and education messages should adhere to the following general principles:

1. All messages should be accurate and consistent with the latest developments in epidemiological and medical knowledge concerning AIDS and its transmission. Accuracy is key to correcting misconceptions about

transmission and communicating information on how HIV is and is not spread.

- 2. All messages should aggressively avoid stigmatization. The language of all messages must avoid linking transmission to population groups and focus instead on the need for behavioral change.
- 3. Messages should be conveyed through a medium which the audience will be able to understand, will find appropriate and to which it will respond.
- 4. The sociocultural context of each group must be addressed as messages are being developed. Appropriate symbols, images and credible spokespeople must be used.
- 5. Messages should be simple, clear and consistent. Lengthy and intimidating messages presented in technical or scientific jargon will not be effective. If perceived to be condescending, such messages will be counterproductive. What can be communicated through face-to-face channels may not be able to be communicated through television or other mass media. On the other hand, some audiences may be more recep-tive to radio and television media than to human interaction.
- 6. While messages need to be repeated over time, new messages should build on what has gone before them. For example, gay-identifying men may be saturated with information about how to reduce risk and, hence, may need messages that are less informational in nature. Some audiences, on the other hand, may need more basic information about virus transmission.
- 7. A major determinant of message content is knowing what behavior change beliefs/barriers need to be influenced. With some audiences one may need to focus on AIDS as a personal threat in order to confront high levels of denial. If, on the other hand, denial does not need to be addressed, one may want to develop messages that explicitly relate to personal efficacy or group norm change.

#### The Principle of Multiple Approaches

The multiple approaches most often used in HIV prevention and education programs include: (1) mass media, (2) information and referral, (3) forums and work-shops, (4) interventions that seek to accelerate community-level changes, and (5) those that seek to directly influence risk behavior on the personal level through individual counseling. An ideal HIV education model should employ all educational approaches in a coordinated and consistent way; involve communities and affected populations in program development; and ensure that all approaches are stigma free, confidential and anti-discriminatory. There must be a public-private partnership in funding and supporting these approaches. Government must assume the majority of costs with corporations and foundations contributing an increased amount.

#### **Mass Media**

Undoubtedly, electronic and print media, and videos and supporting materials do serve to raise AIDS awareness and information levels. If consistent and extended over time, this can be an effective approach in the process of bringing about social change. But what must be recognized is that mass media campaigns are not, by themselves, sufficient to bring about change in risk behavior.

#### **Centralized Information and Referral Services**

While mass media can be used to raise awareness and information levels, an approach which responds to individual questions and refers persons to educational or service resources is essential. Telephone services and information clearing houses provide easy access to comprehensive and accurate information. Exposing people to a central information/referral source can provide continuous accessibility of culturally appropriate information and materials.

#### Forums, Workshops and Classes

Typically these are one-session group training approaches which reinforce the basic messages of other education efforts and include panel discussion, lectures, video presentations or live theater, and opportunities for getting brief answers to questions. These approaches may be facilitated by health education or human rights professionals, but should have a strong community-based focus.

#### **Community-Level Change**

Visible community leadership can mobilize large numbers of individuals. Credible community leaders and spokespeople are essential as bridges between the public health services and individuals engaging in risky behavior. Community leaders do have an impact on individuals' attitudes and behavior. Support from peers and community leaders reinforces people's intention to change their behavior. This approach recognizes the social nature of HIV risk behavior and the role that opinion leaders, peer support groups, one-on-one interactions, small group discussions and decision-making formats play in sanctioning behavior alteration.

#### Individual-Level Behavior Change

Whether one-on-one or group interactions are emphasized, this approach focuses on a personal level and seeks to change individual risk behavior through:

- Prevention education and counseling offered in conjunction with antibody testing. When coupled with effective HIV prevention counseling, antibody testing can be a gateway to behavior change.
- Interventions based on a therapeutic model that are not tied to antibody testing programs. This approach has individual behavior change as its goal. The approach may entail professionally led multi-session groups aimed at individuals engaged in high-risk behavior. It

Prevention & Education 309

may involve individualized counseling sessions where level of risk is assessed and a plan for behavior change is adopted. Whether group or individualized formats are used, these approaches emphasize the development of interpersonal communication skills, e.g., how to negotiate safer sex; safer sex skills; how to use a condom properly; and how to enhance one's sense of personal efficacy. The stronger an individual's belief in his or her ability to undertake or maintain safer behavior the more likely the person is to undertake that behavior change on a permanent basis.

- Addiction treatment. Substance abuse treatment programs as well as twelve-step recovery programs such as Alcoholics Anonymous, Narcotics Anonymous and Cocaine Anonymous address the needs of two groups at increased risk of HIV infection: IVDUs and "recreational drug users" who are more likely to engage in unsafe behavior when under the effect of alcohol and/or other drugs. These programs seek to change addictive attitudes and behavior.
- Various health and social service system access points. Health and social service providers can promote receptive attitudes towards an intervention by stressing potential benefits, such as pregnancy and disease prevention from using condoms. After individuals have decided to adopt a certain behavior, they require the skills, both social and technical, to carry out their new behavior. Rehearsing or practicing the desired behavior with assistance from trained workers can help to convey the required skills. Risk-reduction messages conveyed in the course of a patient's treatment may increase the messages' credibility and thereby positively influence behavioral change.

Although many of these approaches have been implemented in New York City, few have been evaluated. Consequently, it remains unclear what impact these approaches have had on changing risk behavior. Where changes in behavior have been reported they cannot be directly linked to any particular approach. It is not clear which components account for successful results or which combinations of approaches are more effective than others.

The principle of "community diagnosis" and planned service development are essential to developing effective HIV education. This should begin by assessing need through a diagnostic process and setting clear and measurable program objectives based on the assessment. Vague objectives are likely to yield scattered, unfocused efforts. Based on a description by small area, population-based surveys of knowledge, attitudes and behavior, coupled with focus group sessions, target populations can be identified and an assessment made about what audiences need to learn. Appropriate interventions can then be designed and implemented.

#### **Recommendations**

- 1. The New York City Department of Health should pave the way for more targeted education and prevention programs which community-based organizations can best carry out. Such a campaign should also place emphasis on how HIV is *not* transmitted, and should include messages which encourage compassion and discourage discrimination.
- 2. Community-based organizations serving clients in their community must be encouraged to provide AIDS education and outreach through provision of greatly expanded financial and technical assistance. The public and private sectors should provide additional funds for a technical assistance program, which includes program development and evaluation, financial management, grantsmanship and development of educational materials.
- 3. In partnership, the public and private sectors should establish a New York City AIDS Clearinghouse which serves as a resource for community-based organizations, the general public, and health providers.
- 4. New York City and State government should require that an AIDS education and prevention component be built into every existing contract with CBOs delivering services to a high risk population, e.g., job training contractors working to place ex-offenders and exaddicts should be used in reaching this population at risk with AIDS education. Additionally, all contracts for provision of day care, foster care, youth services, mental health, literacy, etc. should be reviewed to determine how the agency can best contribute to this effort and what resources are necessary.
- 5. The City of New York must assure that individual counseling with the option of anonymous and/or confidential testing for the HIV antibody is readily accessible in all communities. Funds should be increased to ensure that these services are offered at sites offering anonymous testing, drug treatment centers, sexually transmitted disease clinics, family planning/prenatal care clinics, hospital outpatient departments and community health centers. All such programs should be able to provide directly or make referrals to ongoing support services and mental health programs.
- 6. The New York City Human Resources Administration (HRA) should develop a comprehensive plan and secure resources to assure that populations receiving HRA's directly operated services are provided with AIDS education and prevention services.
- 7. The New York City and State government should assure information, risk reduction education and counseling about the prevention of HIV is provided at all health care and social service access points to all clients and their sexual partners.
- 8. The communications and media industry should work
AIDS issues into mainstream programming in an accurate and non-sensationalist manner, focusing on education, compassion and prevention rather than on fear. The industry must provide additional prime time public announcement space and include explicit messages in those public announcements.

9. Throughout New York City the religious community must make every effort to contribute to prevention efforts. Religious educators and leaders should provide accurate and consistent information to their congregations and counsel the HIV-infected and their families. All religious educators and leaders should develop HIV initiatives for their communities. As a part of this effort they should hold church/community forums; coordinate HIV education activities of ministerial associations; and coordinate the development of HIV resource materials.

10.New York City and State government in collaboration

with CBOs and businesses must assure that HIV education and prevention programs are available to provide high quality training to health and human service workers and community AIDS educators.

- 11.Leaders in the New York business community (NYC Partnership, Business Council, Business Group on Health, Association for a Better New York and others) should influence large and small employers to make AIDS information available in the work place.
- 12.Public and private sector employees and unions must ensure adequate AIDS education and prevention services for their work force.
- 13. Studies to determine what programmatic interventions are most effective in reducing transmission of HIV within distinct communities should be undertaken immediately. Universities and research institutions should seek federal and private funding to support these efforts.

# APPENDIX A Overview of AIDS Prevention and Education Activities in New York City

This overview is based on information available from field investigations conducted by staff of the Prevention and Education Work Group; a work group members' survey of AIDS prevention and education activities; the New York City Strategic Plan for AIDS report; and a survey of community-based organizations conducted by the Citizens Commission on AIDS for New York City and Northern New Jersey.

This overview is not inclusive of the varied and numerous groups and organizations in New York City which are engaged in AIDS prevention and education. It does, however, begin to clarify constraints and gaps, and points to the trends and strategies which should be considered when setting future priorities.

This overview of both general and targeted AIDS prevention and education activities in New York City includes the following ten areas: (1) Federal, State and City Government, (2) health care services, (3) social service/human resources, (4) school- and college-based, (5) public service advertising, communications, and media industry, (6) businesses and corporations, (7) religious organizations, (8) social/political advocacy groups, (9) foundation programs and grant-making organizations, and (10) community-based organizations.

## Summary of Current Activities of the Federal, State, and City Governments Federal

The Centers for Disease Control (CDC) is the federal government agency responsible for the prevention and control of diseases, including AIDS. The CDC provides funding to assist both New York State and New York City Departments of Health in detecting and preventing the further spread of HIV infection through (1) resource assessment; (2) active surveillance and selected epidemiologic investigations; (3) seroprevalence surveys; (4) laboratory services; (5) knowledge, attitudes, and behavior studies/assessments; (6) public information campaigns; (7) health education and risk reduction activities; (8) counseling, testing, and partner notification; (9) involvement and participation of community based organizations, particularly those representing or serving minorities or women; (10) school health education collaboration; and (11) evaluation of all activities. Throughout these activities, a special emphasis is placed on active surveillance and prevention of AIDS and HIV infection in minority populations. Other federal prevention initiatives include the Office of Minority Health's Funding of AIDS Education and Prevention demonstration programs; the Health Resources and Service Administration's Education and Training Centers; the National Institute of Health's dissemination of HIV/AIDS information; and the Alcohol, Drug Abuse and Mental Health Administration's outreach projects and expansion of drug abuse treatment capacity.

### State

The State Department of Health's AIDS Institute administered (for 1988-89) sixty percent of the state budget for AIDS-related programs. The budget for AIDSrelated programs did not include funding for medical assistance, income maintenance, other health care-related expenditures, federal grants, private grants, or local spending. These included funds for the following: communitybased organizations to deliver AIDS education and outreach services; expansion of education programs targeted at minorities and other high risk groups, including homeless adolescents, sexual partners of IV drug users and prostitutes; HIV counseling and testing at family planning clinics and prenatal care assistance programs; preventive education and peer counseling to IV drug users; and the central training unit for AIDS/HIV prevention responsible for the development of AIDS-related educational materials. The Division of Substance Abuse Services (DSAS) was budgeted to provide street outreach to intravenous drug users including homeless substance abusers at risk; technical assistance and training to voluntary providers; and AIDS coordinators to provide staff education in treatment centers. DSAS was also funded in the areas of treatment expansion, facility expansion, and detoxification and drug-free residential programs.

Additional AIDS-related prevention and education activities are provided through the Department of Correctional Services; State Education Department; Office of Mental Health; Division of Alcoholism and Alcohol Abuse; and Division of Human Rights.

### City

The New York City Department of Health (NYCDOH) is the central coordinating agency for HIV-related activities among City agencies and serves as a communication channel between the public and private sectors, community-based organizations, and research institutions. The Department of Health also funds a variety of community-based and city-wide nonprofit agencies to provide HIV prevention services. The basis of the Department of Health's HIV program services is risk behavior reduction through education of the general public and target populations; counseling those at risk of infection; and when offered in conjunction with

#### 312 NEW YORK CITY AIDS TASK FORCE

counseling, the provision of HIV testing. Community outreach is a major component of the Department of Health's prevention and education efforts. Outreach teams composed of HIV educators distribute educational materials, make presentations and support HIV prevention activities in the twenty-one communities most heavily affected by AIDS due to intravenous drug use. Special outreach programs are also directed to gay and bisexual men of color, adolescents as well as inmates in New York City correctional institutions.

NYCDOH's prevention programs include mass media efforts; educational material development and distribution; professional training; hotline counseling; anonymous and confidential counseling and testing programs; partner notification services; a condom distribution initiative; laboratory testing services; and technical assistance to community-based organizations.

The New York City Department of Health contracts with 30 CBOs for education and outreach services to target neighborhoods as well as with six city-wide CBOs for education and outreach services for specific target populations.

HIV-related discrimination education is provided, throughout New York City, by the Commission on Human Rights. Additional AIDS-related prevention and education activities are provided by the Health and Hospitals Corporation, Human Resources Administration, Department of Mental Health, Mental Retardation and Alcoholism Services, Department of Corrections and Board of Education.

### Health Care Services

There has been some effort to educate individuals in health care delivery settings. A major effort to encourage physicians and other health professionals to become more effective AIDS educators with their patients is required. Hospitals, health centers, STD clinics, family planning and perinatal clinics and other health provider settings are important sources of HIV prevention and education efforts. Although health providers have credibility in the prevention of disease they are not used to the fullest to conduct HIV education and individual counseling.

### Social Service/Human Resources

There are numerous social service organizations, both public and private, involved in HIV-related work. Many of these groups provide a continuum of preventive intervention to HIV-infected persons and those at risk. There is evidence that in some of these organizations, HIV prevention and education programs have been designed and implemented within the fabric of the service delivery system. Educational programs provided by these organizations include: information referrals, brochures, safer sex workshops, speakers bureaus, AIDS hotlines, films and videos, and seminars. A few of these groups provide transmission prevention and education training for the staff of hospitals, health centers, business establishments, and for home care workers. AIDS discrimination education is also provided by city and community-based organizations.

Although a few organizations provide targeted education and prevention, there remains a considerable gap in initiatives developed by and for gay men of color, women, IV drug users, prison inmates, adolescents and children. There appears to be scattered HIV prevention and education for the mentally-ill, mentally retarded, physically disabled and others who have special needs, though there are a few groups that have designed educational curricula and materials for these distinct populations.

In New York City the problem of homeless persons with HIV-related diseases only exacerbates the general problem of homelessness. Adolescents who live on the streets and engage in high risk behavior pose unique problems which, unchecked, cause further spread of the HIV epidemic. Broad-based social service organizations, including job training, foster care, day care literacy programs, social clubs, etc., that aid these populations provide some assistance; but the gaps are considerable, and prevention and education messages are often undertaken too late.

### School- and College-based

The New York State Board of Regents and the New York City Board of Education as well as the Archdiocese of New York City have developed a curriculum on AIDS. Most colleges and universities have some program on AIDS education and prevention. In accordance with a Chancellor's Mandate, the New York City Board of Education has developed an age appropriate AIDS education program for all students K-12. AIDS lessons are being infused into the Board mandated *Growing Health* curriculum for all children K-6. At the junior and senior high school level, the mandate requires a minimum of 6 AIDS lessons per year for all grades 7-12.

AIDS prevention education has been in existence at the Board of Education since October 1985. At that time, all school personnel viewed and discussed a Department of Health AIDS information tape and received an accompanying comprehensive package of related materials. To augment this initial effort, more than 2,000 IS/JHS and high school teachers, administrators and support staff have had AIDS training that will enable them to teach students in grades 7-12 a minimum of two AIDS education lessons. In addition, a pilot high school peer education program and a parent leadership program are being developed.

Since September 1987, the Centers for Disease Control and The State Education Department have funded the Office of Health, Physical Education and Substance Abuse to provide comprehensive skills in AIDS education K-12. These additional monies have allowed staff in 15 community school districts to be trained in the *Kids on* the Block AIDS education curriculum.

With the assistance of the City-wide AIDS Advisory Committee that meets several times a year, a Board of Education master plan for AIDS education has been developed through 1991.

The problems affecting AIDS education implementation within the schools have been the inability to hire additional staff due to a Board of Education hiring freeze and the limited degree to which explicit AIDS education, risk behavior reduction and skills development can be addressed and evaluated.

### Public Service Advertising, Communications and Media Industry

In general, public service announcements and advertisements tend to be scattered and inconsistent. Most AIDS campaigns have focused on increasing general awareness rather than on specific prevention actions. Although the major networks and radio stations have agreed to accept AIDS public service announcements, many restrictions still exist as to content. Messages must adhere to strict station policies. Contents are often controlled by station managers and limitations exist as to what can be seen and heard and the time they can appear or be stated. "Viewer Sensitivity" is usually cited as the reason for failing to promote explicit public service announcements and advertisements.

Numerous radio stations exist in the New York City area, reaching a variety of audiences. Yet there has been little effort to provide appropriate radio messages to the general populaton or distinct populations engaging in risky behavior. Other than the involvement of some industry leaders and celebrities in fund-raising efforts, the communications and film industries have been underutilized. There have been some efforts to introduce AIDS education into mainstream programs, i.e., soaps, sitcoms, and documentaries. However, there is very little available that is accurate, culturally appropriate or riskreduction related. The news media does cite recent medical findings, protests, costs and service problems, but appears not to focus on education and prevention programs or the successful efforts of numerous organizations and groups.

### **Businesses and Corporations**

Several New York City businesses and corporations have established HIV-related workplace programs which have brought issues related to HIV infection and AIDS to the attention of the business community at large. The "Ten Principles for the Workplace", developed by the Citizens Commission on AIDS for New York City and Northern New Jersey, have been adopted by several major New York City based corporations. The principles identify the policies that ought to be in place at all worksites to a) prevent disruption of the workplace when employees are found to be HIV-infected, and b) ensure a caring and nondiscriminatory working environment.

The New York Business Group on Health, Inc. has been a major force in developing AIDS-related guidelines and educational programs for metropolitan area employers. It has held numerous conferences to educate businesses about AIDS, conducted a survey to evaluate the effectiveness of worksite education programs (results to be released in the summer of 1989). In addition, it provides speakers to discuss AIDS in the workplace issues and in general provides the business community with information and guidance on how to handle AIDS questions.

Further, in collaboration with the American Foundation for AIDS Research (AMFAR), several major corporations and groups have developed a business guide that establishes principles and programs for HIV education in the workplace. This guide is designed to assist managers, human resource departments and CEO's in planning and implementing HIV education programs. It also seeks to avoid unnecessary duplication of effort by describing resources already available.

In spite of these efforts, corporations need to expand their corporate HIV education programs and foster community initiatives. Many small businesses, in particular, appear unaware of the need for HIV education and worksite policies.

### **Religious Organizations**

Throughout New York City, major religious organizations do a great deal of effective work around HIV. Many have contributed greatly by simply encouraging others to approach HIV-infected persons and their families with compassion and understanding. Some religious institutions have made unique and generous contributions in the area of patient care. Clerical coalitions have been formed and many of the clergy work with other community groups in the pursuit of increasing patient services and education and prevention programs. And of course religious organizations have contributed greatly to the care of poor, homeless and indigent HIV-affected people. Given the unique social presence that churches have in black and Hispanic communities, their appropriate efforts must be encouraged and widely expanded.

#### Social/Political Advocacy Groups

HIV policy development, legislation, advocacy for additional funds and expanded, community basedparticipation may well be the cornerstone to successful HIV prevention and education. The dominant effective voice in New York City has come from organizations within the gay community. They have successfully demonstrated that education and outreach can help to reduce the spread of HIV among gay men. These

### 314 NEW YORK CITY AIDS TASK FORCE

organizations have mobilized thousands of volunteers to support and advocate for people with HIV-related illnesses. They have organized advocacy and influenced legislation and public policy programs at Federal, State and City levels. Gay men have initiated safer sex education campaigns and developed compassionate supportive services for people who are HIV-positive or sick with AIDS or ARC, and for their families and loved ones. These activities are effective precisely because they are designed and implemented by homosexual men for homosexual men. Yet, these and later efforts by City and State health authorities, have not adequately succeeded in reaching the black and Hispanic communities. As is true with the homosexual community, ethnic and minority community leaders and organizations such as the Black Leadership Commission on AIDS are in a position to understand and assess their own AIDS prevention and education needs and must be given the resources necessary to develop programs that expand upon those provided by government and non-minority agencies. Because AIDS has reached epidemic proportions among minority men, women, adolescents and children, it is urgent that groups and organizations representing these populations step up their involvement in advocating acceptable and appropriate HIV prevention and education services.

### Foundation Programs and Grant-making Organizations

Foundations and private grant-makers are relatively flexible and can often respond more rapidly than governmental agencies which are tied to established funding cycles and long-range program commitments. Additionally, private grant-makers are usually more willing to fund the explicit messages necessary to reach individuals engaged in high-risk behavior. From the earliest days of the HIV epidemic, it was philanthropy from foundations and individuals that took the lead in funding much of the community- based education. For example, the American Foundation for AIDS Research (AmFAR), the only national HIV-related foundation, began at a grassroots level. One of AmFAR's contribution to HIV education is The AIDS Information Resources Directory. This directory is a compilation of educational and informational materials which describes brochures, pamphlets, videotapes, curricula, posters, books, manuals, government reports, and other resource documents available to the public.

A number of large national foundations, e.g., Robert Wood Johnson Foundation and Ford Foundation have made grants in response to AIDS. Private foundations, corporations, and grant-makers are increasingly funding community-based prevention and education services. Funders Concerned About AIDS, a group of the Council on Foundations, was formed to meet the information needs of grant-makers. This group networks with, collaborates with and encourages foundations and corporate funders to consider AIDS grant-making activities.

The New York City AIDS Fund is a new collaboration among grant-making organizations in New York City. It is intended to increase private funding for addressing the HIV epidemic at the community level and to improve the coordination and targeting of resources. One of the funding objectives of the New York City AIDS Fund is to support and encourage community-based programs that provide AIDS education to specific, targeted communities and populations. The AIDS Fund also seeks to encourage collaboration among organizations; identify successful models for continuing support and replication; and mobilize additional public and private resources.

### Community-Based Organizations

In New York City much of the progress that has been made in coping with the HIV epidemic has come through the efforts of community-based organizations (CBOs). Early in the epidemic, CBOs recognized unmet HIVrelated needs and had the credibility and access to reach those most in need. The work of these organizations has been exemplary. Organizations in the homosexual community provided the leadership and developed most of the educational models now followed by others. There exists throughout New York City numerous organizations and groups, both those already active, and those with a potential role to play, in HIV prevention and education. These organizations range in size from extremely small (one or two staff) to very sizable (large staff and thousands of volunteers). There has been an increase in the number of CBOs in the black and Hispanic communities which have expanded their services to include HIV education and prevention. Some have formed black- or Hispanicspecific HIV-related organizations, task forces and coalitions; and others have forged collaborative relationships with health, mental health and substance abuse facilities in their communities.

The Citizens Commission on AIDS conducted a survey of community-based organizations to determine their goals and the obstacles they encounter trying to achieve those goals. The Commission mailed out approximately 300 surveys and got a 20% response. There were more than 80 responses from a broad spectrum of groups including ADAPT, the Minority Task Force on AIDS, the Hispanic AIDS Forum, People with AIDS Coalition, and the Haitian Coalition on AIDS. As indicated in both the Citizens Commission's survey and information from field investigations conducted by staff of the work group, there is considerable variation in CBOs' expertise and range of services. The broad range of services include support groups, health education, information and referral, advocacy, training, mental health services, social services, medical assistance, case management, food programs, housing, transportation and assistance with legal issues.

Community-based organizations have been most successful in using their credibility to bring educational messages and activities to distinct populations. There is considerable evidence that CBOs are developing culturally language-sensitive HIV materials and risk-reduction techniques. These include video projects with a focus on how to live with AIDS; community forums on skills development; consultation with and education for health educators and local schools; focused workshops and seminars; speakers bureaus; street outreach to children and teens using "rap, rhythmic and colorful" mediums; and the distribution of bumper stickers, T-shirts, buttons, frisbees, ink pens, key chains, brochures, posters and other memorabilia.

CBOs have identified as problems: limited and restrictive funding; inadequate staffing; lack of coordination between service providers; and lack of technical assistance. Although Federal, State and local government funding for community-based prevention and education in New York City has markedly increased since the early days of the epidemic, it is still inadequate. These problems impede CBOs' abilities to develop and substain prevention and education programs.

# Bibliography

- Becker, M.H., and Joseph, J.G., "AIDS and Behavioral Change to Reduce Risk: A Review," Am.J. Public Health, 78(4): 394-410, April 1988.
- Brandt, A.M., No Magic Bullet: A Social History of Venereal Disease in the United States Since 1980 (New York: Oxford University Press, 1985).
- Ekstrand, M., and Coates, T., "Prevalence and Change in AIDS High Risk Behaviors Among Gay and Bisexual Men," unpublished paper presented at the IV International Conference on AIDS, Stockholm, Sweden, June 1988.
- Farguhar, J.W., MacCoby, N., and Solomon, D.S., "Community Applications of Behavioral Medecine," Handbook of Behavioral Medecine, W.D. Gentry (ed.) (New York, NY: Guilford Press, 1984).
- Flay, B.R., "Mass Media and Smoking Cessation: A Critical Review," Am. J. Public Health, 77(2): 153-160, February 1987.
- Fox, R., Ostrow, D., Valdiserri, R., et al., "Changes in Sexual Activities Among Participants in the Multicenter AIDS Cohort Study," paper presented at the III International Conference on AIDS, Washington, D.C., June 5, 1987.

- Friedman, S.R., Des Jarlais, D.C., Sotheran, J.L., "AIDS and Self-Organization Among Intravenous Drug Users," International J. Addictions, 22; 201-220, 1987, as cited in Des Jarlais, 1988.
- Joseph, J., "HIV Infection and the Effectiveness of Education for the General Population," contractor document prepared for the Office of Technology Assessment, U.S. Congress, Washington, D.C., March 1988.
- Kirby, D., "Sexuality Education: A More Realistic View of the Effects," J. School Health, 55(10), 1985, as cited in Kirby, 1988.
- Office of Technology Assessment Staff Paper, "How Effective is AIDS Education?", U.S. Congress, Washington, D.C., May 1988.
- Report of the Presidential Commission on the Human Immunodeficiency Virus Epidemic, U.S. Government Printing Office, June 1988.
- Udry, J.R., Clark, L.T., Chase, C.L., et al., "Can Mass Media Advertising Increase Contraceptive Use?", Fam. Plan. Perspectives, 4(3): 37-44, July 1972.

Address requests for additional copies to:

Glenna R. Michaels, Director New York City AIDS Task Force 275 Seventh Ave. 27th floor New York, N.Y. 10001



.