Organizational Structure and Resources of CDC's HIV–AIDS Prevention Program

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SINCE THE CENTERS FOR DISEASE CONTROL'S (CDC) comprehensive HIV prevention program began with the report of five cases of *Pneumocystis carinii* pneumonia in the Morbidity and Mortality Weekly Report of June 5, 1981, epidemiologic investigations and AIDS case surveillance have remained fundamental components of this program. These core activities have expanded with the growth of the epidemic.

Extensive HIV seroprevalence studies; behavioral research studies; and national knowledge, attitude, belief, and behavior surveys have also played essential roles in helping define the extent of the problem. These activities have helped to assess over time, and in a variety of settings and populations, the status and characteristics of the HIV epidemic and the prevalence of HIV infections; the risk of HIV infection associated with behaviors, practices, and occupations; and the impact of HIV infection on other health conditions.

Data gained from these efforts have provided a foundation for designing, supporting, and evaluating intervention activities that prevent HIV transmission and reduce associated morbidity and mortality among persons infected with HIV.

CDC's Response Strategies

During the 1980s, the broad dimensions of the epidemic of HIV infection and AIDS were delineated through surveillance efforts and epidemiologic investigations. As a result, behaviors that carried the greatest risk were identified (fig. 1, tables 1 and 2). The earliest prevention resources were directed at individuals engaging in behaviors that placed them at risk of infection such as men who have sex with men. Special prevention efforts were directed toward populations disproportionately affected by the epidemic, such as members of racial and ethnic minorities. By 1990, cases in adults in the United States were distributed as follows:

Exposure category	*Percent of adult cases reported in 1990*
Men who have sex with men	56
Injecting drug users:	
Women and heterosexual men	24
Men who have sex with men	5
Heterosexual contact	6
Other, undetermined	6
Transfusion	2
Persons with hemophilia	1

Recently, increased resources have been directed to injecting drug users, women, and youth in high-risk situations as the spread of HIV infection among these population segments has become more apparent. Concomitantly, there has been an extensive public information program, a comprehensive school health education effort, and a major collaborative partnership with national, State, and local organizations involved in primary prevention efforts. The evolution of CDC support for HIV intervention activities through the 1980s is outlined in the box on page 607.

A broad approach common to virtually all public health prevention programs is employed in CDC's strategy: assessing risks, developing prevention technologies, building prevention capacities, and implementing prevention programs. The agency employs a prevention strategy in the 1990s which is strengthened by knowledge and experience gained in meeting the challenges of the HIV epidemic in the 1980s. In addition, it applies valuable lessons learned from previous prevention efforts with other sexually transmitted diseases, poliomyelitis, tuberculosis, smallpox, and other diseases.

From those experiences, we have recognized the value of partnerships with the many segments of

Figure 1. AIDS annual rates per 100,000 population, for cases reported January 1990 through December 1990, United States

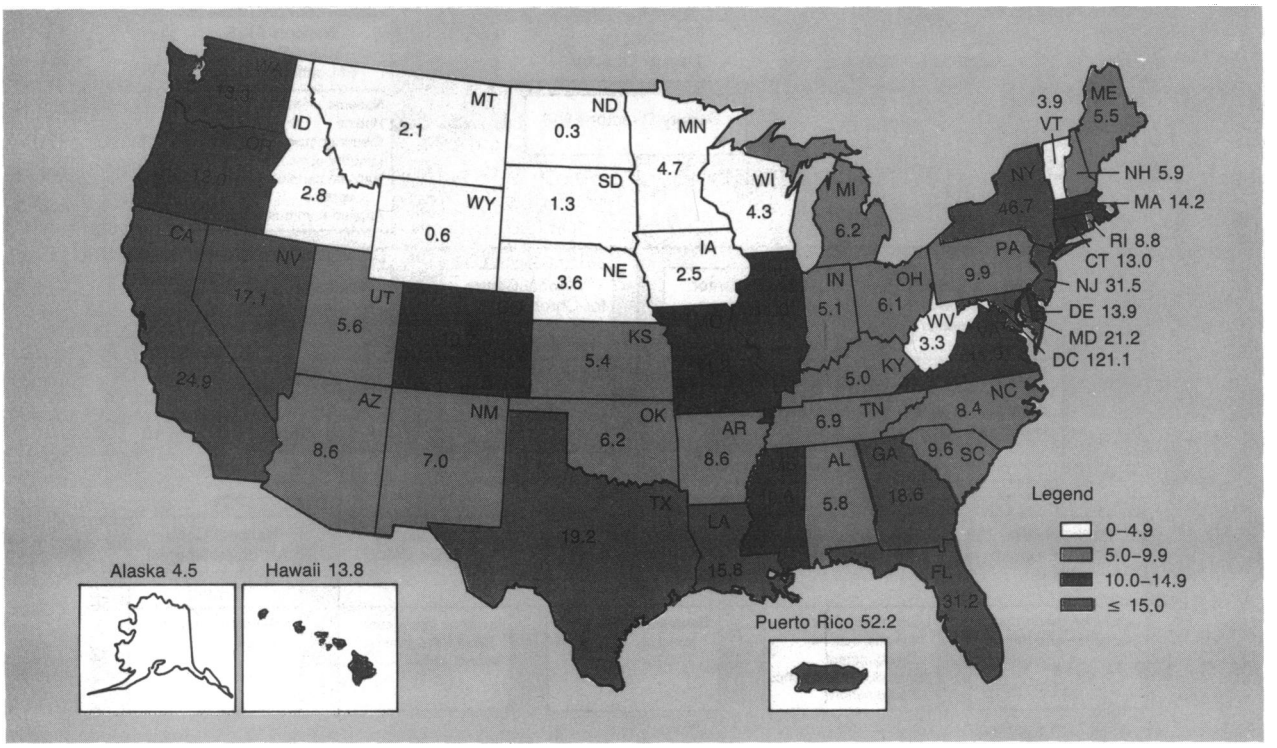


Table 1. Knowledge and attitudes regarding modes of HIV transmission, 1987-90, in percentages

HIV knowledge and attitude	*Aug. 1987*	*Oct.-Dec. 1988*	*Oct.-Dec. 1989*	*Oct.-Dec. 1990*
True transmission: [1]				
Sexual intercourse	93	95	94	96
Pregnant woman to baby	91	94	95	95
Sharing drug needles [2]	96	96	97	97
Misconceptions: [2]				
Attending school with HIV positive child	15	7	7	7
Working near HIV positive person	21	13	11	8
Eating in restraurant with HIV positive cook	35	26	24	25

1 Percent responding definitely or probably true.
2 Percent responding very or somewhat likely.
SOURCE: Advance Data, National Center for Health Statistics: AIDS knowledge and attitudes. Nov. 19, 1987, No. 146; Apr. 19, 1989, No. 167; May 31, 1989, No. 175; June 25, 1990, No. 186; July 1, 1991, No. 204.

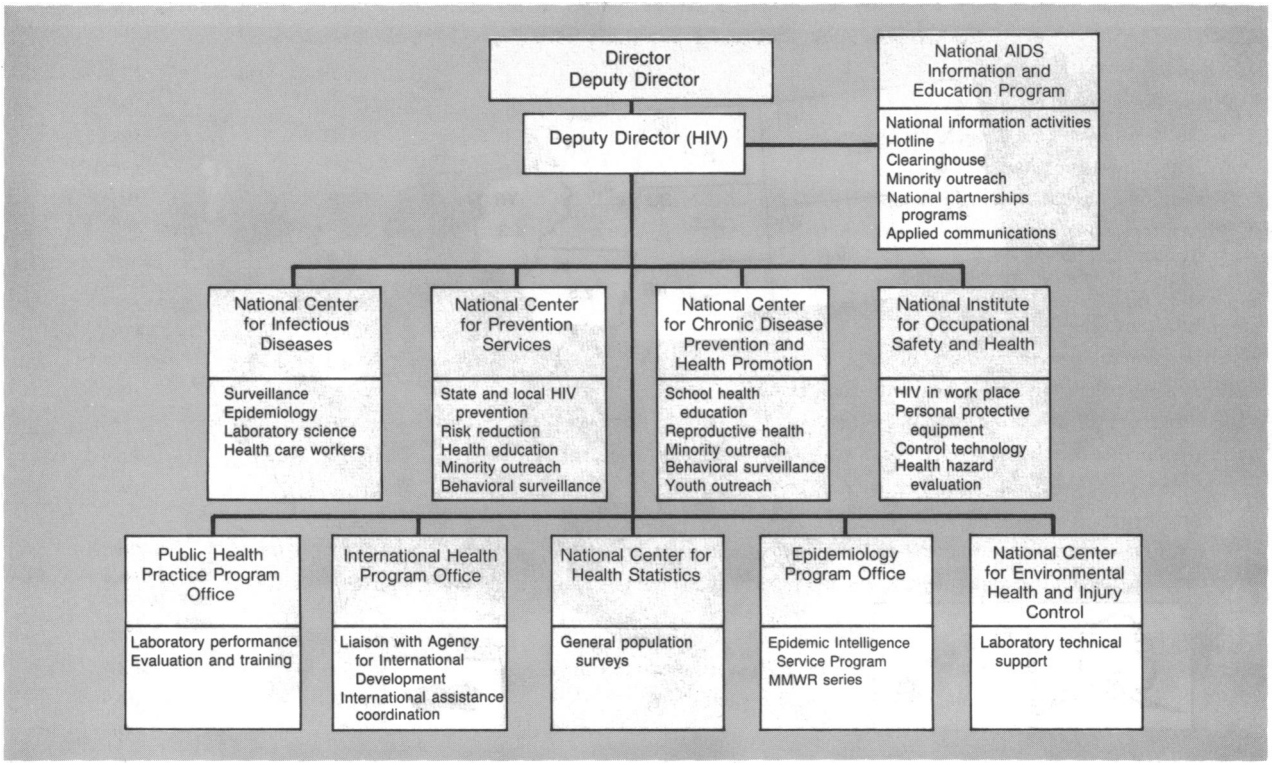
society that are affected by this epidemic. These partnerships, listed in the box on page 607, are extremely relevant to CDC's prevention programs and are an integral part of its overall strategic plan. Special emphasis continues to be placed on nongovernmental organizations at the local as well as national levels, providing technical and financial assistance to enhance their institutional capacities to participate fully in the HIV prevention effort. As the worldwide epidemic continues to develop, collaboration with international organizations, such as the World Health Organization, will continue, thereby contributing to the global effort to prevent the transmission of HIV infection.

Table 2. Annual totals of AIDS cases reported to the Centers for Disease Control from all States and Territories, 1981-90

Calendar year of report	*Number of cases*
1981	298
1982	652
1983	2,105
1984	4,517
1985	8,325
1986	13,293
1987	21,344
1988	32,079
1989	35,230
1990	43,339

SOURCE: Special CDC data run of archival documents.

Figure 2. Organizational structure of CDC's HIV prevention functions



Organizational Structure

CDC's comprehensive HIV prevention program operates through a matrix management organizational structure. This structure was established after a 1986 review by a consulting firm. Noting that the AIDS crisis had placed a severe strain on the CDC structure and its operational capabilities, the consultants recommended that a single full-time coordinating office for HIV programs be established. Although an AIDS center was considered as a possible alternative, the rationale for selecting the matrix management approach stemmed from the realization that an AIDS center would have to draw continuously on existing expertise from other CDC centers for program needs (for example, tuberculosis, virology and immunology laboratories, school health, and sexually transmitted diseases). The matrix management approach would encourage the use of, and thus strengthen, expertise from the different components of CDC (fig. 2), rather than duplicate expertise within a new center.

HIV Prevention Budget

CDC's HIV prevention budget has grown from $200,000 in fiscal year 1981 to $494.6 million in fiscal year 1991:

	Dollars (thousands)	
Fiscal year	*HIV*	*Other*
1981	$ 200	$288,028
1982	2,050	300,192
1983	6,202	347,274
1984	13,750	366,739
1985	33,298	377,232
1986	62,133	409,728
1987	136,007	451,297
1988	304,942	466,830
1989	377,592	599,629
1990	442,826	647,963
1991	494,660	816,926
1992[1]	494,660	872,230

[1] Included in the Office of Management and Budget request.
SOURCE: data as of December 1990, "HIV Fact Book 1991."

Most of the CDC HIV budget (71.5 percent) is allocated extramurally, with $140.9 million (28.5 percent) used internally for prevention research, technical assistance, and administrative support. The extramural funds were awarded as follows for fiscal year 1991:

Agency or function	*Dollars (thousands)*	*Percent*
State and local health agencies	$ 220,200	62.2
Other (universities, hospitals, private businesses and other nongovernmental agencies)	53,700	15.2

Major Extramural HIV Prevention Programs and Partnerships, by Responsible Component of the Centers for Disease Control and Fiscal Year Initiated

Program	*Responsible component*	*FY initiated*
Epidemiologic studies	NCID	1981
AIDS case surveillance cooperative agreements with State and local health agencies	NCID	1982
HIV seroprevalence studies	NCID	1986–87
Prevention cooperative agreement with U.S. Conference of Mayors	NCPS	1984
Prevention cooperative agreements with State and local health agencies	NCPS	1985
Health education risk reduction	NCPS	1986
Counseling, testing, and partner notification	NCPS	1986
Minorities	NCPS	1987
Public information	NCPS	1988
AIDS community demonstration projects	NCPS	1986
Prevention cooperative agreement with Hemophilia Foundation	NCPS	1986
Contract supported National AIDS Hotline	NAIEP, NCPS	1986
Prevention cooperative agreements with State and local education agencies	NCPS	1986
Contract supported public information campaign	NAIEP	1987
Contract supported National AIDS Clearinghouse	NAIEP	1987
Prevention cooperative agreements with national education organizations	NCCDPHP	1987
Prevention cooperative agreements with national and regional minority organizations	NCPS, NAIEP, NCCDPHP	1988
Prevention cooperative agreement with the American Red Cross	NAIEP	1988
Prevention cooperative agreements with community-based organizations	NCPS	1988
Prevention cooperative agreements with national organizations	NAIEP	1989
Comprehensive community based HIV program	NCPS	1989
Prevention cooperative agreements with colleges and universities to reach college age youth	NCCDPHP	1990
Prevention cooperative agreements with local health agencies to address youth in high-risk situations	NCCDPHP	1991
Prevention of HIV in women and infants demonstration projects	NCCDPHP, NCPS	1991
Cooperative agreements with State and local health agencies, TB demonstration	NCPS	1991

NOTE: NCID = National Center for Infectious Diseases, NCPS = National Center for Prevention Services, NAIEP = National AIDS Information and Education Program, NCCDPHP = National Center for Chronic Disease Prevention and Health Promotion.

National, regional organizations	23,900	6.8
National public information activities	19,200	5.4
State and local education agencies ...	18,700	5.3
Directly funded community- based organizations.....	18,000	5.1
Total.....	$ 353,700	100.0

CDC's $494.6 million budget for HIV infection and AIDS represented 37 percent of the agency's total funding for fiscal year 1991 and 26.23 percent of the total Public Health Service expenditures related to HIV and AIDS. Various components of the Public Health Service budgeted the following amounts for HIV-AIDS activities:

Agency	*Dollars (thousands)*	*Percent*
National Institutes of Health ..	$804,900	42.68
Centers for Disease Control...	494,600	26.23
Health Resources and Services Administration	265,900	14.10
Alcohol, Drug Abuse, and Mental Health Administration	237,000	12.57
Food and Drug Administration	63,200	3.35
Indian Health Service	1,800	.10
Agency for Health Care Policy and Research.....	10,300	.54
Office of the Assistant Secretary for Health	8,200	.43
Total.....	$ 1,885,900	100.00

SOURCE: data as of December 1990, "HIV Fact Book, 1991."

Conclusion

There is growing recognition in the United States among health, governmental, and national and community leaders that the epidemic will not be solved quickly or by one sector alone; consequently, the prevention effort will need to continue to be inclusive, flexible, dynamic, yet efficiently implemented. CDC's comprehensive HIV prevention program reflects this philosophy.