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20th Anniversary of AIDS in Connecticut, 1981-2001

AIDS in Connecticut, 1981-2000

In 1981, the first Connecticut cases of what was to become known as acquired immune deficiency syndrome (AIDS) were reported. Since then, infection with human immunodeficiency virus (HIV) has become a major source of illness and death, especially among gay men and injection drug users (IDU) and their sex partners. Improvements in treatment have resulted in a decline in the number of AIDS cases and AIDS-related deaths, however, estimates indicate that transmission of HIV is still widespread with 40,000 new HIV infections occurring annually in the United States .

Magnitude of the epidemic

Over the past two decades, it is estimated that 36 million persons worldwide were infected with HIV with 20 million deaths (1). By the end of 2000, 774,467 AIDS cases were reported in the US with 448,060 deaths (1). It is estimated that more than a million persons in the US have been infected with HIV. In Connecticut, through December 2000, 11,574 AIDS cases were reported with 5,676 deaths. Nationally, Connecticut ranks 14th among the states with 1.5% of all reported AIDS cases (2).

In Connecticut, AIDS has had a disproportionate impact on specific demographic and behavioral groups with 30% of cases occurring in blacks, 24% in Hispanics, 74% in males, 46% in persons aged 30-39 years, 23% in men who have sex with men (MSM), and 49% in persons with a history of IDU (3). By the end of 2000, there were 5,913 people living with AIDS in Connecticut. It is estimated that an additional 5,000-10,000 persons are HIV infected who do not meet the AIDS case definition and are not included in analysis of surveillance data.

Trends

The 20-year trend in reported AIDS cases, prevalent cases (persons living with AIDS), and AIDS deaths can be seen in Figure 1. Table 1 shows the number of AIDS cases reported in periods ending with events that significantly changed either the dynamics of the AIDS epidemic or the measurement of it: availability of AZT (1987), expansion of the AIDS case definition (1993), initial availability of highly active anti-retroviral therapy (1995-1996), and emergence of the current plateau in the number of new cases reported each year (1996-2000).

Figure 1. Trend in the number of reported cases of AIDS, deaths, and prevalent cases, Connecticut, 1981-2000.

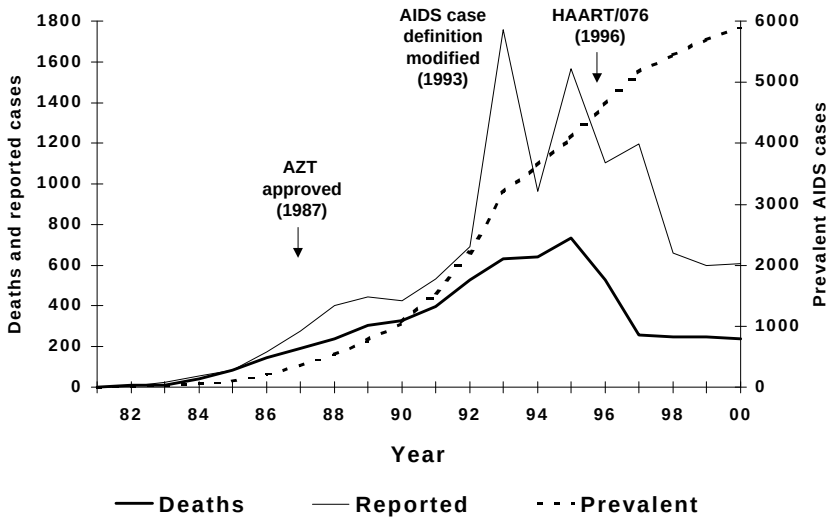
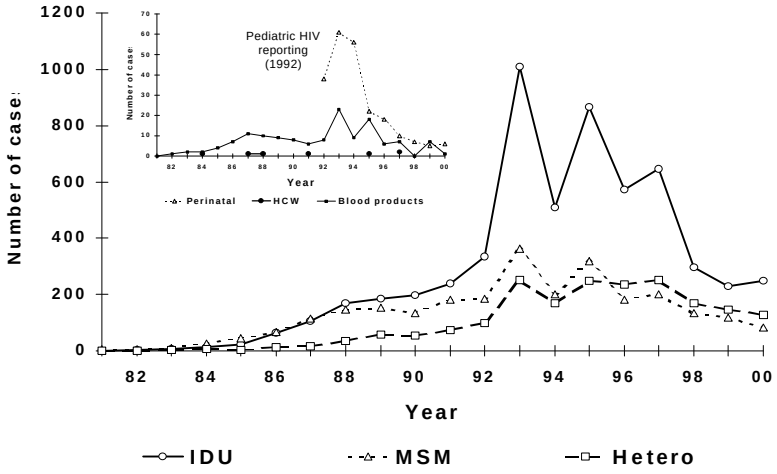


Figure 2. Trends in AIDS cases by infection risk category, by year of report, Connecticut, 1981-2000.



HCW = health care worker IDU = injection drug users MSM = men who have sex with men Hetero = heterosexual

After a steady growth in AIDS cases through the 1980's, the number of reported AIDS cases peaked dramatically in 1993 (n=1,759). This was largely due to an expansion of the AIDS case definition to include low CD4 counts. Since then, the number of cases has declined by 65%, reflecting improvements in treatment and, possibly, a decrease in the rate of HIV infection. During 1998-2000, the number of AIDS cases stabilized at approximately 600 per year (Figure 2).

Race/ethnicity and gender: Since 1993, male cases decreased by 71% and female cases by 47%. Throughout the epidemic, there has been a gradual but consistent increase in the percentage of cases that involved females (16% in 1981-1987 to 31% in 1996-2000) (Table 1). In the first decade of the epidemic, 52% of female cases involved blacks, but by 2000 the distribution of female cases was 34% black, 34% Hispanic and 32% white (Figure 3) (3). The percentage of cases (both genders) involving Hispanics increased from 16% during 1981-1987 to 27% during 1996-2000 (Table 1). In the same periods, the percentage of cases involving whites decreased from 48% to 35%, while the percentage involving blacks remained unchanged. Cumulatively, 27 Asian/Pacific Islander and 20 American Indian AIDS cases were reported.

Age: Over time, the age of newly diagnosed AIDS cases increased. During 1981-1987, 22% of newly reported AIDS cases were less than 30 years of age and 31% were aged 40 years or older. By 1996-2000, the younger age group decreased to 11% and the older age group increased to 45% (Table 1).

Geographic distribution: AIDS cases have been reported in 97% of Connecticut towns, up from 76% in 1990 (Figure 4). Three cities, Hartford, New Haven, and Bridgeport, have been the home of more than 1,000 cases each. The number of towns with over 100 cumulative cases increased from 4 in 1990 to 16 in 2000. The majority of cases (60%), have been consistently reported in towns of greater than 100,000 population with 3% reported from towns of less than 10,000 (Table 1).

Risk groups: The number of AIDS cases by underlying risk category and year of report can be seen in Figure 2. In the early years of the epidemic, in Connecticut and the US, AIDS emerged primarily among MSM. By 1987, unlike other regions of the country, IDU had surpassed MSM in Connecticut as the predominant risk category. Heterosexual transmission increased over the course of the epidemic from 13% of cases in 1990 to 26% in 1998 and surpassed MSM in 1996 (IDU: 46% and 45% during the same years). Sexual transmission overall, currently accounts for a slight majority of cases (46% compared to 45% IDU, with 6% unknown) (3). Transmission of HIV in persons with occupations involving exposure to blood has been minimal. Requirements for HIV testing greatly reduced the risk of transmission resulting from transfusion or transplantation (Figure 2).

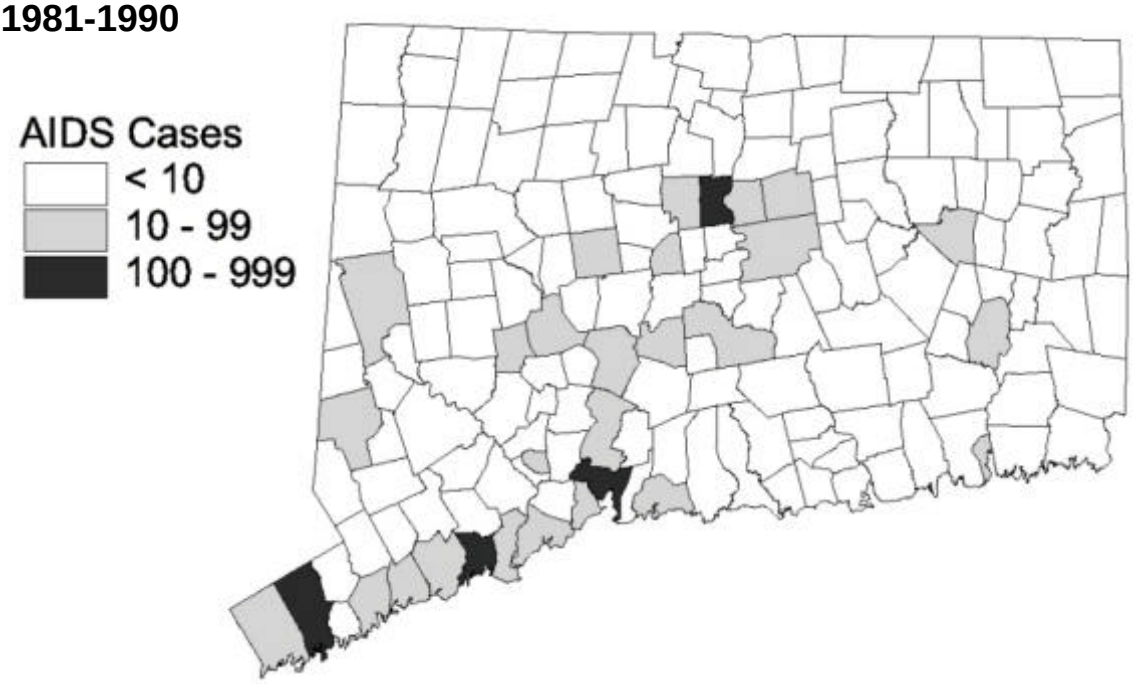
Pregnant women and children: Testing and treatment of pregnant women and their newborns has sharply reduced the number of HIV infected children by as much as 80% (Figure 2) (1). Vigilance regarding prenatal testing and availability and acceptance of appropriate HIV treatment is vital to

Table 1. HIV/AIDS timeline, Connecticut, US, 1981-2000.

	81-87		88-92		93-95		**96-00**		**Total**	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Sex										
Male	524	(84)	1954	(78)	3197	(75)	2893	(69)	8568	(74)
Female	98	(16)	545	(22)	1088	(25)	1275	(31)	3006	(26)
Age group										
0-12	22	(4)	61	(2)	67	(1)	27	(<1)	177	(2)
13-19	0	(0)	8	(<1)	18	(<1)	25	(<1)	51	(<1)
20-29	138	(22)	428	(17)	594	(14)	464	(11)	1624	(14)
30-39	268	(43)	1185	(47)	2039	(48)	1781	(43)	5276	(46)
40-49	117	(19)	571	(23)	1183	(28)	1375	(33)	3244	(28)
50-59	58	(9)	169	(7)	283	(7)	370	(9)	879	(8)
60+	19	(3)	77	(3)	101	(2)	126	(3)	323	(3)
Race/ethnicity										
White	300	(48)	1018	(41)	1428	(33)	1440	(35)	4186	(36)
Black	218	(35)	1006	(40)	1742	(41)	1568	(38)	4535	(39)
Hispanic	102	(16)	462	(18)	1088	(25)	1143	(27)	2794	(24)
Other/Unkn	1	(<1)	8	(1)	27	(<1)	17	(<1)	59	(<1)
Town population										
>100,000	331	(53)	1472	(59)	2574	(60)	2546	(61)	6923	(60)
30-100,000	157	(25)	594	(24)	1013	(24)	932	(22)	2696	(23)
10-29,999	102	(16)	356	(14)	594	(14)	583	(14)	1635	(14)
<10,000	32	(5)	77	(3)	104	(2)	107	(3)	320	(3)
Vital status										
Alive	18	(3)	277	(11)	2032	(47)	3498	(84)	5898	(51)
Dead	604	(97)	2222	(89)	2253	(53)	670	(16)	5676	(49)
Total	622	(100)	2499	(100)	4285	(100)	4168	(100)	11574	(100)

Figure 4. Cumulative AIDS cases, by town of residence at diagnosis, Connecticut, 1990 and 2000

1981-1990



1981-2000

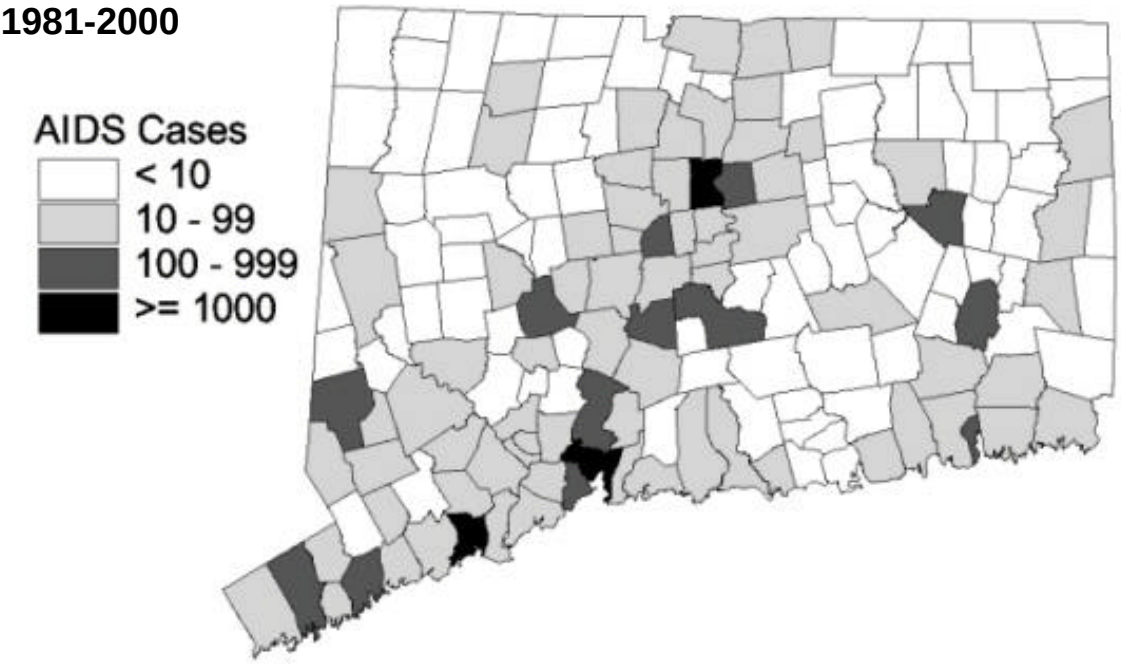
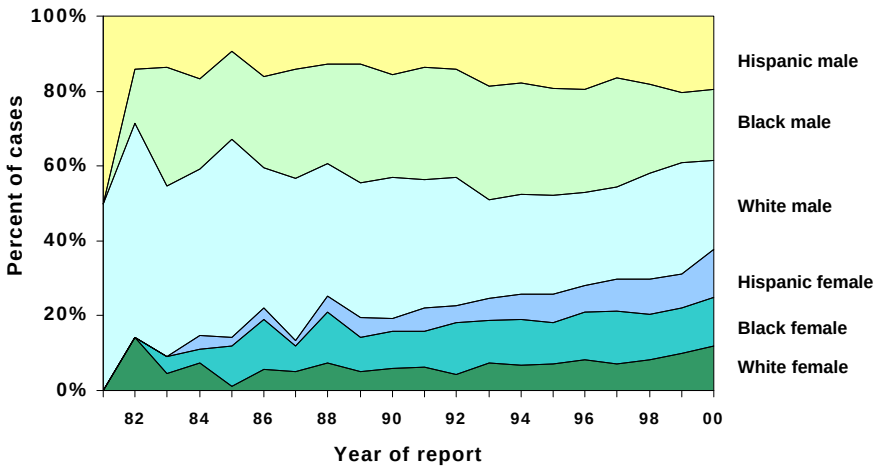


Figure 3. Trend in percent of reported AIDS cases by gender and race, Connecticut, 1981-2000.



sustaining and expanding this progress. In 1999, Connecticut passed legislation requiring physicians to offer HIV testing to their pregnant patients with mandatory testing of newborns in cases of refusal. This legislation has resulted in an increase in prenatal testing from 26% to over 90%. Nearly all infants born to women where HIV infection is recognized prenatally are receiving a prevention treatment regimen.

AIDS deaths: In Connecticut, 5,675 AIDS deaths have been reported, 49% of all reported cases (Table 1). Similar to the trend in reported cases, the number of deaths decreased by 75% from its peak in 1995. In the last 3 years, the number of deaths has stabilized at approximately 250 per year (Figure 1). During 1997-1999, risk of death among AIDS cases was significantly associated with history of IDU and being initially diagnosed with AIDS after 50 years of age ($p<0.05$). Race/ethnicity and gender were not significantly associated with risk of death during this three-year period.

Progression to AIDS in an era of highly active antiretroviral therapy

In 2000, the Connecticut Department of Public Health (DPH) collaborated with the CDC on a multi-state study to evaluate reasons why HIV-infected persons progress to AIDS. The objective of the study was to identify missed opportunities for prevention of AIDS in HIV-infected persons. Eligible cases were defined as persons initially diagnosed with AIDS in 1999, reported in 2000, and who were residents of one of three Connecticut cities (Hartford, Waterbury, or Windham).

Ninety cases were included (57% male, 18% white, 38% black, 44% Hispanic, 51% IDU, mean age 43 (14-70) years). Forty-nine (54%) were first tested for HIV at the time of their AIDS diagnosis (late testers). Of the late testers, 12 (25%) had possible missed opportunities to test for HIV before onset of AIDS (nine patients had outpatient visits (n = 1-6) in the previous 12 months, two patients had been hospitalized, and one patient had an ER visit). Of the 41 persons who were not late testers (i.e., were aware of their HIV-positive status), 26 (63%) were not receiving any antiretrovirals in the 12 months prior to their AIDS diagnosis, and 13 (32%) were receiving antiretrovirals but were not adherent. Ten of the 90 persons (11%) died and seven (70%) of those were late testers.

In summary, of the 90 cases reviewed, 88 (98%) involved persons who were either unaware of their HIV status or were aware but not receiving optimal treatment for their infection. Although these results are preliminary, they nonetheless suggest the need for continued AIDS prevention and care activities that focus on testing in high-risk populations and efforts to initiate and maintain appropriate therapy in those who need it.

HIV/AIDS surveillance in Connecticut

HIV/AIDS surveillance data are used by Federal and State agencies to set priorities and funding levels for HIV prevention and care programs. To ensure surveillance data are as complete and accurate as possible, several conditions related to HIV infection have been made reportable: AIDS cases

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(1981); HIV infection in children (< 13 years of age) (1992); co-infection with TB (PPD+/HIV+) (1992); low CD4 (<200/ul or 14%) (1993); laboratory HIV+ (≥13 years of age) without identifiers (1999); and HIV exposure at birth (2001). In 2002, HIV infection will become reportable by name with an option for reporting a code in place of a name. Details about this system will be published in a subsequent issue of the Connecticut Epidemiologist. For additional information contact the HIV/AIDS Surveillance Program at (860) 509-7900.

Information about HIV/AIDS surveillance

Additional statistical information about AIDS in Connecticut can be found in the *HIV/AIDS Surveillance Annual Report* (3) or on the DPH web site (www.dph.state.ct.us). National data can be found at the CDC web site (www.cdc.gov) or *HIV/AIDS Surveillance Report* (2). For comparison of Connecticut and US data, use Table 2 in this *Connecticut Epidemiologist* issue and Table 1 in the June 1, 2001 issue of the *MMWR* (1). Additional information about AIDS deaths can be found in a previous issue of the *Connecticut Epidemiologist* (4). References to publications containing Connecticut HIV/AIDS information published by DPH staff and co-authors are also provided (5-8).

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