

HIV/AIDS in Texas - 1994

Acquired immunodeficiency syndrome (AIDS) is a specific group of diseases or conditions that result from severe immunosuppression caused by infection with the human immunodeficiency virus (HIV). This virus specifically infects and depletes a subgroup of T-lymphocytes called helper T-cells. Laboratory analysis identifies these by typing specific cell-surface markers on the lymphocyte. The helper T-cells have identifying surface markers called CD4; the term CD4+ applies to lymphocytes that are positive for this marker by laboratory testing. The decline of CD4+ T-cells has proven to be a reliable indicator of HIV disease progression.

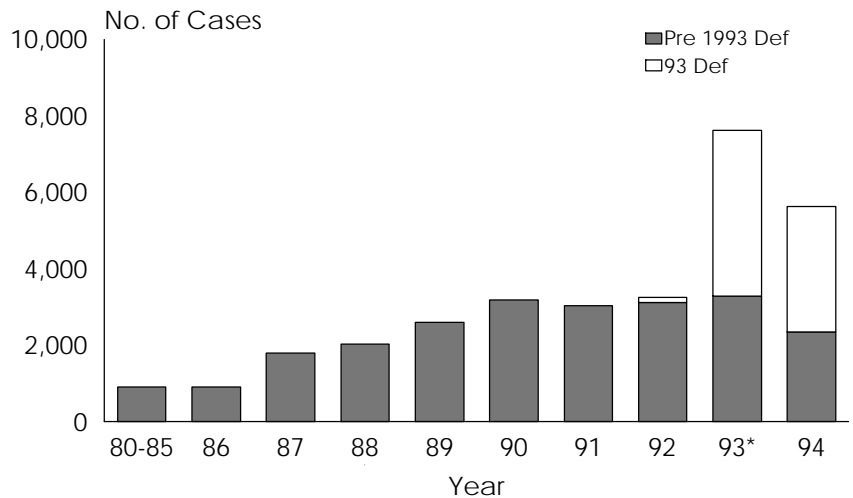
AIDS Case Definition

Texas ranked fourth in the United States in the number of AIDS cases reported (5,627) in 1994. The AIDS case surveillance definition has been modified and expanded over time to reflect the increased knowledge and improved technology related to the disease. The 1993 revised case definition for AIDS, along with other changes, included all HIV-infected persons with CD4+ T-cells fewer than 200 per microliter of blood or less than 14% of total lymphocytes. Prior to this change, the case definition relied primarily on the identification of one of several indicator diseases in HIV-infected patients.

The inclusion of the CD4+ criteria caused a marked increase in cases reported in 1993 (Figure 1). However, the apparent peak seen

in 1993 and the lower number seen in 1994 *should not* be interpreted as a true decline in AIDS morbidity. Rather, the 1993 count was artificially inflated due to the tremendous number of cases added that year to the reporting system as a result of the new case definition. In large part, the 1993 increase reflects the reporting of cases involving persons with previously diagnosed HIV infection meeting

Figure 1. AIDS Cases by Year of Report, 1980-94
30,994 Cumulative Cases Reported through 12/31/94



*Expanded AIDS surveillance definition implemented

this new criteria but not yet diagnosed with a condition meeting the pre-1993 definition. In addition, many of the cases reported in 1993 had been identified the previous year in anticipation of the revised definition.

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Comparing the number of cases in 1994 reported under the pre-1993 definition with the number for earlier years may also be misleading as an indicator of disease trends. Figure 1 shows that the number of cases reported in 1994 under the pre-1993 definition is lower than previous years. This decrease is an artifact of reporting methods and criteria rather than a decline in morbidity. Because the newer definition's criteria are more easily identified and documented, cases that meet both criteria may be more likely to be reported.

Trends

The long period of time from HIV infection to the development of AIDS precludes measuring trends in recent HIV infections based on AIDS cases. The AIDS cases diagnosed recently reflect HIV infections that may have occurred 8 to 10 years ago. The time lag from diagnosis to the reporting of an AIDS case often spans years; of the cases reported in 1994, 54% were diagnosed the same year, 32% were diagnosed in 1993, and 12% in earlier years of the epidemic. The overall rate in 1994 was 31 per 100,000 population. The fact that AIDS cases frequently span years influences how data are managed in the

surveillance system. Unlike most other reportable diseases, the AIDS case data are continually reviewed and updated as more accurate information is found; this procedure applies to all cases, even those reported in previous years. As a result, the number of cases for a particular year may vary slightly as these corrections are made.


Sex and Race

Because of the revised AIDS case definition, comparing rates or the number of cases reported in 1994 to those of previous years, especially 1993, would not indicate underlying trends. However, comparing the percent share of cases for different demographic groups and modes of exposure indicates that trends observed in recent years continue. Among demographic groups, the percentage of cases reported for white males declined from 55.8% in 1992 to 49.5% in 1994. African Americans had the largest increase in share of cases. For African American males, the percent share rose from 19.5% in 1992 to 22.1% in 1994. The percent share for African American females rose from 4.5% in 1992 to 6.2% in 1994 (Table 1).

One intent of the revised case definition was to adjust for possible bias that might cause underreporting of women with AIDS. Reported cases of AIDS have increased among females in 1994 with the percent share of cases rising to 12% from 9% in 1992. Although this increase for females is substantial, an even larger increase between these years might have been expected: 1992 was the year immediately prior to the definition changes intended to adjust for possible biases in reporting. However, the proposed changes were widely noted in 1992, and this awareness may have altered surveillance activities, thus increasing case finding for females in anticipation of the upcoming changes.

Table 1. AIDS Cases by Sex and Race Reported in 1992 and 1994

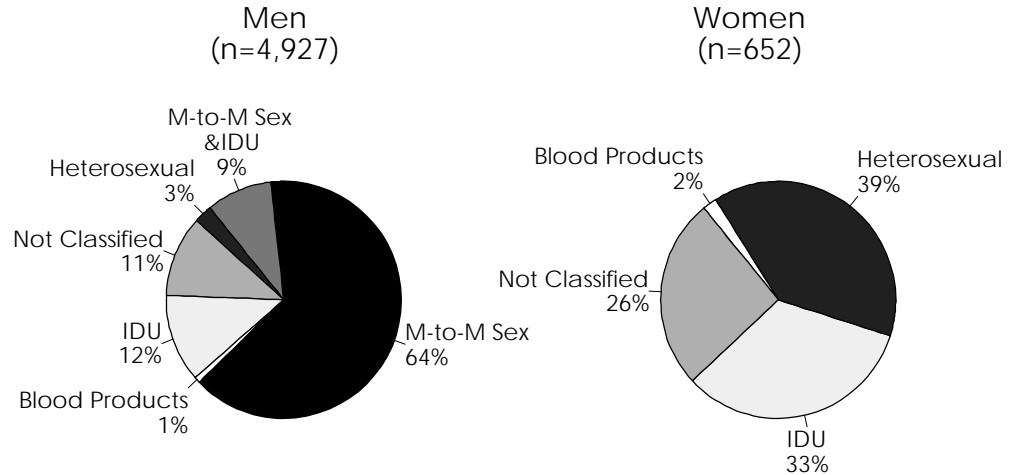
Sex/Race	1992		1994	
	Cases	(%)	Cases	(%)
Males				
White	1,818	55.8	2,786	49.5
African American	635	19.5	1,246	22.1
Hispanic	493	15.1	885	15.7
All Other	18	0.6	35	0.6
Females				
White	96	2.9	197	3.5
African American	147	4.5	349	6.2
Hispanic	51	1.6	127	2.3
All Other	1	<.1	2	<.1

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The AIDS case rate for females in 1994 was 7.3 per 100,000 population. The rate was significantly higher in the African American female population with a rate of 31.7. Hispanic females had a rate of 5.1, and white females a rate of 3.6. The 1994 AIDS rate for males was 55 per 100,000 population. The African American male population had the highest rate, 123, followed by white males at 53, and Hispanic males at 35 AIDS cases per 100,000 population.

The profile of modes of exposure differs significantly between adult and adolescent men and women (Figure 2). The most frequent modes of exposure among

Figure 2. AIDS Cases, Mode of Exposure by Sex Cases Reported in 1994



Modes of Exposure

The percent share of AIDS cases reported from male-to-male sex as the mode of exposure decreased due to more cases from other modes of exposure such as injecting drug use (IDU) and heterosexual sex. Male-to-male sex as a mode of exposure constituted a 64% share of cases in 1992, compared with 56% in 1994. Heterosexual sex as a mode of exposure had the greatest increase: from a share of 4.9% in 1992 to 7.3% in 1994. Exposure by injecting drug use increased from a share of 14.1% of AIDS cases in 1992 to 14.6% in 1994 (Table 2).

females are heterosexual sex (39%) and IDU (33%). Among men the distribution differs, with male-to-male sex (64%) predominating. IDU (12%) was second, followed by the separate mode of exposure category of male-to-male sex and IDU (9%).

AIDS cases among young adults aged 20 to 24 years, who most likely became infected with HIV while still teenagers,

Table 2. AIDS Cases by Mode of Exposure Reported in 1992 and 1994

Mode of Exposure	1992		1994	
	Cases	(%)	Cases	(%)
Male-Male Sex	2,071	63.5	3,163	56.2
Injecting Drug Use(IDU)	460	14.1	819	14.6
Male-Male Sex and IDU	302	9.3	421	7.5
Hemophiliac	15	0.5	20	0.4
Heterosexual Contact	161	4.9	411	7.3
Transfusion	46	1.4	41	0.7
Risk Not Yet Identified*	170	5.2	704	12.5
Pediatric Exposure	34	1.1	48	0.9
Total Cases	3,259	100.0	5,627	100.0

*The percent of cases in this category are higher in the more recent year since less time has elapsed to investigate and determine mode of exposure for these cases.

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share a strikingly similar profile in modes of exposure. Within this age group, 64% of male cases were attributed to male-to-male sex and 15% to IDU; 55% of female cases were due to heterosexual sex and 10% to IDU.

Geographic Distribution

In 1994 the majority of AIDS cases in Texas were reported from urban areas. The largest number of cases was reported from Harris County (1,545), followed by Dallas County (1,241), Tarrant County (576), Bexar County (519), and Travis County (401). When AIDS case rates by county are ranked, the Travis County rate of 66 cases per 100,000 population was highest, followed by these counties: Dallas (62), Harris (51), Tarrant (44), Bexar (41), and Galveston (24). El Paso County, the fifth most populous county, ranks sixth in both number of reported cases (92) and case rate (14 per 100,000). Only 37 of the 254 counties in Texas have not yet had a reported AIDS case since the epidemic began in the early 1980s. AIDS continues to spread to less urban areas of the state and is no longer confined to specific groups or geographic regions. Public health strategies for prevention and channeling of resources must be tailored to meet these continuing changes.

HIV-2

HIV-2 is a virus related to and similar in structure to HIV-1. Infection with HIV-2, which also causes AIDS, is very rare in the United States, but relatively common in West Africa. Testing of blood products for HIV-1 antibodies began in 1985 in the United States. Although HIV-2 antibodies may cross react with HIV-1 in laboratory tests, new tests were developed to specifically detect HIV-2 antibodies. These new tests were implemented at blood donor test sites in 1992 to more fully protect the blood supply by testing for both HIV-1 and HIV-2. In the United States in 1994, two blood donors were identified as HIV-2 positive through routine testing at blood donor sites. One of these cases was the first confirmed HIV-2 infection in Texas and the Southwest. So far, 62 cases of HIV-2 infection have been identified in the US, primarily on the East Coast.

Prepared by Barry Mitchell, MPH, Section Chief, Metabolic Screening, TDH Bureau of Laboratories

Mr. Mitchell wrote this article while he was with the TDH HIV/STD Epidemiology Division. For further information regarding current HIV epidemiology, please contact Elizabeth Tomich, at (512) 490-2500.

Fluoroquinolone Resistance in *Neisseria gonorrhoeae*

The fluoroquinolones ciprofloxacin and ofloxacin are among the antimicrobial agents recommended by CDC for treating gonorrhea. However, the Texas Department of Health (TDH) recommends that these drugs be used only as an alternative to cefixime and ceftriaxone.

In the United States, decreased susceptibility or resistance of strains of *N. gonorrhoeae* to the fluoroquinolones has been reported only sporadically, and treatment failure associated with in vitro resistance has not been described. However, the recent occurrence of resistant cases suggests that clinically important resistance to the fluoroquinolones may be emerging in the United States.

Data collected for a national surveillance system during 1994 showed that 2 (0.04%) of 4,996 isolates from 24 sexually transmitted diseases clinics had ciprofloxacin minimum inhibitory concentrations (MICs) greater than or equal to 1.0 micrograms per milliliter, the provisional criterion for resistance to ciprofloxacin. Another 65 (1.3%) isolates exhibited decreased susceptibilities (MICs, 0.125-0.5 $\mu\text{g}/\text{mL}$). These data, coupled with the recent occurrence of high level fluoroquinolone resistant strains in Seattle sex workers and in a Denver man with a history of travel to the Philippines, suggest the need for increased awareness about the potential for the emergence of clinically important resistance.

Isolates obtained from patients whose infections fail to respond to fluoroquinolone therapy or from patients who have acquired their infections in certain parts of Asia should be tested for susceptibility to fluoroquinolones using the disk diffusion method recommended by the National Committee for Clinical

Laboratory Standards. According to CDC-proposed criteria, *N. gonorrhoeae* strains with MICs of $\geq 1.0 \mu\text{g}/\text{mL}$ ciprofloxacin or $\geq 2.0 \mu\text{g}/\text{mL}$ ofloxacin are interpreted as resistant to these agents. The corresponding inhibition zone diameters obtained by disk diffusion susceptibility testing are ≤ 29 mm to ciprofloxacin and ≤ 24 mm to ofloxacin.

TDH currently recommends treating gonorrhea with a single dose of either 400 milligrams of cefixime orally or 125 mg ceftriaxone intramuscularly. If cefixime and ceftriaxone are unavailable or contraindicated, patients may be treated with a single dose of either 500 mg ciprofloxacin or 400 mg ofloxacin. Each agent should be followed by treatment with a regimen effective against possible infection with *Chlamydia trachomatis*. Lower doses of the fluoroquinolones or cephalosporins should not be used. For patients who may have acquired infection in certain parts of Asia, clinicians should consider treatment with spectinomycin if treatment with a cephalosporin is contraindicated.

TDH supplies the aforementioned cephalosporins to treat patients who have no third party reimbursement and are unable to afford the treatment themselves. Call the HIV/STD staff at your TDH Public Health Region office for more information on obtaining these drugs.

Prepared by Charles E. Bell, MD, Chief, TDH Bureau of HIV and STD Prevention, and Mardi VanEgdom, TDH Infectious Disease Epidemiology and Surveillance

Adapted from Fluoroquinolone Resistance in *Neisseria gonorrhoeae* -- Colorado and Washington, 1995. MMWR 1995;44(41)

TDH recommends that fluoroquinolones be used only as an alternative to cefixime and ceftriaxone.

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Tuberculosis - A Global Emergency

World Tuberculosis Day, falling on March 24 every year, commemorates the day in 1882 when Dr. Robert Koch officially informed the scientific community that he had discovered the tuberculosis bacillus. However, World Tuberculosis Day is not a celebration. The greatest killer of humans throughout all of history is still at work, in spite of our scientific breakthroughs. The fact that we are all at increased risk of becoming infected with tuberculosis is the main theme of World Tuberculosis Day this year. It is my hope that (public health) activities on World Tuberculosis Day can help to ignite a renewed spark of interest in tuberculosis around the world.

*A Kochi, Director
Global Tuberculosis Programme
World Health Organization*

The Problem Worldwide**Tuberculosis is the leading infectious killer of adults.**

- ◆ Each year at least 30 million people become infected with tuberculosis, 8 million become sick, and 3 million die.
- ◆ TB causes 26% of avoidable adult deaths in the developing world.
- ◆ For each person who died of Ebola in 1995, over 12,000 died of tuberculosis.

Someone is infected with tuberculosis every second.

- ◆ One third of the world's population is already infected with tuberculosis bacteria.
- ◆ Left untreated, one person with active tuberculosis will infect 10 to 15 people in a year's time.
- ◆ Like the common cold, tuberculosis spreads through the air and by relatively casual contact.

Tuberculosis may become incurable.

- ◆ More than 50 million people may already be infected with drug-resistant tuberculosis bacteria.
- ◆ Multidrug-resistant cases of tuberculosis have been reported in many countries, including the United States.
- ◆ Poorly-managed tuberculosis control projects are the primary source of multidrug-resistant tuberculosis.
- ◆ The cost of treating a tuberculosis patient in the US is usually around \$2,000 for outpatient treatment and jumps to as high as \$250,000 when the patient has multidrug-resistant tuberculosis.

Tuberculosis is low priority

- ◆ For every \$10 spent on health care in poor countries, only 2¢ goes for tuberculosis control.
- ◆ Only \$16 million in foreign aid was provided for tuberculosis control in developing countries in 1990.
- ◆ Infectious diseases cause nearly 30% of deaths in poor countries, yet receive only 1.5% of foreign aid.

Those At Risk**Women**

- ◆ Tuberculosis kills over 1 million women every year, more than all causes of maternal mortality combined.
- ◆ Of all infectious diseases, tuberculosis is the leading cause of death among women.

Children

- ◆ No other infectious disease creates as many orphans as tuberculosis.
- ◆ In the US, the number of children under age 15 with tuberculosis increased by 35% between 1985 and 1992.

HIV-positive people

- ◆ Tuberculosis is the cause of death in 1 of every 3 people who die because of AIDS.
- ◆ In the next 4 years the spread of HIV will cause more than 3 million new tuberculosis cases.
- ◆ It is estimated that 266,000 HIV-positive people will die from tuberculosis this year.
- ◆ Tuberculosis is the only AIDS-defining infection which can spread through the air to HIV-negative people.

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Refugees

- ◆ Half of the world's refugees may be infected with tuberculosis.
- ◆ Conditions in refugee camps and shelters are often ripe for tuberculosis spread.
- ◆ Controlling tuberculosis presents a challenge among displaced people, because they are usually mobile populations without access to traditional health services.

Travelers

- ◆ Migration, international travel, and tourism are helping tuberculosis continue to spread.
- ◆ In many industrialized countries one half or more of the tuberculosis cases are found in foreign-born individuals.
- ◆ Every country is threatened by the poor tuberculosis treatment practices of other countries.
- ◆ While international travel has accelerated dramatically, the world has been slow to recognize the implications for public health.

The Solution**An effective cure for tuberculosis already exists: directly observed therapy (DOT)**

- ◆ Tuberculosis medicines are more than 95% effective when taken as directed.
- ◆ When patients comply with appropriate medical treatment, the risk that drug resistant strains will develop is greatly reduced.
- ◆ Directly observed therapy (DOT), whereby health workers watch their patients swallow each dose of medicine, increases patient compliance.
- ◆ Countries that follow the DOT strategy recommended by the World Health Organization (WHO), have doubled their rates of cure for tuberculosis.
- ◆ DOT is cost-effective.

Much more must still be done.

- ◆ Public awareness of tuberculosis must be increased.
- ◆ Increased support for tuberculosis control and research is needed.
- ◆ Development and implementation of a universal vaccine needs more serious consideration.

Adapted from *World Tuberculosis Day, 24 March 1996, Guide to Obtaining Media Coverage* by the Global Tuberculosis Programme of WHO

Tuberculosis in Texas

For several years, tuberculosis control programs in Texas have emphasized DOT for the delivery of antituberculosis medications. The number of patients participating in these programs has risen from about 30% in December of 1993 to over 80% in December of 1995. DOT programs required administrators to schedule and record consumption of over 100,000 packets of medicine in 1995. Outreach workers statewide deserve congratulations for meeting patients at the scheduled times in spite of traffic, weather, and other difficulties. Their hard work is one of the reasons newly reported tuberculosis cases in Texas have dropped from 2,542 cases in 1994 to 2,369 cases in 1995.

For further information regarding tuberculosis in Texas, contact the TDH Tuberculosis Elimination Division at (512) 458-7447. To obtain information from WHO, contact Courtney Singer, Communications Officer, Global Tuberculosis Programme, 20 Avenue Appia, World Health Organization, CH-1211 Geneva, Switzerland; email: SINGERR@WHO.CH; phone: (41 22) 791 2189.



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