



Texas Preventable Disease

NEWS

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HEART DISEASE

Heart disease is responsible for more than 550,000 deaths in the United States each year and continues to be the number one killer in the country. Annually, heart disease costs the United States more than \$80 billion dollars in direct and indirect costs. In Texas, more than 50,000 deaths are attributed to heart disease each year.¹

The statistics are grim, but scientific advances and changes in lifestyles have resulted in a dramatic decline in the number of deaths due to heart disease. In Texas, the number of deaths due to heart disease declined almost 1.5% from 1985 to 1986. In 1985, 51,539 (43.6% of 118,183 total deaths) individuals lost their lives to heart disease. In 1986, the number of deaths due to heart disease decreased to 50,772 (42.8% of 118,637 total deaths); 21.3% (10,802) of all deaths from heart disease occurred in individuals under 65 years of age.¹

The American Heart Association credits the decrease in heart disease to increased public awareness of healthy lifestyle habits, increased efforts in prevention, and innovations in the diagnosis and treatment of heart disease.¹

Lifestyle has been identified as a major factor in most health-depriving conditions contributing to premature mortality. What and how much we eat, drink, and smoke; how much we exercise; and how effectively we cope with societal pressures, all appear to be determinants of health and illness. The three risk factors most commonly associated with heart disease include: high blood pressure, high blood cholesterol, and cigarette smoking.²

Heart disease is caused by atherosclerosis, a slow progressive disease of the large arteries that begins early in life, rarely producing symptoms until middle age.³ Frequently, the disease goes undetected until the time of the first heart attack, which is often fatal or causes severe disability. Modern methods of treatment have greatly improved the outlook for individuals with heart disease, but major progress in the battle against the number one killer is still dependent on preventive measures.⁴

Reducing heart disease in the United States is a major objective of state and local agencies, as well as national health organizations. In 1986, the American Heart Association provided over \$2 million in Texas for heart research and additional monies for professional education, community service, and public education.¹

The mission of the TDH Chronic Disease Prevention Program is to improve the health of adult Texans (16 years of age and older) through early identification of chronic disease, primarily cardiovascular disease, cancer, and diabetes. The Program is available in all eight public health regions and in ten local health departments statewide. Services are provided in a variety of community settings (eg, public health clinics, health fairs, schools, and worksites) by health professionals, particularly community health nurses, who are actively involved in primary, secondary, and tertiary prevention.

Primary prevention is accomplished through the provision of education regarding risk factors related to heart disease and other chronic diseases. Secondary prevention involves screening high-risk populations for a variety of risk factors, including smoking, high blood pressure, and high blood cholesterol. When a risk factor is identified, tertiary prevention, which includes health maintenance activities such as monitoring, is provided (Figure 1).⁵

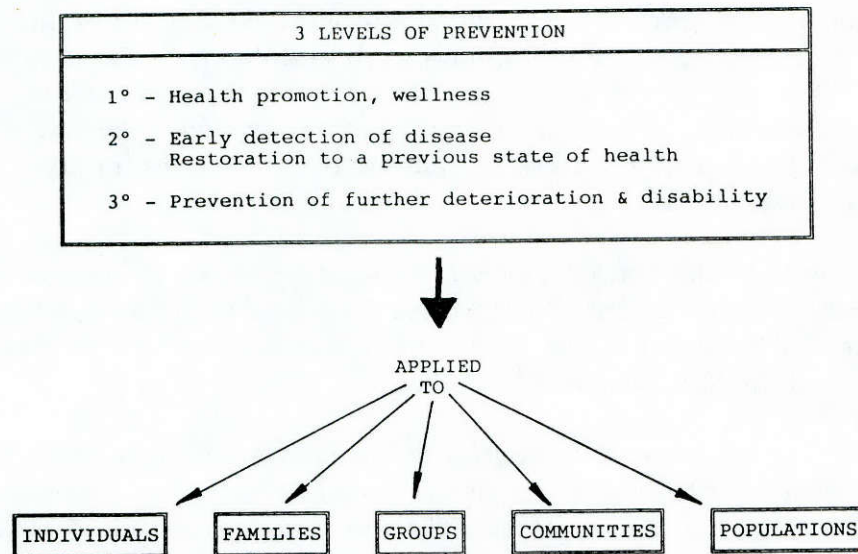
Studies have shown that organized efforts at the state, local, and national level have, to some degree, lowered the prevalence of major heart disease risk factors that exist throughout the nation. Historically, the health care system has focused on acute care placing greater emphasis on curing illness, but very little on preventing it. Today, we know that heart disease can be prevented by modifying our lifestyles. Health professionals must continue to stress prevention and early detection of disease; it is the key to a healthy society.

Prepared by: Linda Moore, RN, Nurse Consultant, Chronic Disease Prevention Program, Bureau of Dental and Chronic Disease Prevention, Texas Department of Health.

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Figure 1.
Three levels of prevention*



*Elkins, C.P. Community Health Nursing: Skills and Strategies. Bowie, Maryland: Robert J. Brady Company, 1984

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AIDS DUE TO HIV-2 INFECTION -- NEW JERSEY*

The first reported case of AIDS caused by human immunodeficiency virus type 2 (HIV-2) in the United States was diagnosed in December 1987. The patient, a West African, came to the United States in 1987. In December, the patient visited a physician because of a three-year history of weight loss and recent onset of neurologic symptoms. A CAT scan of the head revealed mass lesions that biopsy showed to be caused by *Toxoplasma gondii*. Biopsy of a lymph node revealed acid-fast bacteria.

The patient did not give a history of sexual intercourse, use of nonsterile needles, or donation of blood while in the United States. All family members and household contacts, both in the United States and abroad, are reported to be well.

Because the diagnosis of cerebral toxoplasmosis without other underlying cause of immunodeficiency fits the CDC surveillance definition for AIDS, laboratory evidence of infection with HIV was sought. Testing of the patient's serum revealed a negative enzyme immunoassay (EIA) for antibody to HIV-1 with an indeterminate HIV-1 Western blot. However, EIA for antibodies to HIV-2 (Genetic Systems Corporation, Seattle, Washington [research test kit]) was repeatedly reactive, and HIV-2 Western blot revealed bands for antibodies to *gag* (p26), *pol* (p34), and *env* (gp140) proteins. DNA amplification by the polymerase chain reaction technique with HIV-1-specific and HIV-2-specific DNA probes revealed HIV-2 DNA but not HIV-1 DNA in the patient's lymphocytes and confirmed the diagnosis of HIV-2 infection.

MMWR Editorial Note: This patient represents the only documented case of HIV-2 infection in the United States. HIV-2 is closely related to HIV-1 and was first reported to be associated with AIDS in 1986 in West Africa, where the virus is believed to be endemic. Several well-documented cases of HIV-2 infection have also been reported among Europeans and among West Africans residing in Europe. The spectrum of disease and modes of transmission of HIV-2 are similar to those of HIV-1. These modes of transmission include sexual intercourse; however, infected persons present no risk to nonsexual household contacts. The present case undoubtedly represents infection acquired in West Africa since illness began before the patient's arrival in the United States. The patient has had no known activities that would have exposed others in this country to HIV-2.

Because of the reports of HIV-2 infection in West Africa and Europe, CDC and the Food and Drug Administration (FDA) initiated surveillance for HIV-2 in the United States in January 1987. To date, CDC, FDA, and collaborating investigators have screened 22,699 serum samples with anti-HIV-2 EIA. Of these specimens, 14,196 (63%) were from individuals whose activities placed them at increased risk for HIV-1 infection and who would, therefore, potentially be at risk for HIV-2 infection. The remaining 8,503 were from asymptomatic blood donors randomly selected from three areas of the United States, two of which have reported large numbers of AIDS patients. Overall, 35 (0.2%) of the serum samples were reactive by anti-HIV EIA using HIV-2 antigens but not by anti-HIV EIA using HIV-1 antigens. However, none of these EIAs could be confirmed when tested by HIV-2 specific Western blot. An additional 70 (0.3%) of the samples were reactive by Western blot with *gag*, *pol*, and *env* antigens of both HIV-1 and HIV-2. All of the dually reactive specimens were from individuals whose activities placed them at increased risk for HIV-1 infection. None were from the randomly selected blood donors. Sera from these dually reactive subjects were studied for the presence of type-specific neutralizing antibody to HIV-1 or HIV-2, antibody to synthetic peptides specific for HIV-1 or HIV-2 (Genetic Systems Corporation, Seattle, Washington [research test kit]), or HIV-1 and HIV-2 DNA by DNA amplification. Sixty of the subjects were shown to be infected with HIV-1 but not HIV-2. Ten are still under investigation.

It is reassuring that HIV-2-specific tests on sera from 22,699 persons, including 8,503 randomly selected US blood donors, failed to reveal HIV-2 infection. However, the occasional presence of this virus in the United States, as in Europe, should be anticipated. The anti-HIV-1 EIA tests currently used for screening all US blood donors are estimated to detect 42% to 92% of HIV-2 infections. Surveillance for HIV-2 in the United States is being continued to monitor the frequency of infection. Because the modes of transmission of HIV-1 and HIV-2 are similar, preventive measures for these related viruses are the same.

TEXAS PREVENTABLE DISEASE NEWS (ISSN 8750-9474) is a free, weekly publication of the Texas Department of Health, 1100 West 49th Street, Austin, TX 78756. Second-class postage paid at Austin, TX. POSTMASTER: Send address changes to TEXAS PREVENTABLE DISEASE NEWS, 1100 West 49th Street, Austin, TX 78756.

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