

## Cancer Cluster Investigations

### Introduction

Cancer is a very common disease. One out of every three people alive today will be diagnosed with some type of cancer during his or her lifetime. Cancer is the second leading cause of death in Texas, with approximately 31,000 Texas residents dying of cancer each year. On a weekly basis, the Texas Department of Health Cancer Registry Division and Health Studies Program receive calls from citizens, environmental groups, physicians, and others with concerns about "too much cancer."

Although many of the calls and questions can be answered through educational efforts, a substantial number of the inquiries result in a formal investigation to:

- ◆ examine the occurrence of cancer (incidence or mortality) in a defined geographic area
- ◆ determine if there is an excess of cancer for that area

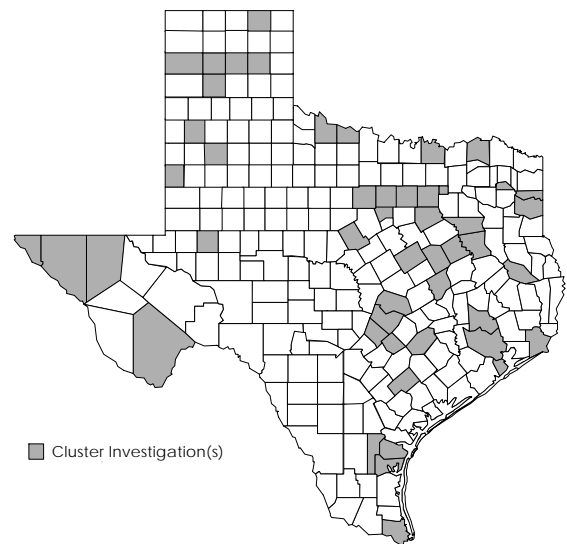
In 1994 the Health Studies Program in the Bureau of Epidemiology and the Cancer Registry Division conducted 62 cancer cluster investigations that addressed concerns of people living throughout the state (Figure 1).

### Investigation Protocol

The protocol for the investigation of a reported excess of cancer employs a three-tier methodology. Tier 1 involves gathering pertinent information from the person/agency making the inquiry. Staff collect information on the following:

- ◆ location of the alleged cluster
- ◆ cancer(s) of concern
- ◆ number of cases
- ◆ time period of concern
- ◆ environmental concerns

**Figure 1. Cancer Cluster Investigations by County of Reported Cluster**



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**Also in this issue:**

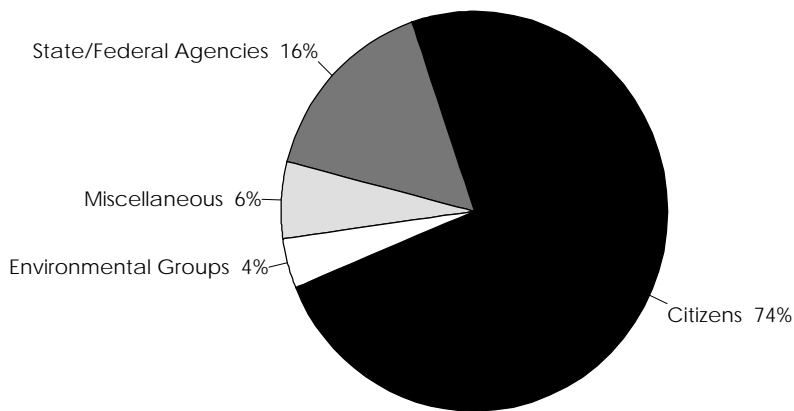
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Information regarding general cancer facts and known risk factors for specific cancers are provided to the person or group making the inquiry. In many instances, the investigation is concluded at this point. If not, the investigation proceeds to Tier 2.

Tier 2 involves the analysis of cancer incidence or mortality data for the geographic area of concern. The Cancer Registry Division is the repository of cancer incidence and mortality data for the state. The data are analyzed at either the city or county level and are compared with state or national rates. If the number of cancer deaths or cases is not statistically elevated, the

**Figure 2. Origin of Initial Cancer Cluster Inquiry**



investigation is concluded, and a report of the findings is forwarded to the person/agency that initiated the inquiry. If the number of cases is statistically elevated, further study may be warranted. The majority of the investigations, however, are concluded in Tier 2.

Additional studies conducted in Tier 3 may involve a variety of methodologies including:

- ◆ review of death certificates or hospital records to gain additional information on specific cases

- ◆ administration of a questionnaire to individuals diagnosed with cancer to determine possible risk factors
- ◆ formal epidemiologic study of a specific population or community

**Investigations**

Sixty-two investigations were conducted in 1994 by the Cancer Registry Division and the Health Studies Program, Bureau of Epidemiology. The majority of the investigations (74%) were initiated by individual citizens. Sixteen percent of the investigations originated from other state and federal agencies.

Environmental groups, physicians, attorneys, and the media accounted for the remainder of the investigations (Figure 2). Of the investigations initiated by individual citizens, the majority (68%) were initiated by women, 21% by men, and the gender of 11% was unknown.

Cancer cluster investigations may cover any type of geographic division or area. Investigations typically involve the analysis of data for a single county or city, but may involve multiple counties or entire public health regions. Of the 62 investigations conducted in 1994, 46 (74%) were conducted at the city level, and 15 (24%) were conducted at the county level.

Two types of data are available for analysis in cancer cluster investigations; mortality data and incidence data. Mortality data were used in the majority (65%) of investigations in 1994 because mortality data are complete for the entire state. While many hospitals across the state are in compliance with state law that requires them to report new cases of cancer, many are not complete in their reporting of cases. For several regions of the state, cancer incidence data are not complete and cannot be used in the investigation of reported clusters. Twenty investigations, however, did examine cancer incidence data.

The five leading causes of cancer mortality in Texas are lung cancer, breast cancer, prostate cancer, colon cancer, and pancreatic cancer. The five leading cancers of concern in the investigations conducted in 1994, however, were leukemia and lung, colon, breast, and brain cancers. The following table lists the top ten cancer sites of concern in the 1994 investigations.

study was conducted. In many cases, the detailed review of individual case data revealed the presence of known risk factors for the cancer site of concern (smoking and lung cancer). For selected investigations, however, special surveillance projects were initiated.

**Top 10 Cancer Sites by Number of Investigations**

For the majority of the 62 cancer cluster investigations conducted in 1994, multiple cancer sites were evaluated for both males and females. Overall, approximately 545 separate analyses were conducted for specific cancer site and gender combinations. Of the 545 analyses, only five percent showed a statistically elevated excess number of cancers.

Cancer Site	No. of Investigations	Cancer Site	No. of Investigations
Leukemia	76	Pancreas	34
Lung	74	Prostate	32
Colon	50	Non-Hodgkin's	30
Breast	43	Bladder	22
Brain	38	Stomach	20



For each of the investigations in which a significant elevation of either cancer incidence or mortality was found, further

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**TDH Tuberculosis Education Center Conference**  
***Border Tuberculosis: A Binational Approach***

All health care professionals are invited to attend this conference, to be held April 1-3, 1996, at Texas State Technical College in Harlingen, Texas. Presented in English and Spanish, the conference includes lectures and interactive sessions with prominent tuberculosis experts from both sides of the border. Among the scheduled presenters are Dr. Miguel Escobedo, Medical Director, Preventive Health Services, El Paso City-County Health District; Dr. Carlos Castro Medina, Jefe, Servicios Coordinados de Salud de Tamaulipas; Dr. John Sbarbaro, University of Colorado Health Science Center; and Dr. Nancy Binkin, Tuberculosis Elimination Division, Centers for Disease Control and Prevention. Faculty from the Texas Department of Health include Dr. David Smith, Commissioner, and Dr. Michael Kelley, Chief, Bureau of Communicable Disease Control.

Display booths will provide information on various tuberculosis topics, including skin test reading, laboratory techniques, mask fit testing, and TB-400s. Brochures in English and Spanish also will be available at these information booths.

***For further information, call (800) TEX LUNG. The registration deadline is March 25***

**Continuing Education Credit**

The Texas Department of Health is accredited by the Texas Medical Association to sponsor continuing education for physicians.

The Texas Department of Health designates this continuing medical education activity as meeting the criteria for 17 credit hours in Category I of the Physician's Recognition Award of the American Medical Association.

16.5 Type I contact hours of Continuing Nursing Education (CNE) have been requested from the Texas Department of Health, which is approved as a Provider of Type I CNE by the Texas Nurses Association.



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