



## FACT SHEET

# INQUIRIES ABOUT CANCERS IN COMMUNITIES

## CANCER CLUSTER INQUIRIES

Concerns regarding a possible cluster of cancer sometimes occur when a person or someone close to that person is diagnosed with cancer. This close contact with cancer often raises an awareness of others who also have cancer and may lead to the perception that there is an unusually large number of individuals with cancer in one's community or workplace. People often suspect that the cancers are caused by hazardous substances in the environment. The New Jersey Department of Health (NJDOH) and local health departments are sometimes contacted because of this increased awareness about cancer and the search for possible causes. This fact sheet addresses some key issues in evaluating cancers in communities. We hope that you find it helpful.

## CANCER IS MORE COMMON THAN MANY PEOPLE REALIZE

According to the American Cancer Society, about 1 out of 2 men and 1 out of 3 women in the United States will develop cancer over the course of their lifetime. As a result, over the years, cancer will affect most households. Because many infectious diseases have been either stabilized or conquered due to advancements in medical science, cancer has become the second leading cause of death in the United States, following heart disease. Given these statistics, it is not unusual for someone to know several people in his or her neighborhood or workplace who have cancer.

## CANCER IS NOT JUST ONE DISEASE

By definition, cancers are a group of more than 100 diseases that all begin with uncontrolled growth and the spread of abnormal cells. Different types of cancers have different rates of occurrence and different causes. Therefore, we cannot assume that all of the different types of cancers in a community or workplace share a common cause.

## THE RISK OF HAVING CANCER IS RELATED TO AGE

While cancers occur in people of all ages, incidence rates (the number of newly diagnosed cases of cancer in a specific population during a specific time period) for most types of cancers rise sharply among people who are over 45 years of age. When a community, neighborhood, or workplace consists primarily of people over the age of 45, and particularly over the age of 60, we see many more cancers there than in a community, neighborhood or workplace with more young people. It should be noted, however, that cancer is also the second leading cause of death in children, with accidents the most frequent cause.

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## **MORE THAN HALF OF ALL CANCERS ARE RELATED TO LIFESTYLE FACTORS**

Cancers may be caused by a variety of factors acting alone or together, usually over a period of many years. Scientists estimate that most cancers are due to lifestyle factors that include cigarette smoking, heavy use of alcohol, diet (high fat and low fiber), physical inactivity, and being overweight or obese. Other risk factors for some cancers include reproductive patterns, sexual behavior, sunlight exposure, some infectious diseases and some occupational exposures. A family history of cancer may also increase a person's chances of getting a cancer.

## **CANCERS DUE TO HAZARDOUS SUBSTANCES ARE RARE**

Most health scientists currently believe that a relatively small proportion of all cancers are related to exposure to hazardous substances found in the home, community, or workplace. In order for environmental contaminants to cause cancers, or any other disease, there must be a completed pathway through which the contaminants could travel from their source and through the environment to enter the human body through air, water, food, or direct contact with the skin. It is important that any environmental contamination that violates federal or state standards be rectified properly, whether or not such a hazard is found to cause disease.

## **CANCER TAKES A LONG TIME TO DEVELOP**

For adults, there is often a long period, 10 to 30 years or even more, between the exposure(s) and the diagnosis of cancer. Since the cancers we see now are generally related to a lifetime of certain lifestyle habits or exposures to carcinogens, it is usually very difficult to pinpoint what caused a specific case of cancer.

## **MOST CANCER CLUSTERS OCCUR BY CHANCE**

Cancer, and other diseases, do not occur evenly over time and place. Usually increased or decreased rates of cancer are due to random variation, even when high or low rates can be statistically confirmed. Therefore, we can rarely conclude that even a statistically significant increase was caused by exposure to local environmental factors. Additionally, when the numbers of cancer cases are small, it is particularly difficult for statistical analyses or scientific studies to yield useful or valid information.

## **EXPERIENCE IN THE UNITED STATES WITH CANCER CLUSTER INVESTIGATIONS**

In the 1970s, when state cancer registries were first being organized, many public health scientists and others hoped that observations of clusters of cancer in the community might lead to the discovery of specific causes of these cancers. Since then, thousands of statistical analyses and many intensive studies have taken place throughout the United States, mainly conducted by state, local, or federal agencies. With two possible exceptions (Woburn, MA and Toms River/Dover Township, NJ), none of these cluster investigations has led to the identification of specific causes, even when scientists were able to show that there was a statistically increased number of cancers in a geographic area.

The NJDOH is exploring possible methods to identify, interpret and report on geographic patterns of cancer. We hope that future surveillance of cancers in the population will lead to new opportunities for prevention and control.