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## Cause of cancer clusters often never discovered

### Toxins generally cause rare forms of disease

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Genuine cancer clusters account for only a small number of suspected clusters, said Tim Aldrich, an epidemiologist who has studied disease clusters across the nation for three decades.

And even in those cases, the actual cause of a cluster often is never discovered.

One of the best-known cases of a bona fide cancer cluster, Aldrich said, occurred in the mid-1990s at Toms River, N.J., where there appeared to be pediatric cancer clustering. Toms River is adjacent to two "Superfund" sites, designated as high priorities for cleanup by the Environmental Protection Agency because of the presence of hazardous waste.

A study over several years concluded that no single risk factor was responsible for the elevated level of childhood cancer in that region.

Environmental toxins generally cause a specific, rare cancer, experts say. Vinyl chloride monomer, for example, has been found to elevate the risk of hepatic angiosarcoma, a rare liver cancer.

"We tell students common things happen commonly and rare things happen rarely," said Aldrich, an associate professor of epidemiology at East Tennessee State University in Johnson City, Tenn.

"The meaningful clusters are the result of something really bizarre and very strange becoming more common."

The eight areas in Delaware identified by the state's Division of Public Health as having cancer clusters do not show a cluster of any rare cancers. The clusters identified include prostate, lung, colorectal and all cancers.

The next step in Delaware, Aldrich said, is to monitor the region for the next three to five years.

"You want to just keep watching the community to see if something changes," he said.

When clusters warrant increased surveillance, local universities typically apply for grants to do further study. Ideally, researchers want to compare the population with the cluster to a similar community to see if something sticks out.

"Sometimes you never figure out what it is," Aldrich said.

Dr. Jaime Rivera, director of the Delaware's public health division, said it would cost millions of dollars to do an in-depth study of the environmental factors.

People who live in poor socioeconomic areas where a cluster appears may actually have higher cancer rates because of other risk factors. People in poverty are more likely to live near power plants. But they're also more likely than the general population to smoke and be obese and in worse physical shape.

All those are risk factors for cancer, said Dr. Michael J. Thun, vice president for epidemiology and surveillance research at the American Cancer Society.

"It's always the case that cancer rates are distributed unevenly," he said, "and almost always, they relate strongly to socioeconomic factors."

Another difficulty in making the link is that cancer risks from environmental causes take several years to make their effect apparent. Cancer in the colon, Aldrich said, "isn't going to go from a pinhead size to a golf ball size in less than five years."

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