Disease Clusters in Tennessee

An unusually large number of people sickened by a disease in a certain place and time is known as a ‘disease cluster’. Clusters of cancer, birth defects, and other chronic illnesses have sometimes been linked to chemicals or other toxic pollutants in local communities, although these links can be controversial. There is a need for better documentation and investigation of disease clusters to identify and address possible causes. Meanwhile, toxic chemicals should be identified and controlled through reform of the Toxic Substances Control Act, so these chemicals don’t pollute communities and sicken people.

Investigations of disease clusters are complex, expensive, and often inconclusive, partly due to limitations in scientific tools for investigating cause-and-effect in small populations. Preventing pollution is the best way to avoid creating additional disease clusters. Strategies for prevention include: (1) Directing and funding federal agencies to swiftly assist state and local officials, and investigate community concerns about potential disease clusters and their causes; (2) Reducing or eliminating toxic releases into air, water, soil and food through stronger environmental controls and tough enforcement of those requirements; and (3) Requiring chemical manufacturers to ensure the safety of their products.

Tennessee has suffered from at least one confirmed disease cluster which afflicted children. Environmental contaminants are implicated in this cluster. Regardless of the cause, disease clusters can devastate communities with anxiety and emotional and financial difficulties, including high medical costs and lowered property values, as well as the tremendous burden of the disease itself.

LOCATION: Dickson, Dickson County
DISEASE: Oral cleft birth defects
A cluster of oral cleft (cleft lip and cleft palate) birth defects in Dickson, Tennessee from 1997 to 2000 was identified by the Centers for Disease Control and Prevention. The investigation revealed that in 1997, trichloroethylene (TCE) and toluene were found in a private well, public well, and in the public water supply. Both chemicals have been associated with causing birth defects. Prior to stringent landfill regulations and guidelines, containers of TCE were buried in the Dickson County landfill in Dickson. Additionally, according to the EPA’s Toxic Release Inventory in 1997 Quebecor Printing released 1.4 million pounds of toluene into the air in Dickson.