Epidemiology of Cancer
Cluster Investigations

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Outline

• Notification

• Services OEEB Can Provide

• Services OEEB Cannot Provide

• Challenges of Cluster Investigations
Notification

• OEEB or Central Cancer Registry (CCR) notified of potential cluster

• CCR conducts statistical analysis and shares their report with OEEB

• OEEB decides whether or not any additional investigation is warranted
  • Often pressure from community and politicians to aggressively investigate, with the expectation that an environmental cause will be uncovered
Services OEEB Can Provide

- Identify risk factors in the scientific literature and consult with CDC experts
- Assess environmental concerns expressed by cancer cases and their families
- Conduct site visit to look for obvious potential environmental issues in or near the community (observation only—no environmental sampling)
Services OEEB Can Provide (cont.)

• Obtain information from Department of Environmental Quality (DEQ) on hazardous waste sites (both active and inactive) or leaking underground storage tanks in the community

• If necessary, administer questionnaire to cancer cases to collect additional information about demographics, medical history, occupation, and risk factors
Services OEEB Can Provide (cont.)

• Encourage cases to participate in any research studies being conducted at nearby medical centers (if applicable)

• Make general environmental recommendations to the community
  – For example, test homes for radon and routinely test private wells for contaminants
Services OEEB Cannot Provide

• OEEB does not have resources to conduct a research study to identify causal associations

• OEEB does not collect environmental or clinical samples for testing

• OEEB does not have the ability to identify new risk factors for cancer
  • We can only assess risk factors that have been identified in the scientific literature
Challenges of Cluster Investigations

- Often involve small number of cases (making statistical analyses problematic)
- Failure to account for latency (length of time from exposure to carcinogen to development of cancer)
- Issues of in-migration to a community
Challenges of Cluster Investigations (cont.)

- Lack of clinical or molecular tests that can determine the cause of cancer
- Analysis based on information that hospitals report to the CCR
- Cases not always evenly distributed throughout the state (groupings of cases can occur by chance)
Challenges of Cluster Investigations (cont.)

- A recent study\(^1\) reviewed 428 cancer cluster investigations from the past 20 years. Only one investigation revealed a clear cause.

- The study concluded, “It is fair to state that extensive efforts to find causes of community cancer clusters have not been successful.”

Contact Information

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