

Problem Based Learning Exercise “Friends”

Scenario Part 1

A friend and spouse live in a medium sized suburban community and have come to ask your advice as a health professional. They are concerned that seven children in their community had been diagnosed with leukemia. They wondered if it was just a fluke, or whether something in the community was responsible. They also fear for their own safety and that of their children. You wondered whether this was a cancer cluster.

Tasks

1. What constitutes a cancer cluster?
2. Develop one or more hypotheses to explain the observations.
3. Give a rationale or basic mechanism to explain each.
4. What types of epidemiologic studies could be used to determine whether a cancer cluster exists?
5. What further information is needed to confirm or refute each hypothesis?
6. Explain your reasoning.

Scenario Part 2

In 1997, the Central Cancer Registry found 7 cases of pediatric leukemia in the community. Normally it is expected that only 2 cases would appear in a given year. In 1998, the area drinking water supply was tested for cancer causing contaminants. The Department of Health & Environmental Control concluded that the drinking water was safe. Health Department records were searched for evidence of an increase incidence of hepatitis and infectious mononucleosis. None was found. A survey of residents showed no associations with exposure to glue, paint, varnish or pesticides.

Tasks

1. How does this new information reformulate your initial hypotheses?
2. What additional information is needed?
3. Explain your reasoning.
4. What environmental threats might have been associated with leukemia?

Scenario Part 3

There appears to be no association between the leukemia cases and any environmental threat but the friend and spouse aren't satisfied.

Tasks

1. What else could explain the number of leukemia cases in this community?
2. What are the psychosocial and economic impacts of potential cancer clusters.
3. How might they bring the community together around this issue?

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