

# Problem Based Learning Exercise “Friends”

## Facilitator Notes

### Scenario

#### Plausible Hypotheses

1. Infectious agents
2. Environmental toxins
3. Parental exposures or medical conditions

#### Additional Information

1. Epidemiologic studies
2. Definition of cancer cluster; investigative processes
3. Public health agencies that provide information
4. Statistics and chance

### Scenario Part 2

#### Plausible Hypotheses

1. Environmental contaminant that is below detectable levels
2. Interaction between two environmental contaminants not previously described
3. Statistical aberration
4. Chance
5. Measurement error

#### Additional Information

1. Environmental toxins known to cause cancer
2. Information on investigation of other cancer clusters

### Scenario Part 3

#### Conclusion

The number of leukemia cases could be explained by chance, statistical aberration or measurement error. (bias, confounding, effect modification)

#### Additional Information

1. Healthy Communities initiatives
2. Strategic Planning for Healthier Communities

## Objectives

At the conclusion of this exercise, the student should be able to:

1. Define cancer cluster and identify possible causes.
2. Access public health agencies for information about environmental health concerns.
3. Identify other sources of information on environmental toxins.
4. Describe in general terms the process of investigating a cancer cluster.
5. Describe the role of statistical aberration, chance and measurement error.
6. Discuss the psychosocial and economic impacts of potential cancer clusters.
7. Discuss the Health Communities initiative as a means for a community to address health concerns.
8. Discuss the process of strategic planning by the community around this issue.

## Web Resources

The American Cancer Society (2000). Childhood leukemia overview. Available: On-line: <http://www3.cancer.org/cancerinfo>

The National Cancer Institute (2000). Cancer Clusters. Available: On-line: [http://cancernet.nci.nih.gov/cgi-bin/srchcgi.exe?TYPE=search&ZUI=600358&DBID=pdg&SFMT=pdg\\_statement/1/0/0&PASSTHRU=:ip:128.23.42.246::srchform:PDQ:](http://cancernet.nci.nih.gov/cgi-bin/srchcgi.exe?TYPE=search&ZUI=600358&DBID=pdg&SFMT=pdg_statement/1/0/0&PASSTHRU=:ip:128.23.42.246::srchform:PDQ:)

## Other Resources

Linnet, M.S., Tielsch, J.M., Markowitz, J.A., et al. (1985). An apparent cluster of aplastic anemia in a small population of teenagers. Archives of Internal Medicine 145, p. 635-640.

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