



FOCUS on Field Epidemiology

HYPOTHESIS GENERATION DURING OUTBREAKS: DISCUSSION QUESTIONS

1. Have you participated in hypothesis generation at the beginning of an outbreak investigation? If so, what resources and information did you use? If not, what resources and information do you think you would/could use?

Discussion Cues: The information used to generate hypotheses depends on the situation. For example, if you were involved in an outbreak of laboratory-confirmed *Shigella*, you could use textbooks, Web sites and a PubMed search to learn more about past outbreaks involving *Shigella*, its incubation period, potential sources, and route of transmission. If cases in the outbreak displayed a common clinical picture but no organism could be identified by the lab, these resources could be used to learn more about organisms that can cause the clinical picture observed in the outbreak. It is also important to remember that the outbreak could be caused by a previously unrecognized organism. Using available information on the epidemiology, clinical signs, ecology, and microbiology of organisms/diseases involved in outbreaks is very useful. But also try to keep an open mind when generating hypotheses, because the outbreak you are involved in may differ from previous outbreaks involving the same organism or disease. Remember the outbreak of Legionnaires' disease in which the hospital cooling towers, rather than the potable water supply, were the source of exposure.

2. In what types of outbreak situations would you consider using open-ended interviews, focus groups, or other less common ways of obtaining information for hypothesis generation?

Discussion Cues: These methods are often reserved for outbreak situations in which the epidemiologic, clinical, and laboratory data do not provide enough information for the investigators to generate hypotheses, because these methods typically require more time, labor and resources than the standard methods (eg, standardized interview of the cases and a literature review). The decision to use more labor-intensive methods depends on the progress, extent, and status of the outbreak as well as the resources available to the investigators.

