



# FOCUS on Field Epidemiology

## EPIDEMIC CURVES AHEAD: DISCUSSION QUESTIONS

1. Have you ever used an epi curve during an outbreak? If so, what information did it give you? If not, do you think an epi curve could have provided any valuable information to you during an outbreak?

**Discussion Cues:** Depending on the information available in a particular outbreak situation, an epi curve can provide insight into the pattern of disease spread, the magnitude of the outbreak, the time trend involved, the outlying cases, the period of exposure and/or the incubation period of the organism involved. All of these pieces of information can be valuable. For example, an epi curve may allow you to see that the outbreak appears to be from a point source, or that it is ongoing.

2. If you want to better understand routine surveillance data, what existing datasets in your local or state health department could be used?

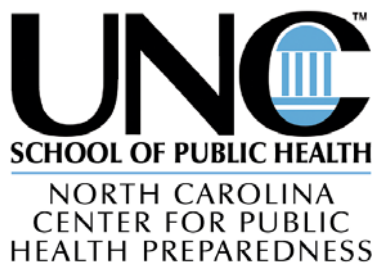
**Discussion Cues:** Any datasets containing disease data over time can be helpful. All state and many local health departments should have these data accessible for free on the internet. Data on reportable communicable diseases could be useful. For example, the North Carolina Department of Health and Human Services, Division of Public Health, Epidemiology Section has annual state tuberculosis (TB) statistical summaries that contain the number of TB cases and case rates, by county, by Hispanic ethnicity (because this is a particular concern in North Carolina) and by age group: <http://www.epi.state.nc.us/epi/tb/data.html>. They also have historical reports for all reportable diseases, including the number of cases and annual incidence: <http://www.wpi.state.nc.us/epi/gcdc/pdf/CD1991-2002.pdf>. Local health departments may also have county-level surveillance

data. For example, the Guilford County Health Department, in North Carolina, has a lot of surveillance data accessible for free on-line. The "Health Status of Guilford County 2000-2001 Data Book" has information on county-level morbidity and mortality and includes data beginning in 1991:

<http://www.co.guilford.nc.us/government/publichealth/stats/data/book01.html>.

3. If you wanted to make an epi curve, what software program would you use? You may want to use data from a previous outbreak, or make up data to practice making an epi curve. Alternatively, you can go through the "Oswego" outbreak tutorial in Epi-Info, which can be found at <http://www.cdc.gov/epiinfo/>.

**Discussion Cues:** Microsoft Excel and Power Point are often used to create epidemic curves. They are most easily created by following the steps listed in the Focus issue. Alternatively, EpiInfo (a free software program from the CDC) may be used. If a computer is not available, epi curves can be drawn on paper. While this method is not as easy to update as a curve created on the computer, it can give you the same information as a computer-generated epidemic curve. If you have never made an epi curve, you may want to use data from a previously investigated outbreak (or made up data) to go through the steps of creating and interpreting an epidemic curve, using the method (Excel, hard copy etc.) that you expect to use during your next outbreak investigation. Practicing this before an outbreak investigation will save you time and stress during the outbreak. Another useful exercise might be to look up outbreaks on the CDC website (many are published in the MMWR) and examine the epidemic curves associated with these outbreaks. Learning how the investigators interpreted the epi curve and what information they gleaned from it may deepen your understanding of how an epidemic curve can help you during an outbreak investigation.



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