**Outbreaks vs. Epidemics**

**Whether it's time to freak about the flu.**

By Brendan I. Koerner Posted Friday, Dec. 19, 2003, at 5:23 PM ET

The [Centers for Disease Control and Prevention](http://www.cdc.gov/) has been careful to [characterize](http://www.phppo.cdc.gov/PHTN/webcast/influenza03/flu03script.htm) the sharp uptick in flu cases as an outbreak, rather than an epidemic. What's the difference between an outbreak and an epidemic, and where do pandemics fit into the nomenclature of disease?

In terms of the flu, the difference between an outbreak and an epidemic is the percentage of overall deaths caused by the disease. Every week, the CDC gathers morbidity data from hospitals in 122 cities nationwide and figures out what percentage of the decedents died of pneumonia, cancer, and other prolific killers. If the number of flu-caused deaths exceeds 7.7 percent of the total, then the United States officially has an epidemic on its hands. According to the latest survey, only 7.2 percent of last week's deaths were due to influenza, so there's no epidemic yet.

The 7.7 percent figure isn't static from year to year, however. The CDC's official definition of an epidemic is: "The occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time." Since some diseases become more prevalent or lethal over time, while others become less severe, the CDC must adjust its statistical models to alter the definition of what's truly more than expected. During the flu epidemic of 1990, for example, the CDC's threshold was 6.7 percent of total deaths. Today's threshold figure is likely due in part to the emergence of new, less treatable flu strains, as well as the decline in morbidity associated with other diseases.

 For diseases that cause a statistically insignificant number of deaths each week, the CDC often uses incidence data in lieu of fatality percentages. The rule of thumb for [meningococcal disease](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm), for example, is that an attack rate in excess of 15 cases per 100,000 people for two consecutive weeks constitutes a sizeable epidemic. In countries with more centralized health-care systems, such as the United Kingdom, the measurement is usually done by surveying the number of complaints made to general practitioners. In the United Kingdom, if 1,000 out of every 100,000 GP consultations are flu-related, then it's an epidemic.

The CDC doesn't have epidemic thresholds for every disease and actually tends to frown on some of the media hair-splitting over the outbreak-epidemic line. The center's online [glossary](http://www.cdc.gov/reproductivehealth/epi_gloss.htm) states that "outbreak" can actually be used interchangeably with "epidemic" and that the former is often preferable merely because it's a less frightening term.

Few epidemiological words stir up more panic than "pandemic," and for good reason. A pandemic is an epidemic that occurs across several countries and affects a sizable portion of the population in each, although there's no formal definition of what constitutes "sizable." According to the CDC, the last influenza pandemic took place in 1968-69, when [the Hong Kong flu](http://www.cdc.gov/od/nvpo/pandemics/flu3.htm) killed 33,800 Americans between September and March. ………… 🡪(http://www.slate.com/id/2216982)