

## How have epidemiologists used the term community?

### ¿Cómo han usado el término comunidad los epidemiólogos?

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Before making connections between community and epidemiology, it is important to explain both terms individually. A community is a group of individuals with common characteristics such as geography, interests, experiences, concerns, or values (1–3). Communities are characterized by the “*membership, shared symbol systems, shared values and norms, mutual influence, shared needs and commitment to meeting them, and shared emotional connection.*” (1-3) Epidemiology is “*the study of the occurrence and distribution of health-related events, states, and processes in specified populations, including the study of the determinants influencing such processes and the application of this knowledge to control relevant health problems.*” (4)

Epidemiologists have used the term “community” to refer to individuals and groups linked by one or more characteristics. In an epidemiological design, such as cross-sectional or cohort studies, those common characteristics could be considered as the inclusion criteria. For example, if the study includes people from Latin America living in Canada, the study could be entitled “Association between ‘X’ and ‘Y’ in the Latin-American community living in Toronto.” In some cases, the shared characteristics are related to geopolitical boundaries; thus, if the characteristic is the place where participants live, epidemiologists could talk about the European community or urban-rural communities.

Additionally, epidemiologists have used the term “community” when they select the unity for analysis. Thus, in experimental designs, if the unit of analysis is the individual, the design is a randomized clinical trial; however, if the unit of analysis is a group, the design is a community trial (5). A community trial is a very common design in the field of evaluating preventive programs, since usually, an individual random assignment is not possible (5). In community trials, interventions are assigned to all members in each of several communities, which minimizes the “contamination” between the individuals who receive the intervention and those who do not (6).

On the other hand, an epidemiologist who applies statistical methods may consider the common characteristics shared by the community using statistical techniques for analyzing correlated data. For example, it is possible to apply models that account for a hierarchical structure, like the generalized estimation equation, mixed models or multilevel analysis models (7).

Additionally, Smith in 1998 (8) introduced the concept of community-based epidemiology, in which there is a participation of the communities’ members in each stage of the research process, and the researcher is a community member. The idea is that both participants and researcher identify the social risk under an ecologic approach.

In epidemiological surveillance, epidemiologists have used the concept of community when they refer to endemic, epidemic and pandemic terms. Endemic is the regular outcome occurrence in a community or region. Epidemic is an increase in the outcome number compared to the regular outcome occurrence in the same community or region. Pandemic is an epidemic across different communities or regions, including multiple continents or even worldwide (9).

In conclusion, a community is a sub-population that shares common characteristics, and epidemiology studies populations and sub-populations. Therefore, epidemiologists almost always study communities. There are many ways in which epidemiologists have used the term “community.” In this editorial, I mentioned some epidemiological uses of the term “community” such as inclusion criteria, unit of analysis, statistical analysis, community-based epidemiology and epidemiological surveillance. However, other uses may exist that I have not explored here.

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