

Tracking Disease in Puerto Rico

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Why is the burden of diabetes in Puerto Rico greater than in other states and territories of the United States? Who is at high risk for developing hepatitis C infection? Has there been a significant reduction in AIDS incidence in Puerto Rico since the beginning of the epidemic? Have the public health programs designed to reduce the spread of AIDS been effective? These questions relate to the discipline and practice of epidemiology.

After obtaining my master's degree in applied statistics, I pursued a doctoral degree in epidemiology, the basic science of public health aimed primarily at describing the patterns of disease occurrence in populations, testing hypotheses regarding disease causation, and applying these results to control health problems. For example, I recently participated in the design and conduct of a household survey to investigate the patterns of hepatitis C infection and associated factors among adults living in San Juan, Puerto Rico. Better understanding of the epidemiology of this infection will give us a broader picture of the need for hepatitis C counseling, testing, and referral and suggest new actions to fight the infection.

As an epidemiologist, I often use special regression models to compare the likelihoods that someone will develop a disease with and without being exposed to a particular risk factor. Statistical methods allow me to control for other sources of variation in the data and to judge whether the effects of the risk factor are real or due to random variation.

Complex interactions among genetics, environment, and lifestyle predispose individuals to noncommunicable and communicable health conditions. By applying rigorous epidemiological and statistical methods to investigate patterns of disease and other health conditions in populations, we can increase our understanding of their causes. Our goal is to develop effective methods for prevention and control, in order to improve the health of our communities.