

# Epidemiology paper assignment



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Epidemiology Paper Josephine Thomas Beach NUR408 August 15, 2011

Cynthia Koziol Epidemiology Paper Epidemiology is defined as “ the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control of health problems” (Stanhope & Lancaster, 2008, p. 243). Epidemiology takes an interdisciplinary approach at protecting the health of the entire community and is concerned with the risk of disease, the rate of disease development, and the levels of existing disease in a population (Stanhope & Lancaster, 2008).

According to Medscape’s (2011) website, sexually transmitted infections (STIs) are prevalent among homeless girls and women (both sheltered and unsheltered) and is attributed to lack of access to condoms, survival sex, prostitution, intravenous drug use, language barriers, and citizenship status. Healthy people reports an estimated 1. 1 million people are living with HIV/AIDS. 1 in 5 infected persons are unaware resulting in 56, 000 new infections annually (HealthyPeople. gov, 2011). Up to sixteen percent of all persons living with HIV/AIDS are homeless (The National AIDS Housing Coalition, 2011).

According to the Chatham-Savannah Authority for the Homeless (2011), “ According to the Stewart B. McKinney Act, a person is considered homeless who lacks a fixed, regular, and adequate night-time residence and has a primary night- time residency that is (A) a supervised publicly or privately or privately operated shelter designed to provide temporary living accommodations...(B) an institution that provides a temporary residence for individuals intended to be institutionalized, or (C) a public or private place

not designed for or ordinarily used as, a regular sleeping accommodation for human beings” (para 1).

Contributing factors to homelessness include lack of affordable housing, budget cuts in social programs, substance abuse, mental health, changes in the labor market, divorce, and runaways. In the veteran population, homelessness is usually related to battle fatigue or post traumatic stress syndrome (Amore ; Aspinall, 2011). When investigating and outbreak, both speed and accuracy are important and an determine if reported outbreaks are truly outbreaks.

Local health department records, hospital discharge records, mortality records along with records from neighboring states, national data, telephone surveys, and local community surveys are all used to determine baselines and trends. Multifactorial elements may contribute to false-positive elevations include better reporting factors, increased population sizes. Additionally, all outbreaks are not investigated based on availability of resources among other factors (Centers for Disease Control and Prevention, 2011).

Verifying the diagnosis, the third step in the process, is a two-fold process. Both the clinical diagnosis and the laboratory results must be verified. According to the Center for Disease Control and Prevention’s website (2011) interviewing the patient also assists in establishing a hypothesis for the cause, source, and spread of the disease. The fourth step is to establish a standard set of criteria based on simple and objective measures.

The case definition is comprised of four mechanisms; clinical information about HIV, characteristics of people infected, information about the location of the outbreak, and the specific timing of the outbreak (Centers for Disease Control and Prevention, 2011). For example, a decreased T-cell count, an elevated fever, tiredness, nausea, and enlarged lymph nodes would satisfy the clinical requirement. Increased visits to the mobile clinic from inhabitants of a homeless population with the same symptoms would be the characteristic qualification.

By time the criterion might be all visitors within a 90-day period and location would be a certain city with a large homeless population, colleges, hospitals, clinics, and physician's offices. The fifth and critical step is called descriptive epidemiology. It is aptly termed because the epidemiologist describes what is occurring in the community by characterizing an outcome by person, place, and time. Time is charted on an epidemic curve graph. Place is depicted on a spot map to show where the affected persons may have been infected.

Persons are normally characterized by race, age, occupation, living conditions, drug use, sexual history (Centers for Disease Control and Prevention, 2011). Step six is to formulate the hypothesis using the information gathered. Step seven then evaluates the reliability of the hypothesis. Analytic epidemiology is used when the data is less clear and uses either case-controlled or cohort studies. Step eight refines the hypothesis by performing additional studies (Centers for Disease Control and Prevention, 2011).

Step nine is implementing control and prevention measures and should be done early in the process. For example, if it is clear early in the investigation that a certain homeless population is having unprotected sex and sharing contaminated needles, a condom clinic and clean needle clinic should be set up sooner rather than later. Step ten, the final step in the epidemiology process, is to report the findings to all health care personnel both orally and written (Centers for Disease Control and Prevention, 2011).

Based on data compiled by the Georgia Department of Human Resources' Epidemiologic Branch of Public Health, Georgia ranked fourth in the nation in new AIDS cases and seventh in cumulative AIDS cases. Atlanta, Fulton, and DeKalb counties account for sixty-six percent of the state's AIDS cases. Fifty-one percent of HIV/AIDS cases in Atlanta are attributed to men having sex with men, sixteen percent from injectable drugs, seventy-seven percent are African American, eighty-seven percent are African American women, and fifty percent of new cases occur among the 16-24 year old population segment (The Community Foundation of Greater Atlanta, 2011).

In 2009, over 4,000 individuals represented by multiple races, ages, and genders experienced homelessness in Savannah, Georgia. Fifty-eight percent were men, twenty-eight percent were women, and fourteen percent were children. Seventy-percent were African-American, twenty-two percent were White, and one percent was Hispanic. No Asians or Native Americans were represented (Chatham-Savannah Authority for the Homeless, 2008). Three to ten percent of all homeless persons are HIV positive.

People living with HIV/AIDS face additional barriers to adequate housing such as health discrimination, inability to work, and subsequent loss of income. Housing status is the leading indicator of mortality in the HIV/AIDS. People living with HIV/AIDS who are homeless have lower CD4 counts, higher viral loads, are less likely to comply with medication regimen, and have overall decreased mental and physical health when compared with adequately housed people living with HIV/AIDS (The National AIDS Housing Coalition, 2011).

Unfortunately, deaths among the homeless population are underreported to Medical Examiners across the country. Deaths occur outside the city limits and bodies are often left exposed to the elements. It is estimated that deaths among the adult homeless outnumber the general population seven to nine (O’Connell, 2005). The Community Foundation of Greater Atlanta (2011) website stated that people living with HIV/AIDS are more motivated to comply with services that help improve health and provide housing assistance.

The National AIDS Housing Coalition (2011) listed four ways to impede the epidemiologic triangle relative to homelessness and HIV. It is imperative to continue to gather information that impacts research and HIV housing policy. Other suggestions include making housing affordable for those with HIV, making a housing a top priority in HIV treatment programs, and link housing to HIV prevention programs to encourage adherence. One strategy for the primary prevention of homelessness might include health education related to the prevention of disease after using the reusing needles.

A secondary prevention approach to homelessness would be to screen people to detect early drug use and the possibility of shared, contaminated needles. Also, this phase could also be used to screen for hepatitis, HIV/Aids, and tuberculosis. Thirdly, tertiary prevention would be to implement a needle exchange program and begin to treat for any diseases provided in step Two (Levels of Prevention All Community Health, 2011). Primary prevention for HIV would be to teach responsible sexual behavior to the community with emphasis on how communicable diseases are spread to promote awareness.

Comprehensive sex and HIV education prior to commencement of sexual activity increases condom use, delays onset of sexual activity, and reduces sexual activity (The Community Foundation of Greater Atlanta, 2011).

Secondary prevention would be to treat for HIV and notify partner(s). Tertiary prevention would be to reduce complications of rehab and treatment, educate caregivers about standard precautions, identify community resources, and set up support groups (Levels of Prevention All Community Health, 2011).

Resources available to the homeless population in Savannah, Georgia are certified homeless agencies, faith-based organizations, nonprofit community organizations, homeless and formerly homeless persons, private and public housing, law enforcement, medical, law enforcement, private funders, state educators, county commission, and the Department of Neighborhood Planning (Chatham-Savannah Authority for the Homeless, 2011). Descriptive epidemiology is the primary step in an investigation.

During this phase of the investigation, the disease is studied by researching, time, place of occurrence, and characteristics of the infected. Descriptive epidemiology serves public health by providing them with information that may reduce disease (Stanhope ; Lancaster, 2008). These data can be used to more accurately describe the current status of the HIV epidemic and homelessness and to redirect HIV prevention efforts to better target persons at greatest risk of acquiring HIV infection and sinking into homelessness.

The large proportion of persons diagnosed concurrently with HIV and AIDS represent missed opportunities to reduce the transmission of HIV and the morbidity associated with HIV infection and to reduce the incidences of homelessness. Every day, nurses use epidemiology either while directly studying a particular disease or social syndrome. Nurses must be ever watchful to guard the health of the community. Nurses act as community liasons to help detect and explain the cause of illness and disability (Stanhope ; Lancaster, 2008). References Amore, K. , ; Aspinall, C. (2011).

A public health approach to homelessness. AVERT. Retrieved from <http://2011> <http://www.avert.org/aids-hiv-charity-avert.htm> Health. Retrieved from <http://www.ncbi.nlm.nih.gov/books/NBK7993/> Centers for Disease Control and Prevention. (2011). Steps of an outbreak investigation. Retrieved from <http://www.cdc.gov/excite/classroom/outbreak/steps.htm> Chatham-Savannah Authority for the Homeless. (2009). Homelessness in Savannah. Retrieved from <http://www.homelessauthority.org/his.htm> Gaines, J. (, November 2010). HIV on the rise on Georgia coast. The Brunswick News.



Retrieved from <http://www.nmac.org/index/news-app/story.517/title.hiv-on-the-rise-on-georgia-coast> Georgia Kaiser. (2011). State health facts. Retrieved from <http://www.statehealthfacts.org/profileglance.jsp?rgn=12> HealthyPeople.gov. (2011). HIV. Retrieved from <http://healthypeople.gov/2020/topicsobjectives2020/ebr.aspx?topicId=22> Levels of Prevention All Community Health. (2010). Primary prevention for poverty and homelessness. Retrieved from <http://quizlet.com/116580/levels-of-prevention-all-community-health-chapters-test-4-flash-cards/> Medscape. (2011). Homelessness in the United States: Health problems of the homeless. Retrieved from [http://www.medscape.com/viewarticle/481800\\_2](http://www.medscape.com/viewarticle/481800_2) O'Connell, J. J. (2005). Premature mortality in homeless populations: A review of the literature. Retrieved from <http://www.nhchc.org/PrematureMortalityFinal.pdf> Stanhope, M. , & Lancaster, J. (2008). Public health nursing: Population – centered health care The National AIDS Housing Coalition. (2011). HIV/AIDS housing: Breaking the link between homelessness and HIV. Retrieved from [http://www.hivhousingsummit.org/BriefingBook/NAHCOneSheets\\_final\\_homelessness\\_rev-1.pdf](http://www.hivhousingsummit.org/BriefingBook/NAHCOneSheets_final_homelessness_rev-1.pdf) The Community Foundation of Greater Atlanta. (2011). Improving communities: Diseases, disorders??? HIV/AIDS. Retrieved from <http://www.cfgreateratlanta.org/Issues/Diseases-Disorders-HIVAIDS.aspx> University of Texas Medical Branch at Galveston. (1996). Epidemiologic Methods. Retrieved from University of Texas Medical Branch at Galveston, website. World Health Organization. (2011). HIV Surveillance, estimates, monitoring, and evaluation. Retrieved from <http://www.who.int/hiv/topics/me/en/index.html>