

Nursing 4210: Health: Transitions

Learning Activity #12
Epidemiology & Communicable Diseases

Overview:

Epidemiology may be defined as the study of the **determinants** and **distribution** of health-related states or events in specialized populations, and the application of this study to control of health problems. These include surveillance, observation, hypothesis testing, analytic research, and experiments. **Distribution** refers to analysis by time, place, and classes of persons affected. **Determinants** are all the physical, biological, social, cultural, and behavioral factors that influence health. **Health-related states** and events include diseases, causes of death, behavior such as use of tobacco, reactions to preventive regimens, and promotion and use of health services.

There have been many definitions of epidemiology. In the past 50 years or so, the definition has broadened from concern with communicable disease epidemics to take in all phenomena related to health in populations. **The concept and practice of disease prevention** is important for the health of the public and for the health of individuals. The term "preventive medicine" seems to infer that the natural histories of diseases of modern man are known and what is required is a formal structure in which prevention can be carried out. This is true for a number of diseases such as smallpox, typhoid and diphtheria, but for many diseases of modern man, the natural history in terms of cause and effect is not known. Diseases such as cancers, coronary heart disease, strokes, automobile accidents, mental diseases, many occupational diseases, violence and sports injuries are processes for which causes are not known. Prevention of these diseases will depend in part on a scientific formulation leading to an understanding of the causal factors. The methods of epidemiology are suitable procedures for determining these causes.

Ends In View:

This learning activity is intended to give the learner the opportunity to:

1. Recognize how communicable diseases relate to the social determinants of health/
2. Explore the cyclic patterns inherent in the epidemiology of communicable diseases.
3. Recognize the cycles and trends of communicable diseases in Canada.

In Preparation

1. **Read:** Health Canada. (2003). Influenza in Canada - 2001-2002 Season. *Canada Communicable Disease Report*, 29 (6), March 15th. Ottawa: Laboratory Centre for Disease Control. Available as html or as a pdf file:
HTML: <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/03vol29/dr2906ea.html>
PDF: <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/03pdf/cdr2906.pdf>
2. **Read.** Health Canada. (2003). Notifiable Diseases Summary. *Canada Communicable Disease Report*, 29 (7), April 1st. Ottawa: Laboratory Centre for Disease Control.
<http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/03pdf/cdr2907.pdf>
3. **Read:** Health Canada (2002). Comparison of effects of disease and vaccines. *Canadian Immunization Guide*, 6th ed. Ottawa: Laboratory Centre for Disease Control.
<http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/cig-gci/index.html>
4. **Read:** Patrick, D.M. (1997). The control of sexually transmitted diseases in Canada: A cautiously optimistic overview. *The Canadian Journal of Sexuality*, 6. (2).
<http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/cjhs/cjhs1.html>
5. **Read:** Editorial. (1997). Improving the health of the world's poor. *BMJ*, 315 (7197).
August 30. <http://www.bmj.com/archive/7107/7107e1.htm>

In Practice

1. Participate in class discussion related to the epidemiology of the communicable disease, influenza in Canada. What further data do you need to discuss this topic on a global scale?
2. Explore how the epidemiology of communicable disease is related to social determinants of Health.
3. What unique issues arise when considering the epidemiology of sexually transmitted diseases? How can these issues be addressed?

4. In small groups, create a visual schematic illustrating how epidemiology serves as a foundation for policies and planning related to health care, social determinants of health, primary health care and health promotion.

In Reflection:

1. How can you use information and research done by epidemiologists in your future practice?
2. What continuing education will you need to keep up to date with communicable disease Statistics and trends?

References

Editorial. (1997). Improving the health of the world's poor. *BMJ*, 315 (7197). August 30. <http://www.bmj.com/archive/7107/7107e1.htm>

Health Canada (2002). Comparison of effects of disease and vaccines. *Canadian Immunization Guide*, 6th ed. Ottawa: Laboratory Centre for Disease Control. <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/cig-gci/index.html>

Health Canada. (2003). Notifiable Diseases Summary. *Canada Communicable Disease Report*, 29 (7), April 1st. Ottawa: Laboratory Centre for Disease Control. <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/03pdf/cdr2907.pdf>

Health Canada. (2003). Influenza in Canada - 2001 - 2002 Season. *Canada Communicable Disease Report*, 29 (6), March 15th. Ottawa: Laboratory Centre for Disease Control. <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/03vol29/dr2906ea.html>

Martone, W.J. (1999). *Influenza*. Washington, DC: National Foundation for Infectious Diseases. <http://www.nfid.org/library/influenza/what/index.html>

Patrick, D.M. (1997). The control of sexually transmitted diseases in Canada: A cautiously optimistic overview. *The Canadian Journal of Sexuality*. <http://www.hc-sc.gc.ca/hpb/lcdc/publicat/cjhs/cjhs1.html>