Concept

Control of acute infectious disease is one of the oldest public health practices. It just as important today even as new infectious diseases such as SARS, Monkeypox, and Avian Influenza emerge to take the place of those diseases brought under control. The Infectious disease models for this session are HIV, TB and Communicable diseases.

Key Words

AIDS, HIV, False & True Positives, High Risk groups, High Risk behaviors, quarantine, incidence, prevalence, chronic, acute, incubation period, antibody, disease, vaccine, immunity, Pasteur, eradication, cost-benefit, law & regulations, high risk populations, sexually transmissible disease. SARS. Substance Abuse

Objectives

After reviewing these three groups of infectious diseases the student should be able to describe

- Policymaking approaches used to control infectious disease outbreaks in a community.
- To state when and how quarantine may be useful in protecting the community from particular individuals with these diseases, based on the use of modern epidemiologic principles.
- How the community models for control of HIV, STDs, TB, and Immunizations have changed since W.W.II,
- Why these diseases still remain problems.
- How certain substance abuses have obstructed the public health professionals from making significant reductions in new HIV infections, and what role HIV plays in TB infections,

Vaccine Preventable Childhood Diseases

Despite many resources devoted to full immunization of children by 2 years of age, the U.S. still lags behind most developed and under-developed countries. You should be able to discuss why strategies that work in almost every other country fail in the US. Are the issues cultural, behavioral, health system failures, failure of communication, or political?

HIV as a model:

Used as a model for a recently emerged (within the last 20 years) disease of public health significance. It also provides a model to study issues of policy, politics and practice.

TB was under control 15 years ago
Students should be able to describe why, despite availability of effective antibiotics, this disease has become less controllable and more widespread in the U.S.

References

(Scan) Web pages of CDC & IOM

Reading

*Introduction to Public Health: Schneider: 1st or 2nd Edns., Chapters 9 & 10*  
*Essays - [Number 7](#)*

[Continue to Lecture](#)
EPID 600 - Introduction to Public Health

Communicable Diseases of Public Health Importance

Joy Zen, CMG Buttery, Wendy Heirendt

This presentation covers three models of infectious disease that continue as public health problems, despite advances in epidemiology and microbiology. Further, the issue of substance abuse as a public health issue is introduced in this session because of its significant role in maintaining the incidence of new HIV infections, and to some extent TB. One of these diseases, Tuberculosis, has been present (seen through anthropological studies) for millennia while HIV infection has only been recognized for the last 25 years. Look at the UNAIDS Page and its links.

The discussion on Tuberculosis identifies the populations at risk and the problems of dealing with a well known chronic disease, studied for many years, but still ineffectively controlled.

HIV identified only since 1982, provides a model for the positive and negative activities in developing public policies to control an infectious disease.

The Immunization discussion discusses problems with the use of technology to prevent, rather than control, long standing communicable diseases.

Find the CDC home page on the web. Then, using the publications link review recent issues of the MMWR relating to the topics for this session and be prepared to discuss them in class. Also look at the home page of the National Center for Infectious Diseases and review issues of Emerging Infectious Diseases, also on the CDC web site. Be prepared to discuss how the issues presented by the lecturers might impact on newly emerging diseases. Be prepared to enumerate recently discovered infectious diseases. What do West Virus, SARS, Monkeypox and HIV have in common?

Tuberculosis

Wendy Heirendt Disease Control Specialist, Virginia Department of Health

Review the slide show presentation on Tuberculosis, (pdf version) Then look at the example of goal setting to reduce TB incidence and be prepared to discuss the epidemiological basis for such goal setting. While this slide comes from old objectives there are still few instances of community analysis and results oriented programming and evaluation on the web. Also, review at the CDC web pages devoted to TB, HIV & STDs. Finally look at a discussion of a recent TB outbreak in New York. Where was the information published? Why do you think I selected this topic? Consider why TB persists today with all our antibiotics. Take a look at the Global Issues defined by the WHO. Those of you from outside the U.S. may find the link on this page (4th section) to the Virtual Surveillance Workshop particularly useful. Then look at the WHO global plan to STOP TB. You may wish to visit the PBS Deadly Diseases - TB site.

HIV disease

Office of HIV Programs
An example of development of Public Policy.

1. **Review** Changes in Sexually Transmissible diseases since W.W. II. Further, look at the attached map of syphilis in Portsmouth and be prepared to answer the question posed. Although this map is 35 years old there are still few instances of this type of analysis. We will discuss it more next week as part of the GIS programs. How effective do you believe Condoms are (See what the CDC site says about condoms and STDs. Where did you look?). Latest from the AMA

2. **Review** Slide show outline on HIV infection & disease (.pdf version).

3. Examine this table and be prepared to discuss why HIV Premarital Blood testing was not passed by the Virginia Legislature.

4. When was HIV infection first recognized in the US?

5. Look at the PBS info: Deadly Diseases - HIV/AIDS (If the group want i would be happy to arrange for everyone to watch the 3 hour PBS video, or for the student council to borrow the DVD and arrange its presentation in smaller bites).

### HIV Web Sites
- Aids Clinical Trials Information Services
- East Harlem HIV Care Network
- Medscape HIV/AIDS
- University of California (SF) CDC site
- China & AIDS
- Advocates for Youth

### Immunization Programs

**C.M.G. Buttery MD MPH**

Look at this History Factlet: Has anything changed? Look at the Immunization Recommendations for 2006 for children and consider some of the Issues to consider in immunizing a population. Also, scan the Information CDC’s National Immunization Program web.

Then look at the list of addenda found at the end of the table. How do you think this addenda affects use of the table of immunization by practitioners? Now consider why the U.S. immunization levels are so poor compared with many other countries, and what could be done to improve them. Read the article on Registries from the AJPM (Am.J.Prev.Med 2003:23(3)P278-280) Reading articles for this course is best done by going to the Library web page, selecting the TML Medical library, then using the E-Journal option to find the journal and article on line. Review the CDC Publications list for immunization issues and review some of the materials available before coming to class. Remember that Adult Immunizations are equally important, particularly for the elderly ( >65 and those with Chronic diseases ). Also look at the article on Parental Attitudes. You may find the Merck Manual web site on Barriers to Prevention worth visiting as much of the topic also relates to immunization...

Look at the Flu/Pneumonia Fact Sheet. The AMA has developed a Site for immunizations. Review the progress in Worldwide Polio Eradication and consider what makes this program effective outside the U.S., and what constraints are present in completing the work. Finally, take a look at the issues developed by the All KIDS Count project of the R.W.J. Foundation. Look at the CDC discussion of Immunization Registries.

An interesting look at history - Smallpox in 1806. Consider whether medicines are loosing their effectiveness. Two final important sites for public health professions is the National Center for Infectious Diseases and the WHO Immunization Program. Could 'Flu' be a bioterrorism agent?

**Bookmarks**