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 diseases 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 many 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, failure of communication, or political?

HIV 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.

**Substance Abuse as an impediment to reducing new HIV/TB infections.**

Despite the knowledge developed over the last 25 years since HIV infections were discovered in the U.S., and the ability to control HIV infection, as a chronic disease, in the same way TB has been controlled for the last 50 years, the abuse of injectable drugs such as cocaine and heroin have contributed to many new infections of both HIV and TB. There is little doubt that much reduction of new infections can occur in the absence of policies/programs that deter abuse of injectable drugs.

**References**


**Reading**

*Introduction to Public Health: Schneider Chapters 9 & 10*

*Essays - Number 7*

**EPID 600 - Introduction to Public Health**

**Communicable Diseases of Public Health Importance**

**Caryn Weir-Wiggins, CMG Buttery, Wendy Heirendt, James May**

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. Compare the value of knowing that a person is infected with either HIV or TB. What is the expectation of someone with TB infection spreading the disease compared to someone with HIV infection?

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. 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 presentation on Tracking 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. 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. For those students from outside the US who have seen the effectiveness of BCG in TB prevention, look at this article to understand why BCG is not used in the US,

**HIV disease**

**Caryn Weir-Wiggins, 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. How effective do you believe Condoms are (See what the CDC site says about condoms and STDs. Where did you look?).
2. Review Caryn's 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?

**HIV Web Sites**

Aids Clinical Trials Information Services
East Harlem HIV Care Network (note when this was last updated)
Medscape HIV/AIDS
University of California (SF)
CDC site
China & AIDS

**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). 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).

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 losing 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?

Substance Abuse

James May Ph.D.

Review this presentation by Dr. May (print version of slide -pdf). Think about the relevance to the issues of HIV described by Karen Weir-Wiggins and consider what public health policies might be used in conjunction with infectious disease skills to combat the current incidence of new HIV infections. When looking at the slides pay particular attention to slide 8. Do you think decriminalization of substance abuse would be a valid public health policy (why or why not)

Bookmarks

Epid 600 - Introduction to Public Health Communicable Disease

Bookmarks - Spring 2005

HIV

- AMNews Sept. 18, 2000. Complications of AIDS ... American Medical News Johns Hopkins Division of Infectious Diseases Antibiotic Guide
- STDs, Detection & Policy, Screening for Syphilis Infection (USPTF Guide)
- HIVRapid Testing
- Prevention Is Still Better Than Cure from TIME Europe
- AIDS/Info (USSG site)
- Advocates for youth
- PBS Series Deadly Diseases HIV/AIDS
- Drugs approved to treat AIDS
- UNAIDS Site
- Global HIV/AIDS Vaccine Enterprise - Jan 2005
- U.S. Global AIDS Strategy for the Long Term
- Maternal HIV Transmission
- HIV Counseling, Testing, and Referral Guidelines
- CDC Condoms and STDs
TB

- Ask the Experts, KFF Webcast on TB, Feb 2006
- Attitudes to Quarantine
- WHO 2004 Global Report
- WHO TB Transmission
- WHO "Stop TB"
- Virginia Division of TB Control
- Could a Tuberculosis Epidemic Occur in London as It Did in New York?
- The Elimination of Tuberculosis in the United States (CDC - Feb 2005)
- CDC National Prevention Information Network
- Example of County TB Program
- Global Plan to Stop TB
- ECDC Plan
- Can Incentives Improve Public Health Performance? (PowerPoint show)
- Nat'l Academy Press, Tuberculosis in the Workplace (2000), 1. Introduction
- Tuberculosis Transmission in Multiple Correctional Facilities -- Kansas, 2002--2003

Immunization

- Barriers to prevention
- Language Barriers, from the AMA
- Emerging Infectious Diseases - The Strategic Plan
- Nat'l Academy Press, Emerging Infectious Diseases from the Global to the Local Perspective (2001), Introduction
- DHHS National Vaccine Plan
- Importance of Childhood Vaccines
- National Infant Immunization Week -- April 25-May 1, 2004
- Edward Jenner (Hx site)
- Smallpox Eradication (WHO) -- A Global First
- Smallpox and its eradication - The Book on-line
- Recent Italian Outbreak and consequences
- Is production capacity limiting vaccine market growth? (think about this in relation to the 2004 Flu shortage)
- Nation's childhood immunization rates are at record high levels. SO?
- National Intelligence Estimate - Global Infectious Disease Threat (look at the table of new infectious diseases over the last 30 years.)
- Need for Electronic Medical Records
- Immunization Registries
- Disparities in immunization rates
- Pandemic Influenza Preparedness and Response Plan August 2004
- Parent Attitudes Toward Immunizations (Am Jnl Prev Med)
- Calling the shots-summary.pdf
- Immunization Action Coalition
- Leading Infectious Diseases Killers
- War on SARS: a Singapore experience

Vaccine - Lies

- http://www.vaccines.bizland.com/lkj.htm
- http://tiredwood.home.mindspring.com/
- List of lies from Activists
- QuackWatch

For comparison, look at vaccination safety:

- [http://www.cdc.gov/nip/publications/fs/gen/importance.htm](http://www.cdc.gov/nip/publications/fs/gen/importance.htm)
- Immunization not Assoc with SIDS

**New Vaccine Recommendations**

- ACIP Expands [Hepatitis A Vaccination](http://www.cdc.gov/nip/publications/fs/gen/importance.htm) for Children
- [Vaccinate Women](http://www.cdc.gov/nip/publications/fs/gen/importance.htm)
- [State Coverage for Immunization](http://www.cdc.gov/nip/publications/fs/gen/importance.htm), from the MMWR