

EPID 600 - Introduction to Public Health (on line)

Communicable Diseases of Public Health Importance

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 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 antibiotics, this disease has become less controllable and more widespread in the U.S. and tge world.

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

Maxcy Rosenau 13th Edition. Chapter 4 pp. 57 - 59, Chapter 5 pp. 65-68, Chapter 6 (scan entire chapter). 14th Edition: Chapter 6 Sections. A & D. Scan Chapter 2 (Scan) Web pages of CDC & IOM
Oaukn A Offitt MD: The Cutter Incident. Yale University press. 2005
Arthur Allen. Vaccine, Morton & Company. 2007
Rx for Survival - Rise of the Superbugs And How Safe are We? PBS series - On-Line and 3CD set. 2006

Reading

Introduction to Public Health: Schneider Chapters 9 & 10
Essays - [number 7](#)

Communicable Diseases of Public Health Importance

Joy Zen , 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 the CDC web pages devoted to [TB, HIV & STD's](#). 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](#) from the Lancet (April 2006) and try to determine why BCG is not used in the US.

HIV disease

Cary 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 STD's. Where did you look?).
2. [Review](#) Cary'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, a necessary step when trying to evaluate data on the internet.)

[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)

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