

EPID 600 - Introduction to Public Health (on line) Communicable Diseases of Public Health Importance

Week 2

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, particularly how such models can deter acquisition of Sexually Transmitted Infections (STIs).

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 the world, particularly Africa and Asia.

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, but together prevention will be improved..

References

(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](#)

EPID 600 - Introduction to Public Health

Communicable Diseases of Public Health Importance

Joy Zeh , CMG Buttery, Margaret Tipple MD, James May Ph.D.

.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, particularly a sexually transmitted infection. Scan "Science" using Tompkins McCaw library E-Journal search to review the May 9, 2008 issue relating to HIV vaccine problems. Particularly the pdfs on [prevention](#) and [vaccine issues](#).

The [Immunization](#) discussion discusses problems with the use of technology to prevent, rather than control, long standing communicable diseases, particularly infants and children, but also in adults..

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 pages of the [National Center for Zoonotic, Vector-Borne, and Enteric Diseases \(ZVED\)](#) and [Center for HIV/AIDS](#), Viral Hepatitis, STD, and TB Prevention and [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? Finally look at this video about [battling smallpox](#) and Poli by Dr Larry Brilliant.

As for all sections of the course always check out the VDH web site, In this case the [Disease Prevention](#) pages.

Tuberculosis

Margaret Tipple MD, Virginia Department of Health

Review the presentation on Tuberculosis: Part 1, [Slides](#), [Handout](#). Part 2, [Slides](#), [Handout](#). 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](#). Also, look at the home page of the [National Center for Infectious Diseases](#), look at the divisions of the NCID and the latest issues of the Journal of [Emerging Infectious Diseases](#), also on this 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. 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. Note that substance abuse is becoming a [common risk factor for TB](#).

References:

[The BCG Quandary](#) (pdf)

[BCG Effectiveness](#) (pdf)

[Stopping BCG in the UK](#)

[TB & AIDS](#), Recent JAMA Article

[TB among Foreign Born](#) in US, JAMA, July 08

HIV disease, Joy Zeh VCU HIV/AIDS Center - 828-2210

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 (an early use of GIS). 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](#) 5min. Video on HGOV [prevention. A recent article on [Condom use worldwide](#).
2. [Review Slide show outline on HIV infection & disease \(.pdf version\)](#). Also look at the [VCU HIV/AIDS center](#)
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](#).
6. July 2006 Science editorial: Dr. Fauci on [25 years of HIV/AIDS](#), MMWR June 2, 2006 - [25 Years of HIV/AIDS](#), USA
7. How far have we progressed in developing a vaccine. See this latest [article by Dr Fauci](#).

HIV Web Sites

Take a look at the [VCU-HIV/AIDS center](#) web (fees for courses are waived for most students at VCU if you are interested)

HIV Web Sites

[Aids Clinical Trials Information Services](#)

[University of California \(SF\)](#)

[CDC site](#)

[Advocates for Youth](#)

[JHU-Isoniazid & HAART](#) (Aug 10-2006)

[STI statement](#) from AMA
How [not to have sex!](#)
Physician Education - Use of rapid HIV test ([video](#))

An excellent site for Health Professionals, patients and the general public is [The Body.Com](#)

Immunization Programs

C.M.G. BATTERY MD MPH

Look at this [History Factlet](#): Has anything changed? Look at the [Immunization Recommendations](#) for 2007 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 2003:24(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. Mr McCain, the Republican Candidate, this spring incorrectly stated there was a proven link between the MMR vaccine and Autism, This is not the case. [Read this report from the BMJ](#), Remember that [Adult Immunizations](#) are equally important, particularly for the elderly (>65 and those with Chronic diseases). Also look at the .pdf 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. Also take a look at this short video from the AMA about [language barriers](#). What about Children in other countries? [Read this report](#).

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](#). A final important site for public health is the [WHO Immunization Program](#). Could 'Flu' be a [bioterrorism agent](#)?

Summary of CDC Ppt Shows [Slides Handouts](#)

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)

Additional References:

2 PowerPoint shows from CDC

[Immunization Strategies](#)

[Immunization Safety](#).

Also

Issues of [Compulsory Vaccination](#) (pdf)

Pandemic Flu - [Ethics & Law](#)

From the BMJ - [Improving Immunization levels.](#)
[Shortage of Vaccines!](#) Wall Street Journal Article

Recent issues:

[When to quarantine](#) (pdf) Jan 2006

[Hepatitis-A Vaccine added](#) (pdf)

[Kissing & meningitis](#) (pdf)

[Ask the Experts](#), HPV Vaccine

[HPV Cervical Vaccine](#) (KFF Website)

[National Immunization Awareness Month](#)

August 25, 2006, Imperial College London, [Formalin may not be safe for vaccines](#)

[Whom would you believe?](#)

A Multitude of [Vaccine Benefits](#), Yet Controversy Persists (2008)

For your bookshelf: [Autism's False Prophets](#). Paul A. Offitt MD, 2008, Columbia University Press.

[Bookmarks](#)