

EPID 600 - Introduction to Public Health
Introduction to Aging
James J. Cotter Ph.D. & Jason Rachel Ph.D.

Objectives

Students will be able to

- describe the role of public health in dealing with a special population, the senior citizens
- describe the criteria for labeling a person aged
- describe the elements of aging
- describe governmental agencies responsible for assisting/ measuring aging
- describe non governmental agencies who assist aging persons.
- describe how ageing can be expected to affect public health services over the next 25 years.>

Key Words

Aging, aged, seniors, nursing homes, homes for the aged, retirement centers, senior citizens advocacy, home visiting, senior centers, mental health and aging, Alzheimer's diseases, Parkinson's disease, Osteoporosis.

Concept:

Aging starts at birth. Getting older is not necessarily accompanied by significant declines in either physical or mental function. There are many resources available to assist people as they age. Misunderstanding and lack of knowledge is the greatest detriment to health maintenance while aging.

References:

Schneider: Introduction to Public Health, 2nd Edn - **Scan** Chapter 28

When Does Someone [Attain Old Age?](#)

Review Dr. Rachel's [Power Point session](#)
[PDF](#) version

Review the .pdf file CDC's [State of Aging](#) Report with particular attention to the discussion starting page 26. You may also want to review [the report](#) from the National Association of State Units on Aging and compare its comments with those in the CDC report, A recent concern of the AMA has been with [increased driving injury past 70 years of age](#). Take a look at the [Older Driver Safety](#) web site

[Dr Cotter's Links](#)

[Summer 2007 Links](#)

Community Assessment Objectives

Students should be able to

- describe why community assessment is important for analyzing community health status
- describe the sources the data available for such analysis
- describe how to, how to gather and present the data to affect community public health policy & funding
- describe how to use spreadsheet and geographic analysis presentations to strengthen their presentations..
- describe data sets available to measure health status at the national, state and local level
- how to link them health data to economic status
- how to access the health care and medical care data systems and their interfaces between public & private resources.
- describe mental health issues that affect the community's health.

Key Words

Community, jurisdiction, health status, health measurement, planning, goals, geographic analysis, birth rate, infant death rate, fertility measures, community surveys, behavioral risk factors, mental health, Marc Lalonde, Ivan Illich, Kerr White.

Concept

Improving health outcome depends on knowledge of current health status rather than responding to medical crises.

Readings:

Introduction to Public Health: Schneider, 2nd Edn. Chapter 8, Scan Chapters 13 & 19.

References

[Essay # 3](#), & scan [essay #6](#).
Maxcy Rosenau 13th Edn. Chap 40 &66.
14th Edn, Scan Chap. 32 & 43 and 70 Secn. C

Additional Readings:

1. Millman M. ed. Access to Health Care in America. National Academy Press (IOM), Washington DC 1993. pp 31-45 (Chap. 2)
- 2, Bozzetta SA et al.(1998) The care of HIV infected adults in the United States. New England Journal of Medicine 339(28): 1897-1904
- 3, Pappas G et Al. (1993). The increasing disparity of mortality between socioeconomic groups in the United States. 1960 and 1986. New England Journal of Medicine 329(2): 103-109
4. [MAPP](#) – a strategic approach to community health improvement
5. [Principles](#) of Community Engagement (focus on part3).

[Go to Lecture](#)

Community Assessment Presentation

[Data Sources](#)

[Dr Barrett's Slides](#) Dr. Bradford's Presentations:

[First](#)

[Second](#)

[Third](#)

[Fourth](#)

[2004](#)

In the mid 1970s (revs. 1995) Ivan Illich's book "[Medical Nemesis](#)" subtitled "The Expropriation of Health" was published. His thesis was to decry the tendency to name every symptom as a discrete disease and develop an ICDA code for it, thus increasing the complexity of medical care unnecessarily, as well as making health assessment difficult. Look at the CDC Web Page on [Assessment in Public Health](#)

In 1983, [Marc Lalonde](#), then Minister of Health for Canada proposed the "Health Field Effect" Noting that up to 75% of a community's health was affected by behaviors, rather than medically treatable diseases. He started the current impetus to look carefully at the whole community environment, including behavior/mental health, not just obvious treatable entities.

[Assessment Example 1](#)

GIS Map of [smoking deaths](#) in Corpus Christi, TX, Written with Graphics Basic in 1981

[Assessment Example 2](#)

[1998 Southside AHEC summary](#)

The session has four presentations. Two by Dr. Bradford, one by Dr. Barrett and one by Dr. Buttery. Dr. Bradford's presentations will focus on assessment of communities where the community is defined by a *population with shared characteristics* such as AIDS, sexual preference or Lung Cancer. Please review Dr. Bradford's presentations. Also One of Dr Bradford's associates, Dr. Kirsten Barrett's recently completed an [assessment in S.W. VA](#). This study is similar in scope to the report on Dr Buttery's study of the Southside AHEC. You should compare the two and consider that Dr. Barrett's was funded in excess of \$200,000, while Dr. Buttery's for the AHEC was funded for \$7,500, had to use secondary data and was completed in 8 weeks. There is also a Power Point presentation

on community public mental health issues.

If you don't know where you are going, you are not going to be able to measure a result which can lead to activities that will enhance the community's health. This is similar to the medical care providers who are so busy treating diseases that few of them take the time to prevent the diseases which they treat. Additionally, national and state legislatures only give lip service to funding prevention. This sends a false message to insurers, that it is not worth using their money to prevent disease.

What evidence is there that diseases are preventable? Where would you look? What proportion of disease might be preventable? Why? [Again, look at Data Sources](#)

The World Health Organization's [definition](#) of 'Health' includes attention to physical, **mental** and social well-being, not just absence of disease.

work through Dr. James May's [slides \(pdf copy\)](#) on definitions and parameters of major mental diseases affecting the population. Consider how many friends and relatives you know who have been diagnosed and or treated for one of these conditions. Consider the resources that should be included in a community assessment to deal with these problems. Think about Illich's comments on medical diagnoses and recent statements in the media that 1 in 4 people are mentally ill.

Review two assessments performed by Dr. Buttery where the population assessed were geographically defined rather than disease attribute defined.

[Introduction to Mapping Resources](#)

The [1973 Assessment](#), was performed for the City of Portsmouth, Virginia. The data was collected and analyzed manually. The [1998 Assessment](#) for 17 counties in Southside Virginia was performed by computer analysis by downloading data from the Virginia Center for Health Statistics, then analyzing a combination of spreadsheets, databases and GIS (geographic Information Systems) projections. For more information on GIS applications click on the [Introduction to Mapping](#) resources

These assessments consider the following issues:

- How long does the population live?
- How well do they live?
- How much disability do they have for how long?
- What are the extremes of health and disability in the community?
- What seem to be the underlying causes of ill health?
- How do you define 'ill health'?
- What can be done to change health status?
- Whose health status are you going to affect?
- What are the costs and the benefits?
- How long will change take?
- Are these change medical or social?
- Is there a difference?
- What is measurable?
- Are you sure it is measurable?
- What role does the environment play?
- Who will pay for it?

Once you believe you have answered these questions:

How are you going to plan interventions to change health status?
Whose permission do you need?
What are the constraints to your actions?
Who must be involved in the change?
What can enable the changes?

For an example of a community assessment, scan the [AHEC summary](#) of the community assessment Dr. Buttery performed in 1998, from which several of the slides in the 1998 slide show were chosen. Consider why the recommendations might be unexpected.

Finally, look at the following annual reports written to a city manager more than 25 years ago. This was the director's first position after completing his MPH. Which issues still remain important public health issues today? Why?. How do you think we could resolve them before another 25 years pass by? Consider how useful these annual assessments of policy accomplishment were for the health of the city's residents? What contributes to these assessments? Examine what happened with the grant programs over this 6 year period.

[Annual report for 1970](#)

[Annual report for 1973](#)

[Annual Report for 1974](#)

Readings for to this session, Essays [3](#) & [6](#) (scan only)

Schneider: Chapter 8

[Community Assessment Bookmarks](#)

[Intro to GIS](#)

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)

[Bookmarks](#)

Food Service Management & State Health Laws

**Horace Parham B.S., Environmentalist, Richmond City Health
Department and CMG Buttery MD MPH**

Concept:

The public expects to be safe from food poisoning when they eat out, and to be free from environmental carcinogens.

Key Words:

Hazard Assessment, Critical Temperatures, Significant hazards, FDA Inspection sheets, Food handlers & food handling, Food at risk, Food borne outbreaks, Manager training & certification, Inspection methods, places inspected, closures, education vs. policing, contamination, outbreak investigation.

Objective:

After this seminar students should be able to describe

- The role of the public health agency in preventing the transmission of food borne illness
- Summarize the policies used to develop food service surveillance.
- The major topics upon which state public health law focuses
- The surveillance role of the local health agency in promoting food safety.
- The role of the Joint Commission for Health Care in developing new programs to improve access to health services.

[Read this material](#) on changes in food safety over last 100 years, from the MMWR FIRST. Schneider, 2nd Edn. Chapter 22

References:

CMG Buttery - [Essays, No 8](#) Section on Food Service & [Essay 13](#), Laws..
Maxcy Rosenau 13th Edn. Chapter 34. 14th Edn. Chap 10, Sec. A
[Food Bookmarks](#)

Food & Law Lecture

Food protection:

Start by looking at the diseases [Food Borne Pathogens](#), then at [this chart](#) and then at this link to [Food borne Diseases](#). After this you should look at [this chart](#). As well as the items in the next paragraph consider the elements in [this notice](#) and how simple actions can prevent food poisoning. Take a look at the new [Food Service web](#) of the VDH. Take a look at the [A Guide to Food Safety Practices in Virginia Restaurants](#). Also, to go with Dr. Buttery's slides (See Below) is this VDH .pdf file [Regulations for Food Service](#). (Most of our discussion issues can be found on pages 13 & 14 - Article 4 - Inspections and correction of Violations. Do you think [mandatory posting](#) of food inspection scores in each restaurant, visible to the public, help improve food hygiene within a restaurant?

The VDH web site has completed its food page and the related regulations, statutes and forms, as well as the policies and philosophy. While much of information may be found by looking at the [Food Sanitation Related web sites](#) review the reports at the beginning of the food web sites which have been added for this evening's presentation. I strongly recommend scanning all these pages but **look at the [HACCP web page](#) in detail. The HACCP program is the most important international standard yet developed to protect food from growth to service. In particular look at the [HACCP Principles](#) and at least scan the elements within each principle. Then scan appendices E and F, examples of Critical Control Point decision trees.**

Review [Dr. Buttery's PowerPoint](#) slides, [Slides for printing](#), also scan slide topics on [HACCP methodology](#).

Consider the Food Safety Education for the public [web page](#) and consider how this information could be used to improve food hygiene in places that cater to the public in Virginia.

Additional Reading:

An Important New Text, April 2003, available from the IOM: [Scientific Criteria to Ensure Safe Food](#)
Review the Executive Summary.

Also November 3 (2003)- [Food Poisoning outbreak](#) in PA restaurant.

Also, use the internet to see what you can find out about the recent outbreaks, looking at both the pathogen and the source of contamination..

Health Laws of Virginia A Commissioner's Perspective

C.M.G. Buttery MD MPH

You will be taught public health law in a course by Dr. Vance. He will give you the technical details of the laws that govern public health from Federal through state and local laws.

This session gives you an overview from the Health Commissioner's and local health director's viewpoints.

[Click Here](#) to obtain an overview of the process for making state health laws,

When State Health Commissioner, I could only enforce laws that came to me through the State Legislature. I had no authority to enforce health laws based on federal statutes, unless these statutes were codified into state law or adopted as part of a state law.

For example, the FDA enforces federal law regarding food safety, I could only refer violations to federal agencies unless the state had not adopted its own statutes in Title 35 of the Code of Virginia.

State Health Code, Title 32 of the state code, now has 8 chapters. There used to be 2 more for management of Medicaid, but they were removed from the health code and transferred into administration when Medicaid became a separate state agency in 1986. In addition to the Health Code there are statutes in the other titles of the state code that require action of the health department, either by direct enforcement or by cooperation. ([Code Titles](#) in Chapter 32 of the state code)

Chapter 1

Organization and administration of the department as well as the appointment of the Commissioner and members of the Board of Health, also the organization of local health departments. This chapter sets standards for the selection of the Commissioner and the structure and functions of the State Board of Health which, in Virginia, is an advisory board to the Commissioner. In Texas, this is an administrative board. It selects the commissioner, with no oversight from the Governor.

What benefits or drawbacks do you believe might accompany either process?

Chapter 2

Focuses on disease protection and dwells on immunization standards and reporting of communicable disease. Any changes to the immunization schedule have to be approved by the Board and pass through the "Administrative Process", unless deemed an emergency, and approved as such by the Governor.

What considerations do you think the Commissioner must consider before placing a disease on the list for either immunization or reporting?

Chapter 3

Medical Care services deal not with a state medical care system, but with public health, and focuses on Maternal and Child Health (including licensing of midwives), the Virginia Voluntary formulary and the hemophilia program.

During Dr. Tweel's presentation you will hear discussions of women's health problems and child health. Most of the discussion was on programs. What oversight would the Commissioner want and how would it be exercised?

Chapter 4

Health Planning, deals with the Certificate of Need Program (COPN), health planning and resources development, a State Health Coordinating Committee and regional perinatal services.

What evidence have you seen of health planning? What is COPN supposed to accomplish? How effective has health planning been in Virginia? What is the current emphasis of health planning in the State Health Department?

Chapter 5-

Licensing of Medical Care Facilities focuses on hospitals, nursing homes, Home Health Agencies, Hospices, EMS programs and blood bank licensing. These actions are necessary for the institutions to obtain federal reimbursement.

What Federal Act prompted this oversight? Has Federal oversight improved the quality of care? How can you measure the effectiveness of this oversight?

Chapter 6

Environmental Services regulate sewage disposal, water supplies, hazardous wastes, mosquito control, migrant camps, radiation control, and toxic substances information

How is enforcement achieved for most programs? When do you resort to use of the courts?

Chapter 7

-Vital Statistics: births, deaths, adoptions, name changes, marriages.

How important is collection of these data, why is timeliness important, how can collection be improved?

Chapter 8

Postmortem examinations and medical examiner system.

What is the difference between a Medical Examiner system and a coroner system?
What are the benefits of a post-mortem examination?

In addition to responsibilities outlined in the Health Title of the state code are statutes that ensure payment to universities and colleges for training health providers and in

Title 28.1

Covers responsibility for Fish, Oysters and Shellfish managed by the environmental health division.

Title 29

Contains laws related to rabies control, responsibility of animal and game wardens, care of pigeons and laws barring fighting animals. If the local health director has responsibility for animal control the ruling codes are found here.

Title 35

Controls campgrounds, tourist establishments, and restaurants for which the Commissioner of health promulgates standards such as those for food preparation services (which you have already heard discussed tonight.)

Title 40

Labor law involves the Health Commissioner's expertise and advice about toxic chemicals

Title 54

Provides guidance the Commissioner guidance in the use of health professionals in Health Department programs.

Title 62

Defines the relationships between the health department and the departments found in the secretariat of natural resources.

In addition to the above are various commissions on which the Commissioner or delegated staff members sit to give advice such as:

The Developmental Disabilities Council
The Solid Waste Commission
The Migrant Workers Commission
The Health Services Cost Review Council
The Hazardous Waste Services Act Board
The Council on the Environment
An Agency, which provides Sewer and Water, loans to localities
Soil Conservation Districts
The Virginia Water Resources Research Center at VPI
and the Virginia Institute of Marine Sciences.

Reading: Gostin Larry O.: Public Health Law: Power, Duty, Restraint. University of California Press Ltd. 2000 Chaps: 1 & 4. **[Note: This book is the required reading for Dr. Vance's Course on PH Law]**

The Virginia General Assembly has a special committee, the **Joint Commission for Health Care**, devoted to the development of programs and services to improve health care, with a recent emphasis added on to access to primary care. Look at the web site for the [Joint Commission](#) then look at the [slides](#) ([printable](#) format) developed by the director, Kim Sneed. You should learn from this site that most issues related to health services originate as bills within this commission.

[Food Service URLs.](#)

EPID 600 - on-line Introduction to Public Health

Course Administrative Notes

Dr Buttery will send all registered students an email mid-day May 13th. The following VCU emails have not been activated by potential students. They MUST be activated by all students before May 20.

Please activate your VCU email, assigned when you registered for this course. You can do this by [clicking here](#) and following instructions for managing your email account . This is necessary to complete class work.

If you want to receive email from me at a different address please notify me ASAP with the email address you want me to use.

Before you do anything else: Be sure you know your ACTIVE VCU Email address. When you registered for the course an email address was assigned to you. I must use this email address in the Blackboard scoring & tracking system. Before the class starts on May 21, 2007, IF YOU do not know your active VCU Email account go to the VCU [Technology Site](#) and activate the email used for your Blackboard account. If you have any problem with this call the Student help desk. The number is 804-828-2227

The first class will start with a face to face meeting on Monday May 21 at 5 p.m. in Room 110 of the Grant House. It should last about 1 hour to introduce you to the Blackboard system and computerized tools we will use, and the various textbooks required and recommended.

If you want me to use a different email address from the required VCU email address, used to access Blackboard, for routine contact with you please [email me](#) with your full name and preferred email contact address.

List of students (will be posted May 23) enrolled in Blackboard on May 22.

MPH Program - Mission Statement - On-Line Course

The Mission of the MPH Program at Virginia Commonwealth University is to promote health and well-being through commitment to public health education, excellence in research, and dedication to community service.

The MPH Program **emphasizes community service for under served populations** by working closely with local counties, municipalities, and state agencies, as well as with service organizations, to identify community needs and educational and service opportunities for program students and graduates. The Program directly advances the University Mission and the School of Public Health Mission.

Americans with Disabilities Act.

The Americans with Disabilities Act of 1990 requires Virginia Commonwealth University to provide reasonable accommodation for any individual who advises us of a physical or mental disability. If you have a physical or mental limitation that requires an accommodation, or an academic adjustment, please arrange a meeting with me at your earliest convenience.

"Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 require Virginia Commonwealth University to provide an 'academic adjustment' or a 'reasonable accommodation' for students with documented disabilities. Students seeking academic adjustments or accommodations must self-identify with the Coordinator of Services for Students with Disabilities on the appropriate Campus. After meeting with the Coordinator, students are encouraged to meet with their instructors to discuss their needs, and if applicable, any lab safety concerns related to their disabilities

If you have not identified yourself to the Coordinator of services for Students with disabilities please do so immediately

VCU Services for Students with Disabilities

Coordinator: Cheryl Chesney-Walker (clchesneywal@vcu.edu)
Campus location: VMI Building, 1000 E. Marshall Street, Room 301
Mailing address: PO Box 980124, Richmond, Virginia 23298-0214
Voice: 804-828-9782 | TTY: 804-828-4608 | FAX: 804-828-4609
Web: www.vcuhealth.org/vp/sassdss

COURSE Overview:

This course, consistent with the above Mission Statement, is designed to provide students with an overview of the broad field of public health with an emphasis on its application at the community level focusing on under served populations.

The students are expected to read current journals on public health issues and be conversant with relevant public health matters currently under discussion in local, state and national media as well as scholarly publications. All recommended journals are available on-line through the Thompson McCaw Library system using the journal search tool.

This on-line course is taught in 12 weekly sessions developed by experienced public health and clinical faculty, with direction, coordination and supervision of the course director.

The various faculty, teaching this course, have many years of experience. Some have experience since the end of the second world war, the time at which the recommended reference, by Rosen finishes. During the course we will update you on important policies and activities that have occurred in the last 50 years.

COURSE Objectives:

Upon completion of this course students should be able to describe the skills necessary for the various public health specialists to practice their craft in the community. They should be able to describe the organization of community health services and their relation to, and interdependency with, national and state public health agencies. They should be able to describe the major tracts within public health in which the various public health specialists apply their skills and how these skills are melded together to improve community health status. This includes the organization of public health within various levels of government, and the components of health care as it relates to under served populations.

PREREQUISITES:

The prerequisite courses include completion of an undergraduate degree, which contained courses basic to public health such as history, biology, chemistry, statistics, psychology & behavioral science.

Blackboard

All students must use the Blackboard to obtain credit for this course. you will find this at

<http://blackboard.vcu.edu>

Use your **VCU logon** and password (see above-assigned when enrolled into this course, unless you already had an active VCU email account) to logon to the course. If more than one of your courses is available on the blackboard system choose EPID-600 (Introduction to Public Health, Summer 2007). When you get to the Blackboard you will find the course discussion web. The tests (quizzes) are available after each class(weekly

session), and found in the assignment section. Use of 'Blackboard' discussion fora and tests will be covered in the introductory session to be held during the first week of the Summer Semester. I want to meet with all students enrolled in this course at 5.00 pm in the 3rd floor conference room in the Leigh House, Monday May 21st to be sure we all understand how this course will be conducted. This should NOT take more than 1 hour.

After logging on to Blackboard the first time visit the help tab in case you do not have all the media readers recommended.

Course [Web Pages](#)

It is the intention of the lecturers that the **students prepare for each weekly session by reviewing the material on the web pages in this course, plus the readings, and by using the web to search for topical information using the web links provided within the weekly web pages**, plus other links they find for themselves and share with the class. Each weekly on-line lecture session is intended to be give and take, using the discussion board, to be sure that you understand the principles identified for each session. This survey course will provide you with examples of more than 30 different areas of public health practice.

Note on course Material: As some of you may not be comfortable working from a computer screen. I have provided pdf. files for all the slides shows and for the text material for each session. These should be downloaded with Adobe Acrobat, unless you have some other valid '.pdf' page viewer, from which you can print the pages.

If any of you are from outside the US or have little familiarity with the US health care system I have prepared a non credit resource to introduce students to the US Health Care System at <http://www.commed.vcu.edu/IntroPH/essentialsushcs/>

On-Line Course Times

The weekly sessions will start each Monday, **starting Monday May 21th**, AD 2007 and finishing August 12th. These presentations should take about 4-hours to review each week

Course Objectives

Upon completion of the course, students will be able to:

- Describe the breadth of Public Health & Preventive Medicine Practice in the U.S. specifically, and the world in general
- Describe the content and technology of public health practice, with an emphasis on its application to under served populations in a community.
- Differentiate between the public health professions contributing to improvement of the public's health
- Articulate the functions of national, state and local public health providers/agencies
- Describe the major categorical functions of public health in relation to the year 2010 national health goals.
- Better understand the forces of change impacting the public health profession by health care reorganization.
- Describe the links between public health & medical care.
- Be able to describe how public health activities strengthen the community's health status and interrelate to public and private human service agencies.,

Key Words

Public Health, Goals, Objectives, Health Care System, Content of Public Health, Core Content, Expanded Content, Resources. Public Health Law, Public Health Ethics.

READINGS.

The required readings for the Introduction to Public Health practice are found in:
Introduction to Public Health by Mary Jane Schneider, 2nd edition. Published by Jones an Bartlett in 2006 and
Essentials of Public Health. Bernard J Turnock, Jones & Bartlett. 2007

Strongly recommended: The Future of Public Health (available on-line - [see below](#)), published by Institute of Medicine in 1988, and '[The Future of the Public's Health in the 21st Century](#)', these should be scanned before each class.

Additional appropriate readings can also be found in:

Maxcy-Rosenau-Last's Textbook of Public Health & Preventive Medicine. 13th Ed. edited by Last or 14th Ed. edited by Wallace, published by Appleton and Lange, Norwalk CN., (13th Ed. 1992. 14th Ed 1998). The 13th edition is more focused on public health while the 14th edition is more focused on clinical preventive medicine.

Two useful books, not required for this course but which will help if you have not decided on which path to use for your future career are

Public Health in Action by Jan K. Carney ISBN13 - 978-0 -7637 - 3447-3, 2006 AD and

Public Health - Career Choices that make a Difference Bernard J Turnock. ISBN 13-978-0-7637-3790-0. 2006 AD

The first book focuses on PH philosophy with recent examples from local health departments in the North East. while the second focuses more on job content in the major avenues of PH careers and the administrative & policy challenges associated with them.

Much of the material provided in the EPID-600 course will be found in Dr. Buttery's essays which are update annually. The original ones were the basis for his 'Handbook for Health Directors' published by Oxford University Press in 1990. That material is now out of date. When you get to the index page for these essays you will note that some of the essays will be of use for both EPID 600 and 602 (the recommendation is shown in brackets after each essay). [Click Here for these essays](#)

A new book that I am recommending for EPID 602 may also be worth purchasing and reviewing during this course. it is Public Health Management by Fallon LF jr. and Zgodzinski ER, also Published by Jones and Bartlett in late 2005.

Other supplementary readings may be recommended by special guest lecturers, or experts on specific topics, designed to augment sessions presented by the course director. Students are also advised to become familiar with:

The American Journal of Public Health (On Line)

The Journal of the American Medical Association (On-Line)

British Medical Journal (On-Line)

Epidemiology in Medicine. Charles H. Hennekens, Julie E. Buring, editor Cheri Mayrent; Publisher, Little, Brown & Co.

Public Health & Human Ecology: Last J. M. Appleton & Lange. 1997 2nd Ed.

The following references may be consulted frequently during the course:

US Preventive Service Task Force: [Guide to Clinical Preventive Medicine](#) 3rd edition

Reading & understanding Applied Statistics, A Self Learning Approach, Stahl & Hennes (CV Mosby)

Socioeconomic Characteristics of Medical Practice. AMA Center for Health Policy Research.

Control of Communicable Disease in Man. Ed: David L. Heymann, [18th Ed. 2005](#), APHA ISBN: 0-87553-034-6

Students are expected to become familiar with current public health issues, such as:

- new medications for AIDS/HIV and TB
- prevention of violence
- emerging infections of public health interest such as SARS, and monkeypox
- aging
- chronic diseases
- Bioterrorism

SPECIAL REFERENCES:

Students should visit the [MMWR Weekly Report](#) and click on the FREE MMWR subscription. This will bring you the MMWR each week as an email attachment. Provided you have set your computer up as recommended in the administration section of the introduction, you will be able to read the MMWR in adobe format. You should read this each week and be prepared to use the material in class, in quizzes, discussions and examination answers, and to enhance class material.

Prior to each class visit [Healthy People 2010](#) and review the criteria related to the evening's topics by clicking on the [Leading Indicators](#) . You may want to visit [HP 2000](#) and see how the criteria have changed since 1990. Think about why they have changed. What data has been used to develop indicators?

You should also visit the National Academy of Sciences publication list to look at [The Future of Public Health](#) and consider whether the Recommendations of this 1988 are currently being implemented, or why they are not yet implemented. What differences can you find in the above reference to the "[PH in the 21st century](#)". Be prepared to discuss these issues with your lecturers.

For those student who have never had to deal with the US Health care system I have provided a non credit [introduction](#) which should help you with both this Course and Dr Lanier's Health Policy Course

Students are expected to read a daily regional newspaper of general circulation (e.g. Richmond Times Dispatch, Washington Post, New York Times) and at least one weekly news magazine such as US News & World Report or Newsweek. Students will also find useful information for the course by accessing the Internet either through the school's intranet or their personal computers. The course director will provide Web addresses (URLs) for the CDC, the NIH, the AMA the IOM of NAS and the APHA.

Students are expected to supplement class materials with readings of their choice from the medical school library.

Use the BLACKBOARD Discussion web to discuss readings from the MMWR and Healthy People 2010, to comment on faculty presentations, and to answer questions posed during each week's presentations. Student discussions on the web will be monitored by faculty to suggest additional sources to clarify ideas presented on the discussion web. A link to the discussion web will be found on the introductory page for each evening's presentations as well as on the course contents page.

EVALUATION

This course is designed to provide the student with general knowledge of the scope and content of public health, and its relation to health care services. Note: each week you have 7 days in which to answer the quiz and discussion board issues for the associated weekly topic.

Discussion Board: (totals 25% of semester score)

The discussion board review for each covers: period 1, the first six weeks, and period 2, the last 6 weeks. Each period will be allocated 12.5 points. There are 3 questions for each week. Cutting and pasting an answer from an encyclopedia or newspaper is not acceptable. Each question on the Discussion Board (3 most weeks) requires a minimum of 100 words for an acceptable answer. The quality of answers may result in an award of extra points for each period. The extra points are awarded for exceptional use of the internet in finding answers to questions, or useful new URLs or a combination of these..

Quizzes:(12.5 points per half semester - 25 points for semester)

Each evening is associated with a quiz found on the course Blackboard. Grades will be assigned based on the first attempt. *You may attempt the quiz again* to show that you know where your first attempt was incorrect, but the grade is based on your first attempt!

Mid term and Final examinations will assess the student's ability to describe the scope and content of public health practice in written form. The final Summary Grade will be a standard letter grade summing the results of mid term, and final written exams, plus the quizzes. [Note about grading. Although the each question is assessed a letter grade, the letter is determined by first grading each answer on a 100 point scale [92-100=A, 81-91=B, 71-80=C, <71 =D-/Fail] The Department will also provide forms for you to evaluate the course at mid term, and final sessions.

Mid Term Examination: (15 points) You will have 7 days to prepare and submit (email) your answer.

The examination will consist of an open book examination, for which the student will be required to complete one approximately 700 word (minimum) essay, from 3-5 topics related to the first 6 weeks of presentations. This examination will count for 15% of the semester grade. The semester grade will be a standard letter grade. Additionally students will have to have answered each of the questions on the discussion board satisfactorily and completed the blackboard quizzes

Final Examination: (35% points) You will have 7 days to prepare and submit (email) your answer.

The final exam counts for 35% on the semester grade. This examination will also be an open book examination for which the student will be required to complete two(2) approximately 700 word (minimum) essays, from 6-8 topics that will be presented to the student at the next to last session of the course. The essays should be presented as an email attachment sent to course director at cbuttery@vcu.edu.

Guide to answering *written* examination questions. Carefully review the Keywords and Concepts for the topics. Additional points are given for using material provided in the lectures, readings and from Web Research. This additional review is likely to lead to an "A" for the question answered.

Introductory session History, goals and organization of public health.

Students should be able to describe:

How public health issues have affected health status over more than 4000 years.
The purpose and outline methods used to develop public health policy and goals.
The organization of federal, state and local health departments.
Common activities carried out at each level, as well as certain special activities restricted to a particular organizational level.
Who, what, when, why that make up the practice of public health

The scope & expertise necessary to practice public health requires a study of the fundamentals of biostatistics, epidemiology, environmental science, toxicology, ethology, physiology and behavioral science will permeate each sessions of this course. Federal and State organizations and their responsibilities for Public Health Services. The major players in the game. An overview of traditional public health programs, the disciplines needed to carry them out are a focus of this course.

References:

A History of Public Health. George Rosen, 'Future of Public Health'. IOM.
Maxcy Rosenau 13th Edition: Scan Chaps. 1 & 69, HD Handbook, Chapter 2 pp 9 - 11. 14th Edn. Scan Chaps 1 & 6

Reading

Introduction to Public health :Schneider. Chapters 1 through 3.
Essentials of Public Health. Turnock. Chapter 1
Review the USPHS & Virginia Department of Health [VDH] Web pages

Special Reference. For students who have no experience with the US Health Care System a primer is provided here. Take your time over this. It can be completed over the course of the semester and will prepare you for Dr. Lanier's class on Health Policy.

The continuing theme of this course is that epidemiologic and biostatistical expertise are the underlying skills needed for all activities, whatever the field, in public health. Visit Healthy People 2010 before each evenings' session and review that part of the Healthy People Process which relates to the evening's discussion, to prepare your thoughts for the discussion boards.

The first, and probably the only material you need to memorize from the entire course is:

- The Ten Essential Public Health Services which are further expanded in
- The Essential Public Health Functions. (in the National Public Health Performance Standards Program)

these functions are the basis of public health as it enters the second millennium. They are the most recent consensus among the major national public health groups, following the 1998 "Future of Public Health" book (see link to the on-line text below), produced by the Institute of Medicine of the National Academy of Sciences. This book should be part of your own permanent library. You can view the CDC PPT Slide Show of the 10 Essentials (you will need a fast link, preferably cable or the VCU Intranet)

The ten essentials are the culmination of over 2000 years of development of 'Hygiene" practice as identified in the web page on the history of public health. , Dr Ted Tweel, the health director of Hanover County Health Department, has provided a short history of major events in Virginia's public health. Also review the History of Public Health in Virginia, a PowerPoint presentation prepared by Jeff Lake, Deputy Commissioner of Health, VDH [November 2004.] (.pdf version)

Take a look at death rates for the five leading cause of death in 1900 and see how they have changed. Also, look at the changes in life expectancy in the U.S. over the last 150 years. Look at the WHO Global Challenges for Public Health - 2002. How good is health care in the US, compared to other countries? Can you find the answer on the web and put your conclusion in the first section of the discussion board.?

Read Elizabeth Fee's Unfulfilled Promise (needs Adobe Reader)

For every lecture/discussion of the MPH program you should consider how the specific session incorporates the five basic skills of public health which are:

- epidemiology
- biostatistics
- environmental health

- social and behavioral science
- health services administration

Then you should consider whether they also incorporate the following extended skill set which the IOM 2003 study recommended as being incorporated into all public health education:

- Informatics
- Genomics
- Communication
- Cultural competence
- Community based participatory research
- Global Health
- Policy and Law
- Ethics

Also look at the Core Competencies Project of the Council on Linkages. These core competencies are the application of the ten essentials (above.) While you are visiting this site look at the CCP home page to learn about the Council on Linkages. Each session will include a continuing focus on public health policy in practice. Policy development will be discussed in the Winter Term in Dr. Lanier's course. The outline of Dr. Nelson's discussion of goals and policies in the public health arena are found in the Goals web page, (pdf of Dr. Nelson's presentation) Part 2 of tonight's session

Recent literature on ethical relationships between patients and their physicians are applicable to communities and their public health agencies as partners

Also, in preparation for the remainder of the course review the content for training in public health AGAIN, recommended by the Teachers of Preventive Medicine. This outline was prepared as a supplement to the Ten Essential Functions, referred to above. This outline is pertinent to anyone planning to practice public health and should be used as a learning tool in every course you take. This will allow you to see how the various elements of each course fit into, and complement, the other courses to ensure that you will have acquired the skills necessary to carry out the Ten Essentials. when you are awarded your MPH. Consider this organization chart as one way of displaying the major elements of health care provided in the U.S. If you want to print out this graphic use landscape mode.

Optional Viewing Primer on the Federal Budget Process, with emphasis on the health budget

URLs for this session

Also,

National Academies Webcasts
 Is American health care the best?
 Bioinformatics Standards
 Preventive Counseling
 Future Health care Issues
 Prevention Database
 Key Resources on Health Coverage and the Uninsured

Additional Useful Readings:

How to read an article
 WHO & US Health Care
 State H.D. Organization Charts
 National Academy Press
 The Public's opinion about Public Health
 The Future of Public Health

EPID-600 Introduction to Public Health Maternal & Child Health, Women's Health Issues

Objectives

Upon completion of this seminar the students should be able to describe

- Maternal Health, Children's and Women's programs administered by state and local health departments.
- The main policy and management issues in Maternal and Child Health programs
- The role of local public health agencies in developing programs for Women.
- The contribution of local health departments to reducing morbidity & mortality among children and pregnant women.
- The value of the MCH programs in improving the health of the community.

Key Words

Pregnancy
Fertility
Chronic Diseases
Women's health studies
Infant Mortality
Family support services
Immunization
Cancers
Preventive Intervention
Health education
Community services (non governmental)

Concept:

The health needs of children, adolescents, and women are unique. Programs designed for these populations should be tailored to these needs.>

References:

Handouts.
Course Essays [9](#), [12](#)
Maxcy Rosenau 13th Ed, Chaps. 67 & 68 14th Edn. Chapter 71-B
Introduction to Public Health. Schneider. 2nd Edn. Chapter 18

[Go to lecture:](#)

EPID-600 Introduction to Public Health Women's & Maternal and Child Health Programs

MCH programs were the original focus of public health, and continue to be a major focus in the USA as well as the remainder of the world. To assist you, in starting to learn about the breadth and depth of women's and children's health and the interwoven programs, we provide the following Power Point slide shows as well as a set of Hotlinks to useful health sites for women and children. Review the contents of the hot links prior to the class.

1) [Introduction](#) Prepared by Ted Tweel MD (Director - Hanover Health District)
[Maternal & Child Health Bureau](#), HHS

2) Look at the excellent set of resources in the report [Women's Health 2006](#)
Then review [Slides \(printable version\)](#) provided by **Deborah Harris MPH, RD, CDE**

Other data resources for Women's Health:

[National Women's Health Resource Center](#)
http://mchb.hrsa.gov/whusa02/Page_61.htm
[Women's Health Virginia](#)
[Leading Causes of Death - Women 2003](#)
[Folic Acid, and Birth Defects](#)

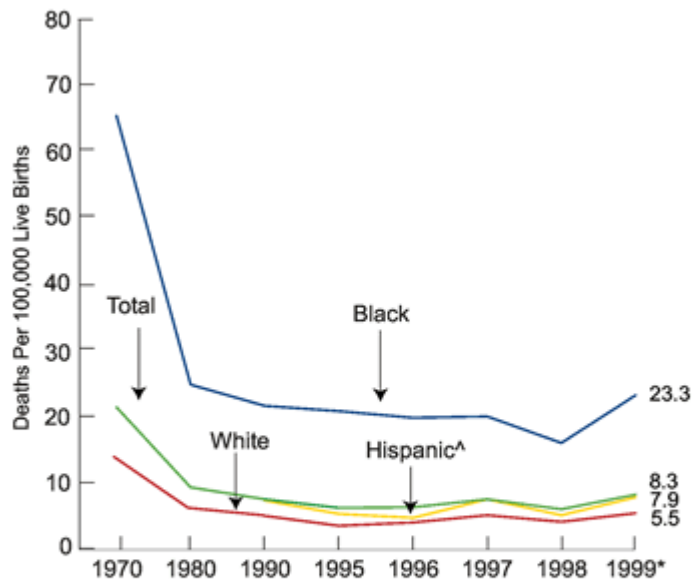
March of Dimes : [Health Statistics](#) (try developing some of your own graphs)
'I wanted to give Oscar [the best start in life](#)'
(Filed: 04/09/2002) From the Telegraph-U.K.
Women's & Children's [Health Policy Center](#) - JHU (Click on Projects, left hand column)
UAB - History of MCH ([MCH Milestones](#))

Look at these sites in relation to Women's Health

[The National Women's Health Information Center](#)
[The Jacobs Institute for Women's Health](#)
[The Alan Guttmacher Institute](#)
[Kaiser Family Foundation](#)

Age-Adjusted Maternal Mortality, by Race and Hispanic Origin, Selected Years 1970-1999

Source (II.1): National Vital Statistics System



Note: Rates are age adjusted to the 1970 distribution of live births by mother's age in the U.S.

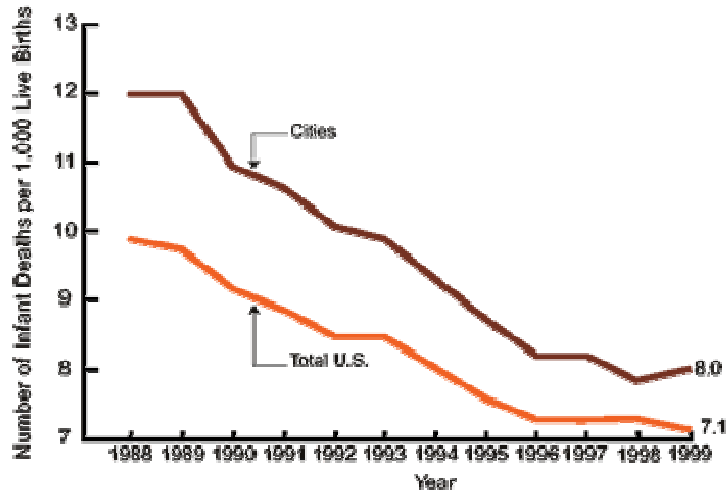
*Starting with 1999 data, changes have been made in the classification and coding of maternal deaths under ICD-10. The increase in the number of maternal deaths between 1998 and 1999 is due to changes associated with ICD-10.

[^]Data not available prior to 1990; excludes data from States lacking an Hispanic-origin item on their death and birth certificates.

Also See [Maternal Mortality](#) and Related Concepts pdf from NCHS

INFANT MORTALITY RATES IN U.S. CITIES WITH POPULATION OVER 100,000: 1988-1999

Source (102): National Center for Health Statistics



3) [Maternal & Child Health](#). ([Printable copy](#)) Presented by **Joan Corder-Mabe** RN MPH.

4) [Children's Health](#). ([Printable Pages](#)) **Bethany Geldmaker**, Ph.D., Virginia department of Health
Read This First: Oct 99 report on [Healthier Mothers & Babies](#).
[Health & Well-Being of Children 2005](#) In particular, find the web page on Child Health Status.

Child Health Links:

[KFF Web Casts on Child Health](#)

5) [Women's Health - Advances in Knowledge](#)

6) [MCH URLs](#).

Occupational Health - Industrial Hygiene

Objectives:

Students should be able to describe:

- The role of occupational health practice within the community
- Inter-relation between OH and preventive health practices.
- The major components of occupational health practice
- The focus on maintaining health and preventing disease.
- Why the workplace can be hazardous to the health of individuals
- How OH/IH programs contribute to community health
- Why OH/IH data are part of the surveillance role of the public health agency.

[Dr Compton's PPT.](#)

Key Words

Occupational health, Occupational Medicine, Occupational Hygiene, Industrial Hygienist, Health Hazards, Risk Assessment, Worker health, workman's compensation, Maternal Safety Data Sheets, Right to Know, industrial epidemiology, OSHA, Dept. Of Labor, Environmental Hazards.

Concept

Most people work outside their home and expect their workplace to be free from physical and environmental hazards. The workplace may be the only place where many lower income workers have access to health services.

References

[Return To Work](#) (.pdf file, read with Adobe reader)

Maxcy Rosenau, 13th Ed. Scan introduction of chapters in section 3 (Environmental Health) particular attention to Chaps. 15 pp 315 - 324, Scan chaps. 28, 30 & 31.

14th Ed. Scan Chap 18 Sec. A & C, Scan Chaps 32 & 33

Introduction to Public Health, Schneider, Chapter 19, Pp 343-348

Essentials of Public Health - Turnock. Chapter 8

Addl. Gen. Ref. from Dr Vance - Risk, costs and lives Saved. Getting better results from regulations. Edited by Robert W. Hahn. Oxford University Press. 1996)

[OH-IH URLs](#)

[IH Lecture](#)

Industrial Hygiene & Carcinogenesis

Concept:

The workplace should not expose workers to environments with preventable hazards. The work site should foster a healthy life style.

Key Words:

Work site, occupation, environment, hygiene, hygienists, engineers, Material Safety Data Sheets, Threshold Limiting Values, Personal Protective Equipment, toxicology, safety.

Objectives

of this presentation is to provide you with an overview of the function, and scope of work of the Occupational Medicine physician and the Industrial Hygienist. The two professions complement each other in ensuring a safe workplace for employees.

Issues

Review the historical data provided in the first session of this course to examine **how long** worker's health has been a concern of health professionals.

First review Slide presentations from Dr Compton. ([pdf Version](#))

[The Occupational Health Program](#) (discussion of basic elements of an OH program)

[Disability Cost/Benefits](#) (the value of having the OH program manage the disability benefits program)

Also investigate the following Web Sites to look at information that would be useful in counseling workers about options if disabled as well as general Occupational Med reference information.

[Bureau of Labor Statistics](#). (pay attention to the health issues)

[Americans with Disabilities](#). (scan for main elements)

[VCU's Work Support Page](#) (what is the purpose of this program?)

[Traveler's Warnings](#). (Look at the fact sheets on this page)

[Association of Occupational and Environmental Clinics](#)

[ACOEM](#) (American College of Occupational Environmental Medicine)

The following web sites **also** provide important information related to occupational health & industrial hygiene

[NIOSH](#) (there are excellent fellowship opportunities at this site)

[Pocket Guide to Chemical Hazards](#) (What is the purpose of the guide?)

[Health Hazard Evaluations](#) (be prepared to define a health hazard)

[OSHA](#) (Occupational Safety & Health Administration)

[ACGIH](#) (American Conference of Governmental and Industrial Hygienists)

[OH/IH Web sites](#)

Then review the Slides provided by Dr. Vance. Dr Vance's [slides as PDF File](#). Examine the Links to web sites provided by Dr. Vance and be prepared to discuss current occupational health issues.

Then look at the [Primer on Carcinogenesis](#) as an introduction to the issue of chemical effects in the workplace.

The following short pieces should stimulate some thoughts about Asbestos as a carcinogen.
What types of cancer does it cause?
How much exposure is needed to obtain an effect?

1) This first article was one of the first cohort studies in the US.
This set of articles started to concerns following WW!! and became an [issue in the 1950s](#)

Although a number of epidemiologists cautioned that more data was need following the media 'feeding frenzy' it was not until a further review [20 years later](#) when some of the news media harassment died down.

2) The look at the [table from Selikoff's original study](#) and consider what this tells you about the comparative dangers of asbestos exposure and smoking.

3) Then [review the short summary](#) and the indicators for Health Effects Monitoring using the preceding as an example of an issues needing such monitoring.

4) Finally try and [get a feel for what parts per million](#), billion and trillion mean when this kind of data is quoted by the EPA and activists.

[Bookmarks](#) for Lecture

EPID 600 - Introduction to Public Health

Primary Care & Public Health - The Interface

Stephen F. Rothemich M.D., C.M.G. Buttery, M.D., MPH, Michael Evans
M.S.W.

Objectives

Upon completion of this session the students should be able to describe

- The distribution of common diseases within the community,
- The role and relationship of primary care physicians to medical consultants and the public health support system.
- The scope of primary care and the role of prevention in primary care practice.
- Development of a plan to improve the number and distribution of primary care physicians,
- How the plan could change the role of community public health agencies and the potential to improve community health status.
- How the Virginia Health Care Foundation and Virginia Primary Care Association contribute to primary care access.

Key Words:

Primary Care, Public Health Intervention, Primary Care Physicians, Health Systems, Geographic mal-distribution, Third Party Reimbursement, Rural/Urban distribution. ICD(a) & ICHPPC codes. Recruitment, Retention, Physician Need, Practice Patterns, Case Management, Referral, Integrated Human Services, future health practice systems, health data analysis. [AAFP](#) & [IOM](#) definitions

Concept:

Primary care and public health are two complementary facets of community based care that improve health status.

References:

Instructor Handouts.

[Bookmarks](#) for 2007

Maxcy Rosenau

12th Edn. Chap 1 & 65.

14th Edn - not as good as 12th but look at chaps 1 & 66

Introduction to Primary Care: Schneider. Chapters 25 & 26

White K. L. "The Ecology of Public Health" NEJM 1961:263: 18, 885 - 892

The Contemporary "Ecology of US Medical Care" Confirms the Importance of

Primary Care - [Kerr White Updated](#) (.pdf format)

[Primary Services Tool kit](#) Look at the Introduction (Module 0)

Schneider, 2nd Edition Chapter 25

General reference: R. Rakel - Family Practice,

Review this site [about patient safety](#) as a primary care & public health issue.

Also, review the [AMA statement](#) on Universal Access

Also, review the discussion by Dr. Berwick given at the IOM [Annual Meeting 2000](#):

Quality of Health and Health Care. Consider how what he says might change primary care delivery.

[Go to Lecture](#) for this session.

Dr. Stephen F. Rothemich MD, CMG Buttery MD, Michael Evans MSW.

Focus on Primary Care - **The Interface with PH & Preventive Medicine**

Start out by Reviewing [Dr Rothemich's Presentation](#). [PDF version](#)

Then look at the [Family Medicine research site](#) to consider the types of research being conducted, where the studies fall in the array of the epidemiologic armamentarium. Are they descriptive or analytic? Are they current, retrospective or futuristic? Are they quality or quantity based? Are they policy or practice based? Could they lead to changes in the health care system?

Follow up with Dr. Buttery's [PowerPoint show](#) on Epidemiology of Primary care the review the remaining material on this page ([printable pages](#) of Dr Buttery's slides). The PDF File on advance data from the [NAMCS 2003 survey](#) is now available for your use. Scan the introductory review then look at Table 9. Note the the top 20 reasons for visits. What proportion seem to be related to maintaining health rather than treating disease. Of the remainder how many could have a preventive component included. Then look at Table 13 for the major diagnosis made during the visit and consider how this information relates to Table 9. Look at Table 19 and think about the types of preventive interventions used. Do you think this is an appropriate distribution? Is anything missing? Possibly for some of you to use as a research topic.

Is there a [PCP Crisis](#)

[Are we loosing the battle](#) to develop PCPs?

Does [income](#) have anything to do with it?

What do we know about health care [expenditures](#)?

Is there any recent data about [access](#)?

What about [Prevention in Primary Care Practice](#)

Why Case Management?

What did the [Nurse Case Management discussion say](#) about case management say about the services provided by public health nurses, that exemplified each of the following attributes of case management? Remember that the range of services differs between health departments. The concept you should take with you, is that the underlying framework of case management, provided by PHNs, MSWs, and Health Educators happens in all health departments.

Case management addresses a wide variety of health care issues and needs. As a result, it is often implemented for multiple reasons, including:

1. Case management focuses on the full spectrum of needs presented by clients and their families; it is client-focused. Client and family satisfaction within case-managed systems is generally high.
2. A strong component of case management is an outcome orientation to care. The goal is to move with the client/ family toward optimal care outcomes.
3. Case management facilitates and promotes coordination of client care, minimizing fragmentation.

4. Case management promotes cost-effective care by minimizing fragmentation, maximizing coordination, and facilitating client/family movement through the health care
5. Case management maximizes and coordinates the contributions of all disciplines within the health care team.
6. Case management responds to the needs of insurers and other third-party payers, specifically those related to out-come-based, cost-effective care.
7. The needs of clients, providers, and payers all receive attention within a case management system. Case management represents a merger of clinical and financial interests, systems, and outcomes.
8. Case management can be included in the marketing strategies of hospitals and other institutions to target clients/ families, insurers, and employers.

[Primary Care & Nurse Practitioners](#)

[Primary Care Standards](#)

[Primary Care in the UK is not Monolithic.](#)

[Future health care in the UK](#) (At least there is a plan!)

But what does the [UK Health System produce](#)

[What is the Expectation for Primary Care in the UK?](#) Can you find similar recent analyses for the US?

[Integrated Systems](#) Improve Medical Care and Control Costs

Either before going further, or after reading [the definitions](#) of primary care and family practice by the American Academy of Family Physicians, log on the to Institute of Medicine and review the summary of the book: "[Primary Care: America's Health in a New Era.](#)"

Primary Care Definition from Rakel - "Principles of Family Medicine"

Primary Care. The specialty of family practice is specifically designed to deliver primary care. Primary care has been defined by both the AAFP and ABFP as a form of medical care delivery which emphasizes first contact care and assumes ongoing responsibility for the patient in both health maintenance and therapy of illness. It is personal care involving a unique interaction and communication between then patient and physician. It is comprehensive in scope and includes the overall coordination of the care of the patient's health problems, be they biological, behavioral or social. The appropriate use of consultants and community resources is an important part of effective primary care scope, and includes the overall coordination of the care of the patient's health

Because many physicians deliver primary care, in different ways and with varying degrees of preparation, the ABFP added a further clarifying statement:

Primary Care is a form of delivery of medical care which encompasses the -following functions:

1. It is "first-contact" care serving as point-of-entry for the patient into the health-care system;
2. It includes continuity by virtue of caring for patients over a period of time in both sickness and in health;
3. It is comprehensive care, drawing from all the traditional major disciplines for its functional content;
4. It serves a coordinating function for all the health-care needs of the patient;
5. It assumes continuing responsibility for individual patient follow-up and community health problems; and
6. It is a highly personalized type of care.

Primary Physician. A primary physician was [defined by the "Millis Commission"](#) as one who

... "Should usually be primary in the first contact sense. He will serve as the primary medical resource and counselor to an individual or a family." When a patient needs hospitalization, the

service of other medical specialists, or other medical or paramedical assistance, the primary physician will see that the necessary arrangements are made, giving such responsibility to others as is appropriate and retaining his own continuing and comprehensive responsibility.

Few hospitals and few existing specialists consider comprehensive and continuing medical care to be their responsibility and within their range of competence

Additional descriptive data about Family Practice is provided in the following material from the Department of Family Medicine

Primary care is the provision of integrated, accessible, affordable, health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.

Accessible refers to the ease with which a patient can initiate an interaction for any health problem with a clinician (e.g., by phone or at a treatment location) and includes efforts to eliminate barriers such as those posed by geography, administrative hurdles, financing, culture, and language.

Health care services refers to an array of services that are performed by health care professionals or under their direction, for the purpose of promoting, maintaining, or restoring health. The term refers to all settings of care (such as hospitals, nursing homes, clinicians' offices, intermediate care facilities, schools, and homes).

Clinician means an individual who uses a recognized scientific knowledge base and has the authority to direct the delivery of personal health services to patients.

Accountable applies to primary care clinicians and the systems in which they operate. These clinicians and systems are responsible to their patients and communities for addressing a large majority of personal health needs through a sustained partnership with a patient in the context of a family and community and for (1) quality of care, (2) patient satisfaction, (3) efficient use of resources, and (4) ethical behavior.

Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.

Integrated is intended in this report to encompass the provision of comprehensive, coordinated, and continuous services that provide a seamless process of care. Integration combines events and information about events occurring in disparate settings and levels of care and over time, preferably throughout the life span.

Comprehensive. Comprehensive care addresses any health problem at any given stage of a patient's life cycle.

Coordinated. Coordination ensures the provision of a combination of health services and information that meets a patient's needs. It also refers to the connection between, or the rational ordering of those services, including the resources of the community.

Continuous. Continuity is a characteristic that refers to care over time by a single individual or team of health care professionals ("clinician continuity") and to effective and timely communication of health information (events, risks, advice, and patient preferences) ("record continuity").

Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.

Majority of personal health care needs refers to the essential characteristic of primary care clinicians: that they receive all problems that patients bring --unrestricted by problem or organ system and have the appropriate training to diagnose and manage a large majority of those problems and to involve other health care practitioners for further evaluation or treatment when appropriate. Personal health care needs include physical, mental, emotional, and social concerns that involve the functioning of an individual.

Sustained partnership refers to the relationship established between the patient and clinician with the mutual expectation of continuation over time. It is predicated on the development of mutual trust, respect, and responsibility.

Patient means an individual who interacts with a clinician either because of illness or for health promotion and disease prevention.

Context of family and community refers to an understanding of the patient's living conditions, family dynamics, and cultural background. Communities refers to the population served, whether they are patients or not. Community can refer to a geopolitical boundary (a city, county, or state), or to neighbors who share values, experiences, language, religion, culture, or ethnic heritage.

After reviewing the above consider whether the US has coordination vertically (primary care to specialist to hospital to nursing home and back) and whether there is horizontal coordination; doctor's office to labs, radiology, pharmacy and other specialty centers, home health services, support programs.

Facts About the AAFP and Family Practice

AAFP Official Definitions of "Family Practice" and "Family Physician"

Family Practice

Family practice is the medical specialty which provides continuing and comprehensive health care for the individual and family. It is the specialty in breadth which integrates the biological, clinical, and behavioral sciences. The scope of family practice encompasses all ages, both sexes, each organ system, and every disease entity.

The specialty of family practice is the result of the evolved and enhanced expression of general medical practice and is uniquely defined within the family context.

Family Physician

The family physician is a physician who is educated and trained in family practice - a broadly encompassing medical specialty.

Family physicians possess unique attitudes, skills, and knowledge which qualify them to provide continuing and comprehensive medical care, health maintenance and preventive services to each member of the family regardless of sex, age or type of problem, be it biological, behavioral, or social. These specialists, because of their background and] interactions with the family, are best qualified to serve as each patient's advocate in all health-related matters, including the appropriate use of consultants, health services, and community resources.

Family Practice: Content and Responsibility For

The American Academy of Family Physicians maintains full responsibility for determining the philosophy, content and scope of family practice, and for establishing the definition of "family practice" and "family physician." It is recognized that accreditation of family practice residency programs is the responsibility of the Accreditation Council on Graduate Medical Education (ACGME). Certification of family physicians is the responsibility of the American Board of Family Practice (ABFP). Both accreditation of training and certification of individuals should be based on the philosophy, content and scope of family practice as defined by the AAFP.

(Definitions adopted by the American Academy of Family Physicians' Congress of Delegates)
[AAFP Definitions, Explore the site.](#)

Additional research data developed by Drs. Buttery at the Eastern Virginia Medical School, and Maurice Wood at MCV, and presented at NAPCRG (North American Primary Care Research Group) in 1978 shows the similarity between Family Physicians and General Internists while illustrating the much narrower range of problems seen by general pediatricians who limit their practice to people under 18 years of age and Obstetrician-gynecologists who limit their care to the reproductive systems of women.

In relation to the presentation on case management and the data from the Department of Family Medicine why do you think it was necessary for the US Preventive Services Task force to publish the following statement?

U.S. Preventive Services Task Force

December 12, 1995 Bob Griffin,

TALK MORE, TEST LESS, PANEL URGES HEALTH PROVIDERS
Disease Prevention Experts Call for
More Counseling, Better-Targeted Screening

A task force of prominent preventive health specialists today recommended that doctors and nurses offer more frequent patient counseling on personal health and safety habits, significantly change the use of some screening tests, and ensure that several newer immunizations are routinely provided.

The [U.S. Preventive Services Task Force](#), an independent panel first convened in 1984 as an initiative of the U.S. Public Health Service, issued the first revision of its widely used 1989 guide to effective disease prevention and health promotion, based on a careful review of scientific evidence.

Also consider the value of [Evidence Based Guidelines](#)

Primary Care: and its linkages with Public Health & Preventive Medicine

- 1) Definition: The Epidemiology of Primary Care
- 2) A system of care which provides first contact and continuing comprehensive medical care. (IOM definition)
- 3) Parameters of medical care
 - Accessibility
 - Acceptability
 - Affordability
 - Availability
 - Achievable
 - Comprehensive with Continuity

- 4) How does it differ from specialty care?
 - 5) How much do we need?
 - 6) How and who do we train
 - 7) How do we get them where they need to be?
 - 8) How do we keep them down on the farm (or what are the support systems?)
 - 9) How do we measure the effectiveness/efficiency of primary care
-

Also review the activities of the [Virginia Health Care Foundation](#) ([printable format](#)) and determine how this program helps to improve access to primary care, then look at the site for the [Virginia Primary Care Association](#) and determine how program, along with the VHCF (above) also improve access to primary care.

Look at the [map](#) provided by the VPCA.

Recommended readings to supplement the Primary Care Discussion . Students are urged to at least read the summaries of these articles, even if they do not read the entire article.

[How many and what types](#) of physicians are needed to manage the health needs of the US Population. Do you think we have produced either too many, the wrong types, or used the wrong incentives to encourage distribution?

What does the [Dartmouth study](#) recommend? Also [this](#) from Dartmouth

(TIP - You can use your VCU-EID on the library web page (click on the fast link to ejournals), so you can get to all these articles on-line instead of having to search the stacks)

Benchmarking the US Physician Workforce. An alternative to needs-based or Demand-Based Planning. JAMA Dec 11, 1996, Vol. 276 No 22 P 1811*Public Health and Primary Care: A Framework for Proposed Linkages. AJP. Oct 1996, Vol. 86 No 10. P 1365.

An Uncertain Future: Physician Jobs in the Balance. JAMA Jan 1, 1997, Vol. 277 No 1 P 68

Once we have determined how many physicians/providers, of what type, we need, how do we obtain them and does more physicians mean better quality of care?

Retraining Physicians for Primary Care. A Study of Physician Perspectives & Program Development. JAMA May 21, 1997, Vol. 277 No 19 P 1569

Family Physician Workforce Reform. AAFP Recommendations (Medicine & Society.) AFP Jan 1996 Page 65

Problem of Quality of Life Medicine. JAMA July 2, 1997, Vol. 278 No 1 P 47

We hear about health system reform. What are we trying to reform? Access? Payment? Types of Physicians trained? Distribution? Quality? Incentives to promote prevention of disease and optimal Health? Medical Care? Are these different questions interrelated? How?

Also:

New Prevention Guidelines called 'State of the Art'. JAMA Feb 21, 1996, Vol. 275 No 7 P 505
Health System Reform (Special Communication.) JAMA Aug 14, 1996, Vol. 276 No 6 P 505
Medicine & Public Health - Pursuing a common destiny. JAMA Nov 6, 1996, Vol. 277 No 17 P 1429
Swapping Health Care Systems. Whose Grass is Really Greener?. JAMA Dec 25,

1996, Vol. 276 No 24 P 1996

Health Reform for the 21st Century? It May have to Wait until the 21st Century.

JAMA Jan 25, 1997, Vol. 277 No 3 P 193

Managed Care. A product of Market Dynamics. JAMA Feb 19, 1997, Vol. 277 No 7 P 560

PC Bookmarks - [Updated 2007](#)

Epidemiology - Surveillance.

Objectives

Upon completion of this seminar the students should be able to describe

- principles of disease surveillance in the community.
- the most prevalent conditions
- the role of a health agency in intervening to prevent or delay onset of, or provide early intervention to reduce, deteriorating health status of various population groups.
- Purposes of surveillance to detect onset of acute infectious disease
- The capability to estimate changes in incidence and prevalence of chronic diseases.

Key Words

Community Surveys, Passive & Active surveillance, Chronic Diseases, Environmental Hazards, Denominator data, Numerator data, Prevalence, Incidence, and examples of epidemiologic investigations.

Concept

Chronic non-infectious diseases are as amenable to epidemiologic evaluation and intervention as acute communicable disease. Both types of disease require use of surveillance.

References

Maxcy Rosenau 13th & 14th Edns. Chapter 2
Introduction to Public Health, Schneider, 2nd Edition Chapter 4, Pages 74-82.

[Smoking Trends](#) from the BMJ

[Case Definition](#) from the CDC

[The Cochrane Library](#) is being used increasingly by those interested in Surveillance. It is in many respects the Gold Standard for surveillance methods. It has started a Health Promotion and Public Health section which those of you, interested in the topic, may want to review

[Example of a screening review](#) from the USPSTF

Division of [Public Health Surveillance](#) and Information

Epidemic Intelligence Service [EIS](#) (a valuable experience in development after the MPH)

CDC's [Epidemiology Program Office](#)

WHO's Department of [Epidemiology Programs](#) (look at the WHO surveillance programs and their scope)

CDC's Behavioral Risk Factor Surveillance System ([BRFSS](#))

[Youth Risk Behavior Surveillance](#) — Selected Steps Communities, 2005

Those of you with an interest in Cancer Epidemiology might want to look at the [Maps available from the NCI](#)

[Surveillance Bookmarks](#)

[Go to Power Point Presentation](#) ([pdf file](#))

Mental Health Services Funding.

Surveillance of community mental health services has identified significant unmet needs. These needs arose after the state decided to

move patients out of institutional settings into community based services programs, but failed to transfer funds with them. This is typical of state line item budgeting where budgeters look at expenses for lines of services (food service, doctors, nurses, facility maintenance) but fail to look at program needs such as costs to provide services necessary for a group of patients. This failure has led to reduction in mental health costs, and abandonment of many patients discharged from facilities, who because of lack of services, end up as vagrants/homeless persons.

Dr Mays discusses funding Issues in [this slide show](#) ([pdf File](#))

EPID - 600 Introduction to Public Health

Toward a National Health Program

Jack O. Lanier Dr. PH.

Please review information available at the UNC [Minority Health Project](#) and scan the keynote video lectures available as web casts, particularly the one by Yvonne Maddox on [Health Disparities](#), (toward the end of the list), you will need to register but there is no charge for viewing the webcast. This is an excellent starting point for any research on health disparities.

After this lecture you should be able to discuss

- why there is a need for an organized national 'health' program
- who should be covered by such a program
- some of the elements you think are important in its development
- What comprises a community health Safety net
- Why there is a need to focus on underserved populations

First review Sheryl Garland's [Power Point lecture](#) ([printable](#) format) on the Richmond Area Health Safety Net, how the Richmond Community is attempting to ensure health care access for all its citizens; then

Dr Lanier's [Power Point Show](#), [pdf Handouts](#) ,

Key Words:

Underserved populations, public policy, access to services, geographic barriers, condition coverage, population covered, public private linkages, ambulatory vs. institutional care..

Concept:

Poor health of underserved populations is due to many factors which can be controlled by the affected individuals., but first there needs to be access to care

References

Local and National Media, USNWR. Maxcy Rosenau 13th Edn. Chapter 40-(scan) 63(read.) 14th Edn. Scan Chap 73.

Minority Health Disparities [Web-Page](#) at Kaiser Foundation

Kaiser Foundation [Access Web Page](#) (particularly the paper on "[uninsured and access](#) to health care)

Kaiser Foundation [Health Insurance Coverage](#)

Health System Change, the RWJF funded analysis: The Health Care [Cost-Coverage Conundrum](#) (A pdf file) What approach do these authors advocate for improving equity among consumers?

The [Federal Health Budget](#) (This PowerPoint slide show will prepare you for Dr. Lanier's class in the spring term)

[URLs](#) related to this topic - updated April 2007

Home site Water and Sewage

Objectives:

Students will be able to describe

- Health department programs that ensure access to safe drinking water
- programs that ensure safe disposal of wastes
- Describe interdependence of wells and private sewage disposal systems on individual home sites

Key Words

Ground water, Surface water, Community Water Systems, Community Waste Treatment systems, Septic Tanks, Wells, Federal Standards, EPA, Pollutants, Action levels, Primary treatment, secondary treatment, tertiary treatment, filtration, distribution systems, water reuse, potable water, SWDA, contaminants, water quality, purification.

Concept.

Control of environmental hazards are basic tools to ensure health of the community. The focus here is on rural home sites.

References:

Maxcy Rosenau 13th Edn. Chapter 35. 14th Edn. Chapter 17

Note: Public Water & Sewage systems will be covered in Dr. Vance's environmental health class.

Read:

PDF file on [Sewage Strategies](#).

Introduction to Public Health, : Schneider, 2nd edn, Chapter 19, p 333-335, Chap 21

Turnock, B: Essentials of Public Health-pp 155-158

Buttery [Essay 8](#), section on environmental issues , look at waste, water issues and local control policies

Then view Mr. Price's [Power Point Show](#).

[Well/Septic Tank Bookmarks](#)

Genetics

Assignment prior to class:

Review the following web site - Advocating for Folic Acid: A Guide for Health Professionals (www.folicacid.net)

Read: (Remember to access journals through the TML Ejournal web-page)

Breast Cancer Mythology on Long Island (August 31, 2001) New York Times, Section: A; Pg. 14 (NYTimes.com)
Read Sung et al (March 12, 2003) Central Challenges Facing the National Clinical Research Enterprise. *JAMA* 289:1278-1287
The Role of [Genetics in the Provision of Essential Public Health Services](#): Wing G. & Watts C. *AJPH* April 2007, V94 #4

Objectives:

Upon completion of this session the students should be able to:

- describe the role of Genetics for Public Health policy and programs
- describe the public health pyramid with regard to genetic information and services
- describe genetic components of health and disease
- describe the relation of genetics and mental retardation
- describe the potential impact of genetic research on community health and preventive medicine

Key Words

- Autosomal dominant-- genes that exhibit their effects when only one altered copy is present (e.g. neurofibromatosis, Huntington disease, many cancer susceptibility genes like RCA1/2)
- Autosomal recessive-- genes that exhibit their effects when two altered copies are present (e.g. sickle cell anemia, cystic fibrosis)
- Birth defect – any morphological abnormality present at birth (e.g. cleft palate, neural tube defect)
- Cancer cluster – a greater-than-expected number of cancer cases that occurs within a group of people in a geographic area over a period of time
- Congenital anomaly - a defect that is present at birth (considered synonymous to “birth defect”)
Folate – a vitamin that plays a vital role in DNA metabolism
- Genetic susceptibility – a tendency to a disease or health alteration based on genetic changes
Human Genome Project- the 13-year (1990-1993) federal project to map the total human DNA sequence of ~30,000 genes
- Multifactorial – caused by a combination of genetic and environmental factors
- Polymorphism – DNA variation that is not yet known to have clinical significance
- Children with special health care needs – includes all children who have or are at risk for chronic physical, developmental, behavioral, or emotional conditions and who also require health and related services of a type or amount beyond that required by children generally. It is estimated that 18 million children in the United States have these special health care needs (Maternal and Child Health Bureau)
- Teratogen – any agent that increases the incidence of congenital malformations (e.g. thalidomide, accutane)

Concepts:

- It is estimated that influences on health and disease are 40% behavioral, 30% genetic, 20% environmental, and 10% health care.
- The human body contains ~30,000 genes typically packaged for cell division in 46 chromosomes.
- Genes help determine our responsiveness to environmental changes. Genes also interact with one another. Differing genes, polymorphisms, and genetic susceptibilities show varied responses and interactions.
- The causes of birth defects include chromosomal alterations, Mendelian conditions, teratogens, and multifactorial conditions.
- 3-4% of children are born with a birth defect.

- 239,900 children in Virginia are estimated to have a special health care need.
- The Centers for Disease Control (CDC) recommends that all women who may become pregnant take 0.4 mg. of folic acid daily at least one month prior to conception.
- Many mental retardation problems may be avoided by the study of genetics.
- Family history is increasingly being valued as a public health tool to screen for common diseases.
- "We are all diseased, just not diagnosed yet." Francis Collins, Director, National Institute for Human Genome Research

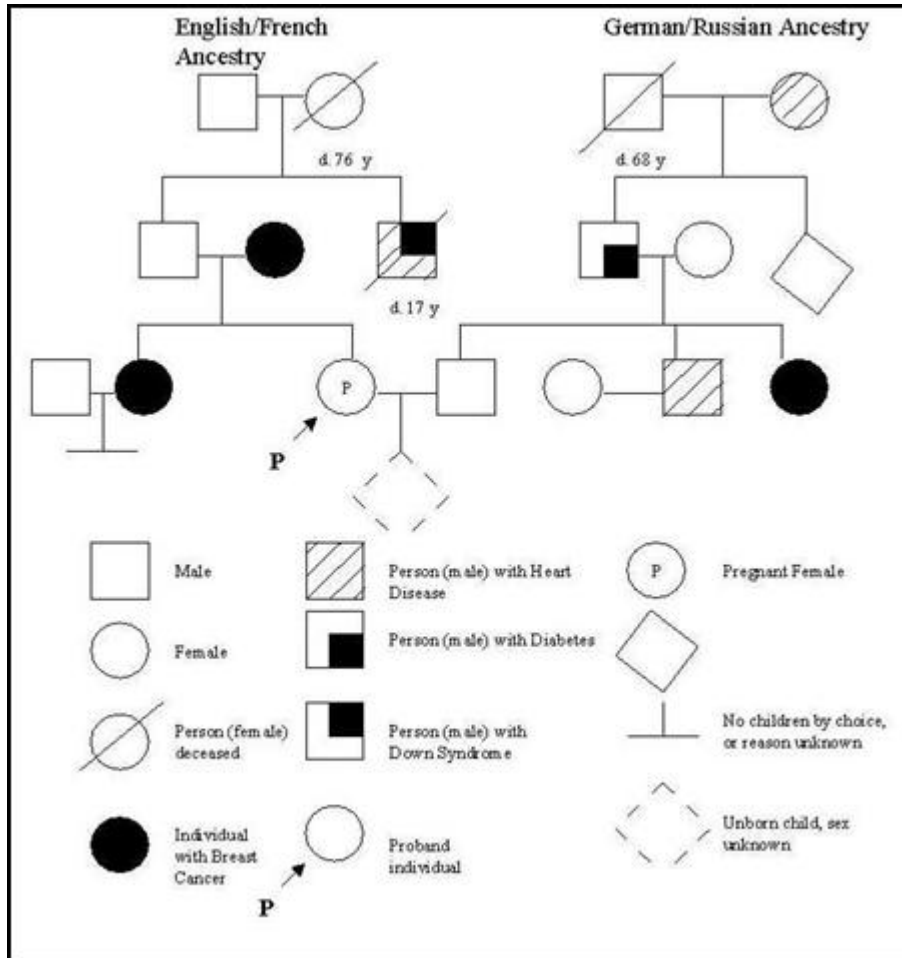
[Go to Lecture:](#)

EPID-600 Introduction to Public Health Introduction to Genetics and Public Health

Joann Bodurtha M.D., M.P.H.
John Quillin Ph.D., M.S., M.P.H

Reading: Schneider, 2nd Edn. Chapter12
[Newborn Screening](#) - Current Status (pdf)
Genetics Awareness [Check List](#)

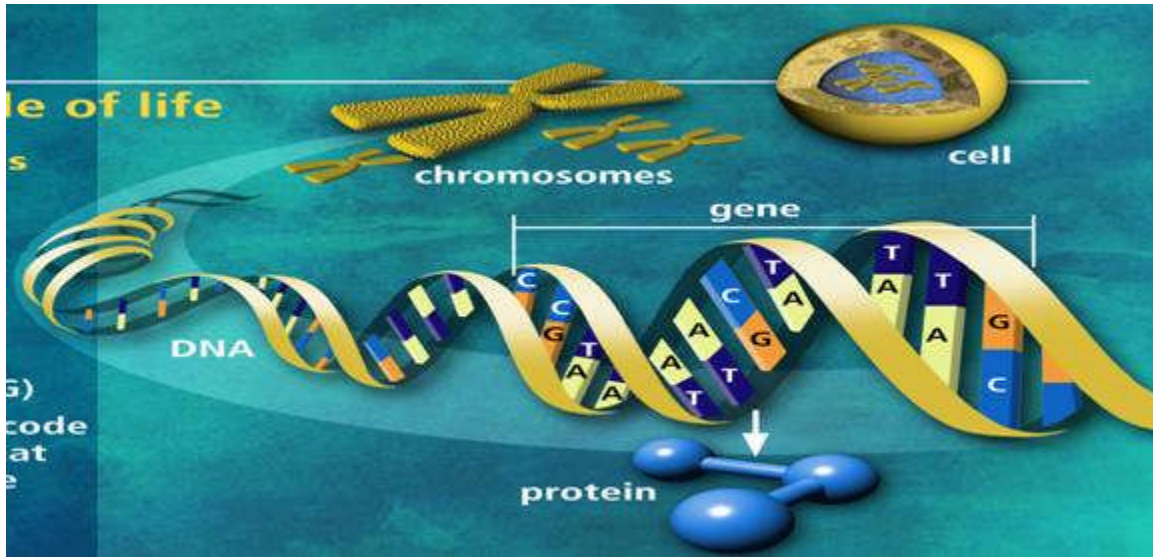
This 2-hour class on genetics and public health will use a case-based approach to help you learn about contemporary issues at the intersection of public health and genetics. Our overall goal is to encourage you to recognize the genetic aspect of public health problems. Just as learning about infectious organisms two centuries ago altered public health practices, from sanitation to immunizations, new knowledge and technologies in genetics are altering and will continue to impact public health practices. Genetic information influences health and disease across the life span, from preconceptional genetic counseling and fortification of flours with folate to improvements in our understanding of causes of death and disability, from newborn hearing screening where over half of congenital hearing loss is genetic to recognition of the familial risk factors inherent in, for example, Alzheimer disease, cancer, coronary artery disease and stroke.



Pedigree Documenting Family Health History

An ongoing challenge for public health personnel is to incorporate current understanding of the science of health and disease in effective and ethical public health measures. Your own understanding of the relevance of the genetic components of your family health history to your own health and your willingness to think about these complex issues for society and public health are both part of your legacy. Think genetically.

Genetic Material (DNA), Packaged as Chromosomes, Encodes Proteins and Cellular Materials that Influence How Cells Grow and Develop.



The National Coalition for Health Professional Education in Genetics (www.nchpeg.org), a coalition of more than 120 health professional organizations, and the CDC (<http://www.CDC.gov/genomics/training/competencies/default.html>) have developed a set of competencies in genetics for health professionals and for the public health workforce. Review these competencies and continue to reflect upon them as you go through your MPH program.

The following have been identified as public health functions relevant to genetics:

- public health assessment
- evaluation of genetic testing
- development, implementation,
- evaluation of population interventions; and
- communication and information dissemination.

Critical issues include:

- partnerships and coordination
- ethical, legal and social issues; and
- education and training.

[See: *Genetics and Public Health in the 21st Century* (Muin Khoury, Wylie Burke, Elizabeth J Thomson (eds.)), New York, Oxford University Press, 2000) is a comprehensive monograph about using genetic information to improve health and human disease.]

The following web sites may be useful for your further study.

- [Genetic Alliance](#)
- [GeneReviews](#),
- Information for [genetic professionals](#) and on genetic conditions
- www.marchofdimes.com
- National [Human Genome Research Institute](#)

- National [Coalition for Health Professional Education in Genetics](#)
- [Office of Genetics and Disease Prevention](#)
- [Online Mendelian Inheritance in Man](#)
- [U.S. Surgeon General's Family History Initiative](#)

Birth defects: Case 1 - Your sister has just found out at 16 weeks of pregnancy that she has a fetus with spina bifida. Describe the levels of the maternal child health pyramid that impact how this is handled.

The lecture (see Birth defects and the maternal child health pyramid.ppt) will challenge you to consider how the management and prevention of birth defects with a genetic component requires the interplay and cooperation of the various levels of public health service. You are encouraged to review the following web sites related to birth defects and folic acid and keep the following questions in mind.

Birth defects:

1) National Center for Birth Defects and Developmental Disabilities

www.cdc.gov/ncbddd/

2) National Birth Defect Prevention Network

www.nbdpn.org

Folic Acid:

1) Advocating for Folic Acid: A Guide for Health Professionals

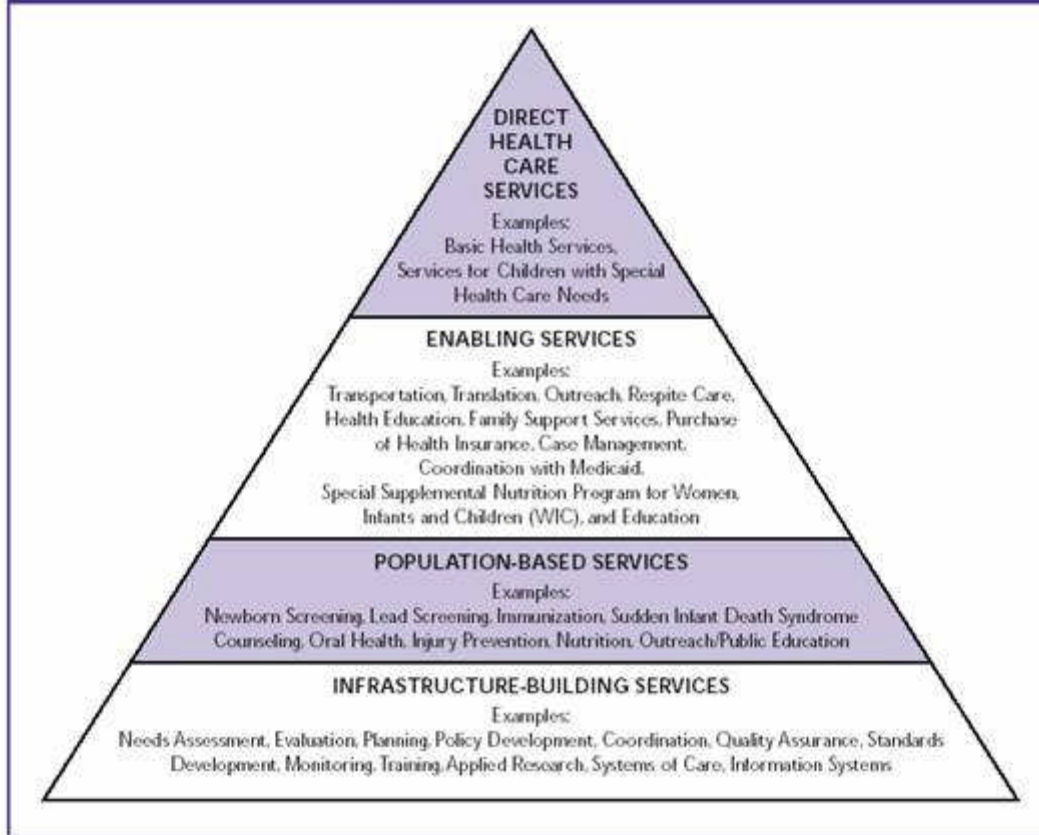
www.folicacid.net

2) National Council on Folic Acid

www.folicacidinfo.org/about_us.php

Maternal Child Health Pyramid:

Figure 1: MCH Pyramid



MCH Bureau [Definitions of Core Public Health Services and Key Words](#)

1. **What are the needs of individuals with birth defects?**
2. **How do direct health care services help to meet these needs?**
3. **How do enabling services help to meet these needs?**
4. **How do population-based services help to meet these needs?**
5. **How does the public health infrastructure help to meet these needs?**

Lecture - [Birth defects and the maternal child health pyramid \(.pdf\)](#)

Cancer: Case 2 - Your next-door neighbor tells you that 2 of her 4 daughters have recently been diagnosed with breast cancer. You all grew up together and are worried about the "cancer street." Describe how public health and genetic help you address risk assessment.

With the completion of the Human Genome Project inherited risk factors are increasingly being identified as contributors to common chronic diseases. As clinical testing strives to keep up with research advances in genetics, public health officials are recognizing the value of family history as an important screening tool. In this part of the lecture (see The Genetic Component of a Common Disease.ppt) we use the example of cancer and cancer clusters as a paradigm for the inherited genetic contribution to common diseases, and we discuss the incorporation of genetic information into public health investigations of these diseases.

After exploring these web sites

- CDC [National Center for Environmental Health \(Cancer Clusters\)](#)
- Mid-Atlantic Cancer [Genetics Network](#)
- [Office of Genomics](#) and Disease Prevention at the CDC
- [National Cancer Institute](#)
- Virginia Department of Health ([Cancer Registry](#))

think about possible answers to the following questions:

1. Why is it important for a public health official to know about family health histories?
2. What are potential barriers that limit what public health investigators can learn about family health histories?
3. How is genetic susceptibility screening different than traditional public health screening tests like tuberculosis screening or smallpox screening with respect to:
 - a. Disease symptoms (present/absent)
 - b. Insurance, employment discrimination
 - c. Who else is at risk?

Lecture - [The Genetic Component of a Common Disease \(.pdf\)](#)

Health manpower: Case 3 - You are a health planner and suddenly learn that there are no nutritionists in the state who have training in handling infants who are diagnosed on newborn screen with metabolic disease. Describe how you would address this need.

This lecture (see Health manpower and newborn screening.ppt - below) will take you through one public health geneticist's approach to this question. You are strongly encouraged to choose one of the current *[for example: sickle cell and hemoglobinopathies, phenylketonuria (PKU), maple syrup urine disease (MSUD), homocystinuria, hypothyroidism, biotinidase deficiency, congenital adrenal hyperplasia (CAH)) or medium chain acyldehydrogenase (MCAD)]* conditions screened for in Virginia at birth and review the following web sites to answer the following questions. (Look at the conditions now included as the result of the 2005 General Assembly actions, the simplest way is to go to the VDH Genetics Program web site and look at [What's new](#))

www.aap.org (Pediatrics 2000 Aug; 106:92 pt 2)389-422. Screening the family from birth to the medical home. Newborn screening: a blueprint for the future - a call for a national agenda on state newborn screening programs)

<http://genes-r-us.uthscsa.edu> (National Newborn Screening and Genetics Resource Center, 2000 National NBS report)

www.geneticalliance.org (national coalition of genetic support groups, useful for getting information on a particular genetic condition by going to the particular condition's support group's web page)

www.marchofdimes.com (look for information sheets for parents)

1. Why is the condition screened for at birth?
2. How many children on average are born annually with this condition in Virginia and in the United States?
3. How is the condition treated?

4. What are the issues involved in informed consent/dissent for newborn screening?
5. What needs to be in place for an effective newborn screening and follow-up system for this condition in Virginia?

Lecture - [Health manpower and newborn screening \(.pdf\)](#)

[Genetics Bookmarks](#)

**Rabies & Zoonoses of Public Health Interest & Animal Control,
Julia Murphy DVM, MS, DACVPM, C.M.G. Buttery M.D., MPH.**

Objectives:

([pdf version](#))

After this seminar students should be able to describe

- The community hazards of uncontrolled animal populations including pets and wild life.
- The hazards of rabies and
- The community programs and surveillance systems used to prevent spread of Rabies.
- Other Zoonoses which cause ill health in the community
- Zoonoses which are a risk for causing bio-terror incidents,
- Dangers from vicious animals.
- Why of protecting animal health enhances community health.

Concept:

Many of the "**Newly Emrrging**" diseases are diseases of animal origin such as SARS, Monkey Pox, and potentially Avian Flu. Animals can be dangerous to the health of humans. Epidemiologic investigation of hosts and vectors lead to the control of diseases spread by animals, and can provide early warning for bio-terror attacks.

Key Words:

Pets, Wild Animals, Hosts, Vectors, Rabies distribution in animals, Lyme Disease, West Nile Virus, Other epizootics, Vaccinations, Bite investigations, Animal Control, Veterinary public health,

Special reading of interest to students:

Zoonoses Updates J. Am. Vet. Ass., 1931 N. Meacham Rd., Suite 100, Schaumburg, Illinois 60173]

References

CMG Buttery - [Essay No. 8](#) Vector & Animal Control,
Maxcy Rosenau 13th Edn. Chapter 12 pp 255-258 & 295-297 14th Edn. Chap 113
Sec. F, Chap 14 Scan 1-A.
The Ecology of Stray Dogs, Beck, A. York Press 1973 [still the gold standard for understanding feral animals.]

[Updated URLs](#)

Zoonoses. Julia Murphy DVM, MS, DACVPM & C.M.G. Buttery MD MPH

Look at Dr. Murphy's Power Point show [Zoonoses](#), (Here is the [PDF printable multi-slide version](#) of Dr Murphy's slides) Click on [VDH Web](#) and examine the Rabies Information. Also look at the CDC [Update on Rabies Zoonoses](#). Then, return to the VDH epidemiology [home page](#), select the Fact sheets and examine the fact sheets on Lyme Disease and Tick-borne diseases. Look at the [USGS West Nile Virus Map](#) for various species infections, then look at the bird map and click on Virginia to determine how widespread the WNV is in birds in 2005. Also, look at the latest [Compendium](#) of Measures To Prevent Disease and Injury associated with Animals in Public Settings

Review Dr. Buttery's [PowerPoint](#) slide show ([PDF Version of Animal Control](#)) then visit the following set of links to examine the issues of animal control as a public health and community health issue as you go review the attached information? You will find the answers to the question posed below at these web sites. Also determine what the various sites have in common.

[Department of Agriculture, Division of Animal Health & Welfare \(Virginia\)](#)
[Fairfax County Animal Control](#)
[City of Seattle Animal Control](#)
[Humane Society of the United States](#)
[Animal Shelter Information](#)
[Animal Poison Control](#)
[Animal Control Officer Training/Standards](#)

The controlling law is found in the Virginia Code, in the Title devoted to the Dept. of Agriculture, Division of Animal Health. The director is a public health trained veterinarian. He is responsible for all domestic animals, most of which are found on farms.

>Using the Web examine the home pages of the Fairfax County Animal Control and the Animal Control Department of the City of Seattle, Animal Control agencies to view the services they provide and their philosophies of operation.

Before leaving this page be sure to look carefully at the AVHA statement on Feral Cats. Why would I want you to consider this?

[Review recommendations for Rabies Prevention](#) from the CDC and American Veterinary Medicine Association

Wild animals are the responsibility of the Department of Game and Wildlife.

Changes to animal control state law starts in the Committees on Agriculture of the State House or Senate.

A serious hazard from domestic animals is Rabies. It can be passed on to herds of cows, sheep etc. With development of cities and depredation by loose (feral) animals, animal bites are now as much a problem as dog/cat-to-human transfer of rabies. Current law requires immunization of domestic animals against rabies. More recently leash laws, standards for kennels, and licensing requirements have developed. Under the state system, localities can only enact local laws when permitted by state law, which limits the amount a locality can charge for licenses.

Because of antisocial behavior by many individuals, new laws protect animals from people, not just people from animals. These include codes on care, feeding, housing, and abuse of animals, including prohibitions against animal fighting.

In addition to rabies a wide array of potential pathogens are both carried and transmitted by animals, including Lyme Disease and Psittacosis.

Recently, several cities, including Richmond, were concerned about the increase in rabies among cats, the move into the cities by raccoons and the presence of large numbers of unrestrained dogs. The desire was to control wandering of all loose domestic animals as well as pay for control of the animals. City staff worked closely with the humane society to get enabling legislation passed.

Consider whether the public at large should pay for animal control by use of user fees (taxes) on animal owners or from the general tax base.

In Richmond, the division of animal control has moved periodically between the police and health departments. In Texas most animal control resided in either local health departments or was contracted to humane societies.

Consider the advantages and disadvantages of where the program lies and how you can encourage community support.

How can epidemiology be used to garner support for improved animal control?

Enforcing animal control laws in the courts is extremely difficult. We have the same problems, in the courts, prosecuting animal control violations that we have with restaurants or septic tanks regulations. If we have to go to court we have been unable to change someone's behavior.

Animals running loose often form packs and attack and bite people.

They also defecate and urinate on public and private property and damage property.
Some breeds are more of a problem than others.
Animal rights groups and the ACLU often prevent protection of the public.

The US Humane society, and its state & local branches, work hard to ensure a fair balance between the privilege of owning an animal versus protection of the public and the animals.

Review CDC advice on preventing [Animal Bites](#). Also the CDC report of nonfatal [dogbites in 2001-2](#) (note the problem that many federal reports get old quickly. There has been no update on this issue in the last 3 years. What did the Virginia General Assembly do about dog bites in the Session just completed? Why?

Consider the Following Questions:

Which animals in Virginia now present a significant likelihood of transmitting rabies?
What can the community do to protect itself from out of control animals?
What can individuals do?

How could you reduce animal bites?

See this HSUS .pdf [Report on Preventing Animal Bites](#)

Who is most likely to be attacked?

Are there circumstances under which attacks may not be illegal?

Why are pets are a hazard to your health?

What diseases can they transmit? What can be done to reduce the hazard?

What is a domestic animal and why is it important to define them?

What animals can be protected by Rabies Vaccination?

What regulations may be available to control non-domestic animals? (Consider Bubba & Sundance).

How would you capture loose animals?

How would you restrain animals?

References:

The Ecology of Stray Dogs (A study of Free-Ranging Urban Animals). Beck, A. York Press. Baltimore, 1973

Social Behavior in Animals. Tinbergen, N. Pub. Barton and Tanner (London) 1966.

Dog Bite Related Fatalities US 1996-96MMWR May 30, 1997 P463.

Dog Bites recognized as Public Health Problem. JAMA Jan 28, 1977, Vol. 277 No 4, P 278.

Recommendation of the Immunization Practice Advisory Committee. MMWR March 22, 1991. Vol. 40 p1 Rabies Prevention US – 1991

Zoonotic Diseases. Where to go for advice. Animal Sheltering March-April 1996.

Human Rabies in Florida. JAMA Sept 16 1996, Vol. 270 No 11 P 865.

The Black Widow Spider. NEJM. June 5. 1997, Vol. 336, Number 23.

Emerging Infectious Diseases. AFP. Jan 1977. Strausbaugh, L.;

Deer Ticks and the agents of Lyme Disease & Human Granulocytic Erlichiosis in a New York City Park. Emerging Infectious Diseases. 3(3):353-355. 1977 Daniels, TJ ET Al

[Bioterror Links](#)

Zoonotic Diseases: Where to go

TIPS FOR PET OWNERS

Pet owners are far more likely to contract most Zoonotic diseases from contaminated food or drinking water than they are from their healthy companion animals. Still, as added precautions, pet owners should follow these Safety tips:

<ul style="list-style-type: none">• Take your pets to the veterinarian for routine check-ups and at the first sign of health problems (like diarrhea).• Have your pets dewormed and vaccinated.• Keep your animals and home as free of fleas as possible.• Prevent bites and scratches by	<ul style="list-style-type: none">• If your pet scratches or bites you, wash the wound thoroughly and apply an antibacterial ointment. (For severe bites or scratches, call your physician.)• Keep your cat's nails trimmed (but do not subject them to declaw surgery).• Wear gloves when	<ul style="list-style-type: none">• Make sure children wash their hands thoroughly after they handle pets.• Cover children's sandboxes when the children are not playing.• Wear gloves during and wash hands after gardening.• Keep all pets indoors (or under
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teaching children to play gently with pets	scooping or changing litter. <ul style="list-style-type: none"> • Wear gloves when cleaning up after puppies and removing feces from lawn 	close supervision).
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Where to Go for More Information

Organizations

Your state health department or public health veterinarian. They likely have information on Zoonotic diseases, especially those prevalent in your region

Centers for Disease Control and Prevention; CDC, Atlanta, GA 30333; **404-639-3311.**

National Institute of Allergy and Infectious Diseases; National Institutes of Health, Bethesda, MD 20205; **301-496-4000**

American Veterinary Medical Association; 1931 N. Meacham Rd.. #100, Schaumburg, IL 60173; **800-248-2862.**

Books

These books contain helpful chapters and charts on zoonotic diseases. Because most of the books are expensive, check them out at your local library or medical library. If your library doesn't have them, you may be able to request an Inter-Library Loan.

Zoonosis Updates, from the Journal of the American Veterinary Medical Association (1995); available for \$20 (\$12 for AVMA members) at the AVMA address listed above.

Handbook of Zoonoses, Second Edition (1994), George W. Beran, CRC Press.

The Merck Veterinary Manual, Seventh Edition (1991), Merck & Co, Inc.

Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals. Eighth Edition (1992), Comstock Publishing Associates.

Clinical Textbook for Veterinary Technicians. Third Edition. Dennis M. McCurnin; W.B. Saunders Company.

Animal Sheltering/March-April 1996

World Wide Web Pages

Web pages below provide information about zoonotic diseases.

Centers for Disease Control and Prevention (CDC) <http://www.cdc.gov/cdc.html>
National Center for Infectious Diseases (NCID) <http://cdc.gov/ncidod/ncid.htm>
National Institute of Allergy and Infectious Diseases

<http://web.fie.com/fedix/nih.html>
MIC-KIBIC at the Karolinska Institute
<http://www.mic.ki.se/Diseases/index.html>

Martindale's Health Science Guide '96

<http://www-sci.lib.uci.edu/~martindale/AHealth.html>

MedWeb: Public Health

<http://www.cc.emory.edu/WHSC/medweb.ph.html>

MedHdp General Library.

<http://medhlp.netusa.net/general.html>

FAQs Pets and HIV. <http://www.sonic.net/~pals/ptfaqs.html>

<http://medhlp.netusa.net/general.html>

FAQs Pets and HIV. <http://www.sonic.net/~pals/ptfaqs.html>

Humane Society of the U.S.

Back issues of Shelter Sense

To receive back issues containing these articles about zoonotic diseases, disease control, and safety precautions, contact **Animal Sheltering** magazine.

Proper sanitation: March 1989

Lyme disease: June/July 1990

Protection during disasters: November 1994

Zoonoses and HIV/AIDS: February 1995

Feline disease control: March 1995

Rabies control: September 1995

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Position Statement on Abandoned and-Feral Cats

The AVMA encourages and supports actions to eliminate the problem of abandoned and/or feral cats. The actions by humane, animal control, wildlife, and public health agencies that will minimize the numbers and impact of abandoned and/or feral cats include a combination of activities such as licensing requirements; discouraging free roaming cats; requiring rabies vaccinations for cats and issuing citations for unvaccinated animals; encouraging permanent animal identification; and encouraging sterilization.

If local and state ordinances permit abandoned and/or feral cats to be maintained in "managed colonies" during an interim period until the colony size can be reduced and eliminated by attrition, then the following minimum requirements should be implemented for the benefit of the animals' and the publics' health and welfare. Abandoned and/or feral cats that are not in "managed colonies" should be removed from their environment and treated in the same manner as other abandoned or stray animals in accordance with local and state ordinances.

1. The colony should be restricted to a well-defined relatively safe area, and not on lands managed for wildlife or other natural resources (e.g. state parks, wildlife refuge, etc.). Written permission of the landowner should be obtained.

2. The primary care giver(s) should register with local animal control to prevent interference with the colony, and to allow identification of individual members of the colony.

3. There should be a written protocol and matching record keeping system to ensure daily care for the animals, including personnel scheduling, feeding (day time only), watering, shelter maintenance, health monitoring, and census taking.

4. Maintenance of an ongoing health care program which provides universal vaccinations, medical and/or surgical care, and parasite control.

5. Humane capture to allow for:

a Health examination.

b. Serologic screening tests for infectious diseases (adoption or euthanasia if positive). Sterilization (early age gonadectomy if appropriate).

c. Animal identification (ear tipping, microchips, or ear studs).

d. Adoption of new kittens, newcomers to the colony, and all socializable adult cats with the goal of eventual elimination of the colony by attrition.

e. Return to the colony or euthanization of those cats that can not be socialized.

6. A written program of education and training should be provided for all care givers. This should include uniform standards and procedures for colony maintenance, as well as public health, occupational safety and environmental issues.

7. Signage should be provided indicating that animal abandonment is an infraction, and that abandoned cats may be turned over to animal control and indicating the dates and times animals are to be trapped, to ensure that owned cats are kept inside at that time.

8. A resource network for feral cat care givers, humane activists, veterinarians, public health officials, and animal control officers should be established to share information, perspectives, and cooperative solutions to the root causes of animal abandonment

Approved: AVMA Executive Board, July 19, 1996