

N442 Populations Exam 1

Public Health Nursing: Present, Past, and Future - Textbook Chapter 1; ATI Chapters 1 and 2

What are the 8 principles of public health nursing (textbook) (pg. 11)

- The client or unit of care is the population
- The primary obligation is to achieve the greatest good for the greatest number of people or number of people as a whole (**emphasized in lecture)
- Public health nurses collaborate with the client as an equal partner
- Primary prevention is the priority in selecting appropriate activities (**emphasized in lecture)
 - Examples of primary prevention: immunizations, driver's safety classes, healthy water quality, healthy air quality, health education classes, improving safety designs of equipment, fire safety, decreasing exposure to sun, use of environmentally safe products, using seat belts, using earplugs and safety glasses
- Public health nursing focuses on strategies that create healthy environmental, social, and economic conditions in which populations may thrive
- A public health nurse is obligated to actively identify and reach out to all who might benefit from a specific activity or service
- Optimal use of available resources and creation of new evidenced-based strategies is necessary to assure the best overall improvement in the health of populations
- Collaboration with other professions, populations, organizations, and stakeholder groups is the most effective way to promote and protect the health of the people
- Of the 8 principles of public health nursing what is the priority (pg. 11)
 - Primary prevention is the priority in selecting appropriate activities (mentioned in class – “trying to avoid illness instead of seeing to it later”)

Who are the main influencers of the history of public health (textbook) (pg. 17-19)

- Lemuel Shattuck
 - Prepared a report for the Massachusetts Sanitary Commission that pointed out that much of the ill health and disability in American cities in 1850 could be traced to unsanitary conditions. This report provided for the first systematic use of birth and death records and demographic data to describe the health of a population. The Shattuck report recommended the establishment of a state health department and local health boards in every town and resulted in the first attempt to write a comprehensive public health code.
- Dorothea Dix
 - American political activist in the 19th century who became aware of the dreadful conditions in prisons and mental hospitals, and she vigorously lobbied state and federal officials to remedy the situation. She moved on to other states and other countries, establishing hospitals and improving life for the mentally ill.
- Clara Barton
 - Achieved widespread recognition during the Civil War, distributing supplies to wounded soldiers and caring for the casualties with the help of her team of nurses. The American Red Cross was established following the Civil War with an extended mission to provide aid for natural disasters.

- Lillian Wald
 - o Considered to be the founder of public health nursing. While taking classes at the Women's Medical College, she became involved in organizing a class in home nursing for poor immigrants on New York's lower east side. Distressed by the living conditions in the dingy multistorey flats, she moved to the neighborhood and her and her classmate Mary Brewster volunteered their services. They founded the Henry Street Settlement in 1893 and fees were based on the patient's ability to pay. In 1912, she helped found the National Organization for public health nursing which set the first professional standards for the practice of public health nursing. (**emphasized in lecture)
- Mary Breckinridge
 - o Founded the Frontier Nursing Services in 1925. Traveling on horseback, she studied the health needs of the mountain people. She found that women lacked prenatal care, gave birth to an average of nine children, and primarily had self-taught midwives in attendance at their delivery. Therefore, maternal, and infant mortality was high.

What are the achievements of public health (CDC) in the 20th century (textbook) (pg. 5)

- Changes in safety, effects of nutrition, and food regulation
 - o Vaccination
 - o Motor vehicle safety
 - o Safer workplaces
 - o Control of infectious diseases
 - o Decline in coronary heart disease and stroke deaths
 - o Safer and healthier foods
 - o Healthier mothers and babies
 - o Family planning
 - o Fluoridation of drinking water
 - o Recognition of tobacco as a health hazard

Examples of social determinants of health (textbook and ATI) (pg. 4)

- Social determinants – social conditions in which people live and work
- These conditions have an impact on the extent to which a person or community possesses the physical, social, and personal resources necessary to attain and maintain health
- Examples of social determinants:
 - o Conditions in which people live
 - o Income
 - o Social status
 - o Education
 - o Literacy level
 - o Home and work environment
 - o Support networks
 - o Gender
 - o Culture
 - o Availability of health services

- A “place-based” organizing framework, reflecting 5 key areas of social determinants of health (PP slides)
 - o Economic stability
 - Employment
 - Food insecurity
 - Housing instability
 - Poverty
 - o Education
 - Early childhood education and development
 - Enrollment in higher education
 - High school education
 - Language and literacy
 - o Social and community context
 - Civil participation
 - Discrimination
 - Incarceration
 - Social cohesion
 - o Health and health care
 - Access to health care
 - Access to primary care
 - Health literacy
 - o Neighborhood and build environment
 - Access to foods that support healthy eating patterns
 - Crime and violence
 - Environmental conditions
 - Quality of housing
- How do these differ from health disparities? (pg. 4)
 - o Health disparities – differences in healthcare and health outcomes experienced by one population compared with another, frequently associated with race/ethnicity and socioeconomic status
 - o Some population groups, having fewer resources to offset these effects, are affected disproportionately
 - o Examples of health disparities:
 - Poverty
 - Environmental threats
 - Inadequate access to health care
 - Individual and behavioral factors
 - Educational inequalities
 - Race and ethnicity
 - Gender
 - Sexual identity and orientation
 - Disability status or special health care needs
 - Geographic location (rural and urban)

What are the healthy people 2030 overarching goals (textbook) (pg. 10)

- Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death

- Achieve health equity, eliminate disparities, and improve the health of all groups
- Create social and physical environments that promote good health for all
- Promote quality of life, healthy development, and healthy behaviors across all life stages
- Engage leadership, key constituents, and the public across multiple sectors to take action and design policies that improve the health and well-being of all
- **What are the examples of how to achieve these goals? (pg. 10)**
 - o Personal responsibility for health involves active participation in one's own health through education and lifestyle changes. It includes responsibility for reviewing one's own medical records, including laboratory test results, and monitoring both the positive and negative effects of prescription and over-the-counter medications. It means showing up for scheduled tests and procedures, following dietary recommendations, losing weight if needed, avoiding tobacco and recreational drug use, engaging in exercise programs, and educating oneself about one's own conditions. Ultimately, people must take the responsibility for making their own choices and healthcare decisions.
- **Which overarching goal is priority and why**
 - o Create social and physical environments that promote good health for all. Nutrition, education, prenatal care, etc. We want people to live healthier lives. = Primary prevention is the overarching goal.

What are the core functions of the government (textbook) (pg. 5)

- Assesses healthcare problems
- Intervenes by developing relevant healthcare policy that provides access to services
- Ensures that services are delivered, and outcomes are achieved

What is public health (textbook) (pg. 4)

- Focuses on population health through continuous surveillance and assessment of the multiple determinants of health with the intent to promote health and wellness; prevent disease, disability, and premature death; and improve neighborhood quality of life

Public Health Systems – Textbook Chapter 2; ATI Chapters 1 and 2

Define and give examples of health disparities (textbook)

- Health disparities – differences in healthcare and health outcomes experienced by one population compared with another, frequently associated with race/ethnicity and socioeconomic status (pg. 4)
- Some population groups, having fewer resources to offset these effects, are affected disproportionately (pg. 4)
- Examples of health disparities: (pg. 4)
 - o Poverty
 - o Environmental threats
 - o Inadequate access to health care
 - o Individual and behavioral factors
 - o Educational inequalities
 - o Race and ethnicity
 - o Gender
 - o Sexual identity and orientation
 - o Disability status or special health care needs

- o Geographic location (rural and urban)
- What health disparities can be modified
 - o Anything that can be changed

What is the focus of Community Health Nursing (textbook)?

- The goals of community health nursing are to promote, preserve, and maintain the health of populations by the delivery of health services to individuals, families, and groups, in order to influence “community health.” (ATI pg. 4)
- How would you describe Community Health Nursing?
 - o Community health nursing involves a synthesis of nursing and public health theory (ATI pg. 4)

What is the overall goal of public health (textbook and ATI)?

- The central goal of public health is the reduction of disease through prevention and the improvement of health in the community, both nationally and internationally. (pg. 31)
- The goal of public healthcare is to keep populations healthy through a broader “reach” than connection at the individual level (pg. 34)
- Public health nursing is population-focused and involves a combination of nursing knowledge with social and public health sciences. The goal of public health nursing is promoting health and preventing disease (ATI pg. 4)

What does the government regulate (textbook) (pg. 31)

- Public health entities of regulation are often related to food, drugs, devices, occupation health, and environment through the CDC, Public Health law program, Department of Health and Human Services, and National Prevention Council

How are public health departments funded (textbook)?

- Funding for the healthcare system in the United States comes primarily from privately owned health insurance companies (pg. 34)
- The United States and its system of healthcare has historically given and continue to give stronger support to individual rather than community care and cure rather than prevention (pg. 34)

Health Policy, Politics, and Reform – Textbook Chapter 3; ATI Chapter 9 pg. 84

What are the goals of the patient protection and affordable care act (textbook) (pg. 5)

- The patient protection and affordable care act was signed into law by President Obama in 2010
- Help provide affordable health insurance coverage to most Americans
- Lower costs
- Improve access to primary care
- Add to preventive care and prescription benefits
- Offer coverage to those with pre-existing conditions
- Extend young adults’ coverage under their parents’ insurance policies

Give examples of politics influencing public health policy (textbook)

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What are the steps of health policy making (textbook) (pg. 54)

- Policymaking takes a great deal of effort, time, and commitment
 - o 1. Setting an agenda
 - The crucial base phase when the problem of common interest is identified for a specific community or a group.
 - Three factors were found to play a role in this stage and were identified by Porche (2012): the significance of the problem, the political support for addressing the problem, and the ability to perceive the viability of proposed alternative solutions for the problem
 - For example, tobacco use is a major contributor to morbidity and mortality, which threaten populations globally. Consequently, governments play a critical role in encouraging or discouraging smoking behavior through different policies along with the role of nurses as political advocates for achieving health improvements
 - o 2. Policy formulation
 - The stage in which the possible and available alternative policies are identified and a specific policy is selected.
 - Continuing the discussion on tobacco use, all possible and effective policy measures, such as smoke-free indoor air laws, tobacco industry regulating policies at all levels state, local, and national should be addressed and discussed to select the most effective policy in reducing the prevalence of smoking
 - o 3. Policy adoption
 - The process of selecting the policy that should gain support, power, and directions for the legislations.
 - In order to proceed in the process of fighting tobacco use, all proposed policies need to gain support from stakeholders at the different levels starting from the state level and ending at the local level, along with nursing's role in reflecting and directing the selection of policies
 - o 4. Policy implementation
 - The stage in which the actual carrying out of the policy takes place by using the available human and financial resources
 - In terms of tobacco use, in this stage, real application of the anti-tobacco policies takes place when representatives at different political levels, including nurses, start to enhance and reinforce the application of smoke-free environments using all possible resources
 - Law enforcement is critical in this stage
 - o 5. Policy assessment
 - Evaluation of the implemented policy in terms of being compliant or congruent with the statutory requirements, and whether it really serves the goal of solving the problem.
 - Because the goal of anti-tobacco policies and regulations is to prevent tobacco-related diseases through reducing smoking prevalence, the success of these policies can be evaluated mainly by assessing the extent of achieving these goals, along with consideration for the cost containment and effectiveness of policy-based interventions
 - o 6. Policy modification

- Depending on the prior step, the policy can be maintained, changed, or eliminated, according to its level of appropriateness
- In this step, a decision takes place either to maintain working according to the anti-tobacco policies or to modify them and replace them, considering other alternative policies, and the process of policymaking repeats itself

How does politics influence healthcare (textbook) (pg. 53)

- Politics are the process of influencing the allocation of resources needed to enable policies, and involves the strategies needed to achieve the desired goals
- Politics reflects how conflicts and problems are expressed and resolved in the context of society and involves choices and influences based on power dynamics
- Politics help in answering questions regarding who participates or who influences governmental decision-making and who benefits or who does not
- Politics interact with every aspect of healthcare in the United States
- U.S. politicians are interested in making decisions for the society that can be enforced by rules, laws, and regulations
- Politics are sometimes perceived as negative and unfavorable way to deal with social issues, but politics provide the power needed to influence critical decisions regarding the allocation and distribution of resources in a society
- In summary, Mason, and colleagues (2012) identified three common themes, which can be extracted from the different definitions of politics. First, the power of influence implied there is room for shaping desired outcomes by having an impact on the decisions made by the government, communities, or associations. Second, the most critical process for politics is to make decisions regarding the distribution and allocation of resources. Third, resources vary and include financial, human (personnel), time, and physical space.

What is the ANA code of ethics (textbook)

- The American Nurse Association (ANA) sets the scope and standards for all the professional nursing practice (pg. 11)
- The publication Public Health Nursing: Scope and Standards of Practice establishes the characteristics of competent public health nursing practice and is the legal standard of practice (pg. 11)
- Code of ethics main nursing ethical principles: (pg. 67)
 - o Provision 1: the nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person
 - o Provision 2: the nurse's primary commitment is to the patient, whether an individual, family, group, community, or population
 - o Provision 3: the nurse promotes, advocates for, and protects the rights, health, and safety of the patient
 - o Provision 4: the nurse has authority, accountability, and responsibility for nursing practice; makes decisions; and takes action consistent with the obligation to promote health and to provide optimal care
 - o Provision 5: the nurse owes the same duties to self as to others, including the responsibility to promote health and safety, preserve wholeness of character and integrity, maintain competence, and continue personal and professional growth
 - o Provision 6: the nurse, through individual and collective effort, establishes, maintains, and improves the ethical environment of the work setting and conditions of employment that are conducive to safe, quality healthcare

- o Provision 7: the nurse, in all roles and settings, advances the profession through research and scholarly inquiry, professional standards development, and the generation of both nursing and health policy
- o Provision 8: the nurse collaborates with other health professionals and the public to protect human rights, promote health diplomacy, and reduce health disparities
- o Provision 9: the profession of nursing, collectively through its professional organizations, must articulate nursing values, maintain integrity of the profession, and integrate principles of social justice into nursing and health policy
- The role of the American Nurse Association: (pg. 67)
 - o The code of ethics for nurses – asserts the values and commitment to excellence for patients, society, and nurses individually and collectively as a profession
 - o The social policy statement – details the authority based on the social responsibility of the profession to society. It serves as nursing's contract between the profession of nursing and society to uphold the highest values and standards in delivering its service of nursing care
 - o The scope and standards of practice in nursing – delineates the scope of nursing practice and then defines the standards of professional nursing practice and accompanying competencies

What are the ethical principles in community health nursing (textbook and ATI) (ATI pg. 5)

- Application of ethical principles to community health nursing:
 - o Respect for autonomy
 - Individuals select those actions that fulfill their goals
 - o Nonmaleficence
 - No harm is done when applying standards of care
 - o Beneficence
 - Maximize possible benefits and minimize possible harms
 - o Distributive justice
 - Fair distribution of the benefits and burden in society is based on the needs and contributions of its members
- Principles guiding community health nursing:
 - o Factors to consider when providing community health nursing practice includes:
 - Ethics
 - Advocacy
 - Evidence-based practice
 - Quality
 - Professional collaboration and communication

Global Health: A Community Perspective – Textbook Chapter 4; ATI Chapters 1 and 2

What is the WHO's definition of health (textbook)

- World Health Organization (WHO) definition: (pg. 30)
 - o International center that collects data, advances initiatives, and offers support related to public health
- The World Health Organization in 1947 defined health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” The

WHO definition of health encompasses the highest level of health, involving self-actualization or reaching one's true potential (pg. 77)

- What does this look like?
 - o May have health disorder but take care of it and are healthy therefore qualify for this
 - o Ex: has a health condition (diabetes) but eats healthy and has controlled blood sugar

Examples of global health disparities (textbook)

- Clean water
- Sanitary living conditions
- Clean hospitals

What is global health (textbook) (pg. 77-78)

- Global health was defined by the Institutes of Medicine as “health problems, issues, and concerns that transcend national boundaries and may best be addressed by cooperative actions and solutions.”
- Global health is a dynamic concept with many components. In examining this concept several factors need to be considered known as the key determinants of health
 - o Physical environment
 - o Social environment
 - o Health behaviors and coping skills
 - o Access to health services
 - o Healthy child development
 - o Employment and working conditions

What is causing a rise in noncommunicable diseases (textbook) (pg. 79, 81)

- Almost three quarters of all NCD deaths and 82% of the 16 million premature deaths, occur in low- and middle-income countries
- An important factor in the increase in NCDs is also the aging of the global population
- Tobacco use, physical inactivity, the harmful use of alcohol, and unhealthy diets all increase the risk of dying from an NCD
- Four common behavioral risk factors that occur globally – tobacco use, excessive alcohol consumption, poor diet, and lack of physical activity

What are some main global health issues (textbook) (pg. 79)

- Cardiovascular disease
- Cancer
- Chronic pulmonary disease
- Diabetes

What are some negative and positive effects of globalization (textbook)?

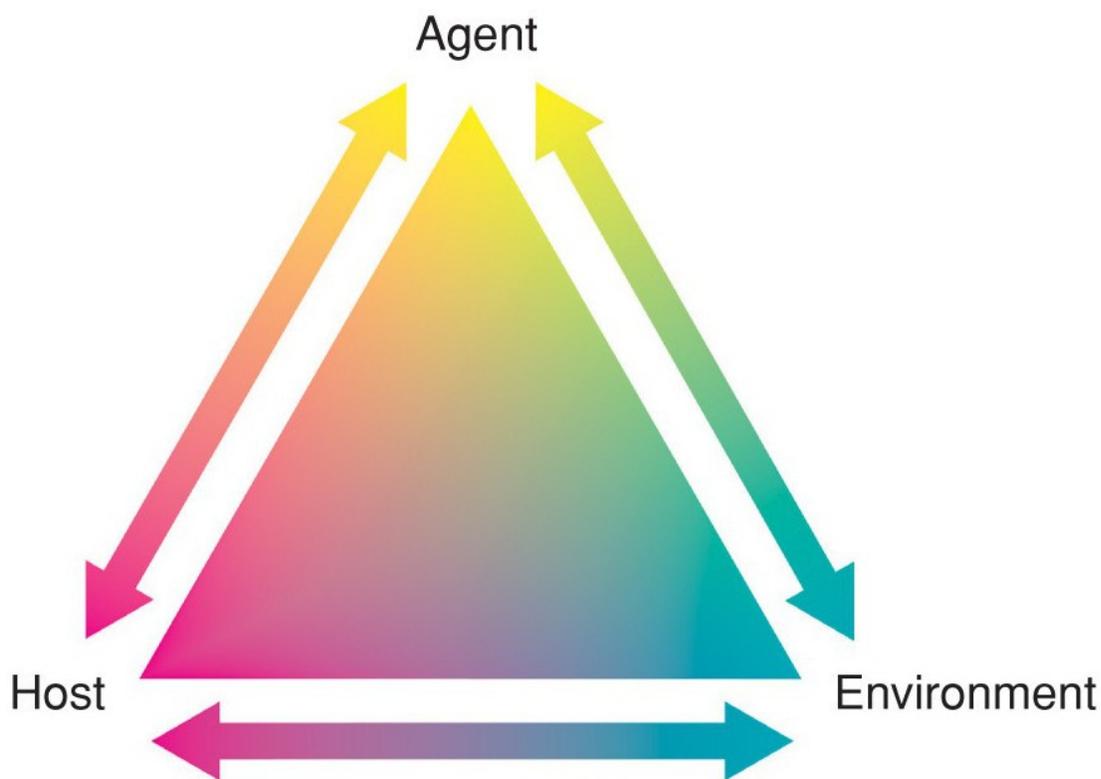
- Positive example:
 - o Classmate comes here gets education and takes education back home with them
- Negative example:
 - o Have the options of travel so we can spread things whether it be from other countries coming here or us going there

- o People come here and don't go back so it hurts them, and it hurts us because they lose resources as do, we such as housing or even money for medical bills, no insurance, etc

Epidemiology: The Science of Prevention – Textbook Chapter 6; ATI Chapter 3 pg. 23-23

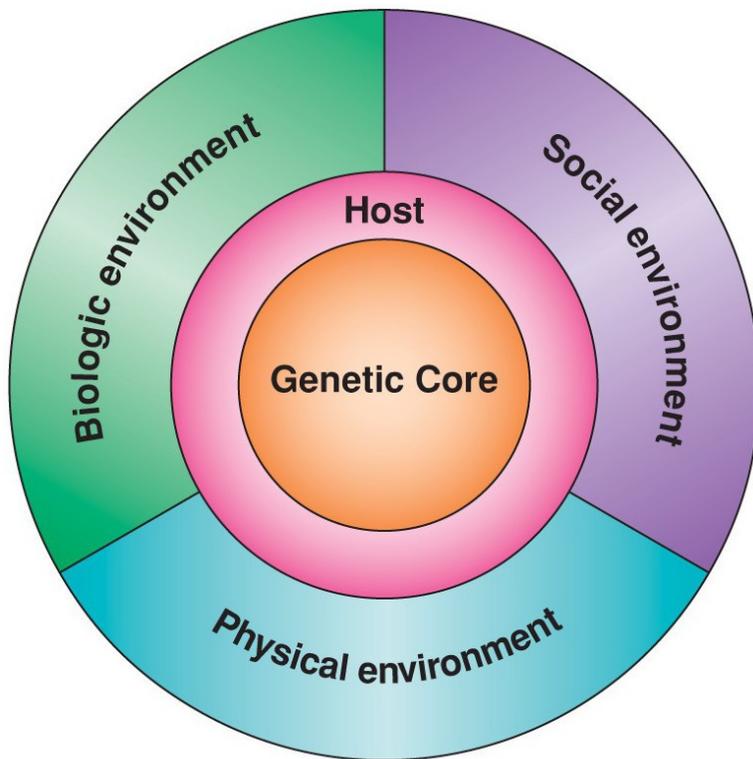
Define the following epidemiologic models (textbook)

- Epidemiologic triad
 - o Model based on the belief that health status is determined by the interaction of the characteristics of the host, agent, and environment (pg. 135)
 - o Classic model based on the belief that health status is determined by the interaction of the characteristics of the host, agent, and environment, not by any single factor (PP)



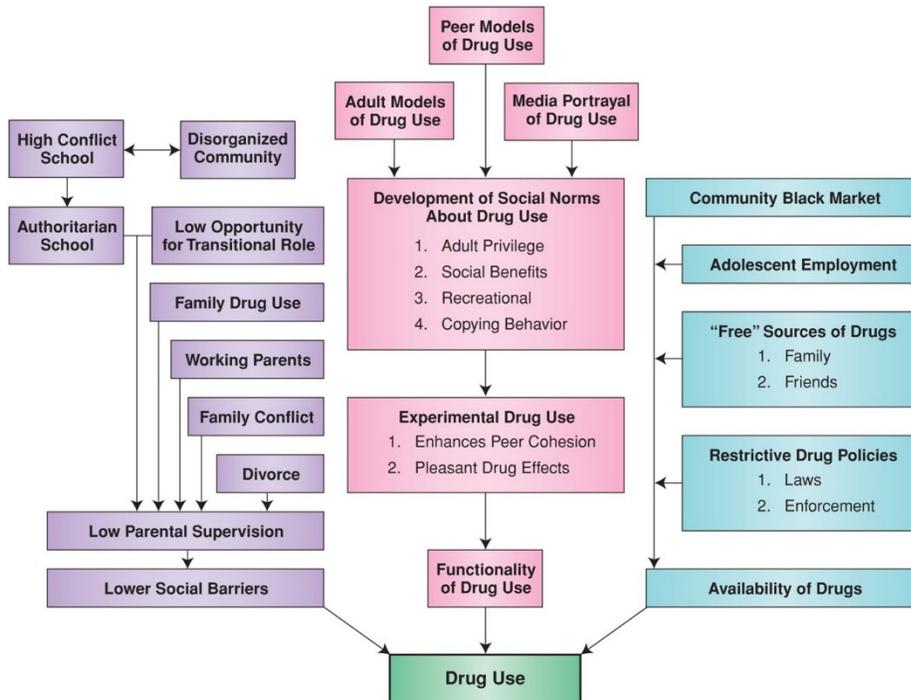
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- Wheel of causation
 - o Epidemiologic model that de-emphasizes the agent as the sole cause of disease while emphasizing the interplay of physical, biologic, and social environments. Interactions between the host and environment, with or without an identifiable agent, remains the major determinant of health status in all epidemiologic models (pg. 135, PP)



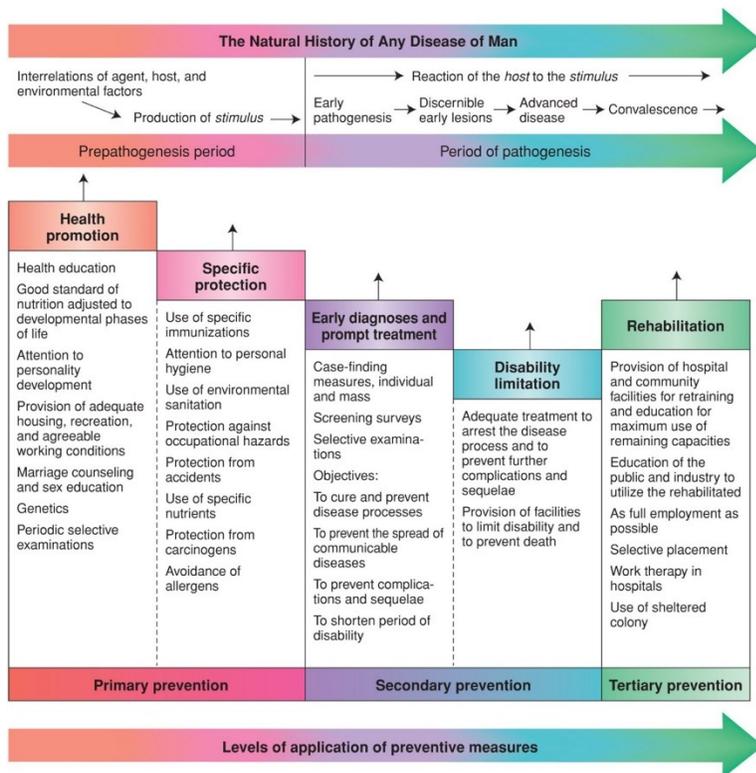
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- **Web of causation**
 - o Epidemiologic model that strongly emphasizes the concept of multiple causation while de-emphasizing the role of agents in explaining illness. These casual webs are more focused and realistic, and they may be as intricate and complex as needed. By making the pathways explicit in a web of causation, a diagram deepens understanding and provides a framework for statistical analysis. It also serves as a valuable practical guide. Public health professionals use web of causation models such as this to design methods that interrupt the chain of events that lead to adverse states of health (pg. 135, PP)



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- **Natural history of disease model**
 - o In 1958, Leavell and Clark developed a conceptual model for the natural history of any disease affecting humans. The initial interactions between the agent, host, and environment occur during the pre-pathogenesis period. Primary prevention measures specific to the disease can be implemented at this stage to prevent its onset in a population of well people. The period of pathogenesis begins when there are biologic, psychological, or other responses within the host. Secondary prevention measures focus on early diagnosis and prompt treatment. This can limit resulting disabilities when implemented during the early stages of the disease. Tertiary prevention follows with rehabilitation measures that enable the individual to function at his or her maximum capability (PP)



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What sources give health-related data? What are they best used for? (ATI; informatics PPT & activity)

- United States Census Bureau
 - o This is the most comprehensive source
 - o Community demographic information
 - o Annual surveys on economic information
 - o Available in narrative, chart, and table form
 - o Comparison data to identify demographic changes in communities
- The Centers for Disease Control and Prevention
 - o The CDC is a government agency within the Department of Health and Human Services
 - o Prevalence of communicable diseases
 - o Updates for travelers
 - o Immunization information
 - o Information on workplace health and safety
 - o Mortality and morbidity weekly report (MMWR)
 - o National Center for Health Statistics (under the CDC)
 - Fast stats
 - Disease information
 - Vital records
 - Health insurance facts
- State and local government websites
 - o Vital statistics
 - o Mental health services
 - o Housing assistance

- o Health events of the community (births, deaths, and marriages)
- Local government websites
 - o Geographic location of services (fire departments, animal control, etc)
 - o Listings of community health resource (clinic locations, services)

What is the difference between the epidemiologic process and the nursing process (textbook pg. 142)

- The focus of the nursing process is on caring for the client within his or her family, whereas the focus of the epidemiologic process is on caring for the population of the community as a whole. Whether caring for the individual or the members of a community, nurses need access to data, abstract critical thinking skills, and complex reasoning abilities

what is the same of the epidemiologic process and the nursing process? (Textbook) (pg. 142)

- The epidemiologic process and the nursing process are both derived from the problem-solving process that provides a framework for gathering data about health problems, analyzing the information, generating diagnoses or hypotheses, planning for resolution, implementing plans of action, and evaluating results

How has morbidity and mortality changed in the last 150 years (textbook)

-

Why do we investigate outbreaks (textbook) (pg. 148)

- Establish the existence of the outbreak
- Describe the outbreak according to person, place, and time
- Formulate and test hypotheses as to the most probably causative factors
- Implement a plan for control of the outbreak and prevention of further outbreaks
- Evaluate results, prepare reports, and conduct further research if necessary

Describing Health Conditions: Understanding and Using Rates – Textbook Chapter 7; ATI Chapter 3 pg. 23-24

Define the different epidemiologic rates and proportions (textbook and ATI)
(notes from PP below)

- Rate
 - o The primary measurement used to describe the occurrence (frequency or quantity) of a state of health in a specific group of people in a given time period.
 - o It is a proportion that includes the factor of time. Rates are used to quantify either the occurrence (incidence) or the existence (prevalence) of states of health or illness. Using rates rather than counting cases takes both the size of the population at risk and the time frame into account
- Ratio
 - o A fraction that represents the relationship between two numbers. It is the value obtained by dividing one quantity by another quantity
 - o Simply one number divided by another (950 male victims/50 female victims)
- Proportion
 - o Proportion is a type of ratio that includes the quantity in the numerator as a part of the denominator. It is the relationship of a part to the whole

- o One number divided by another in which the numerator is a subset of the denominator (included in) and is expressed as a percentage (950 male victims/1000 total victims x 100 = 95% of the victims were male)
- Incidence rates
 - o The number of new cases of a disease that occur during a specified period of time divided by the number of persons at risk of developing the disease during that period of time.

$$\text{Incidence} = \frac{\text{\# of new cases of disease over a specific period of time}}{\text{\# of persons at risk of disease over that specific period of time}}$$
- Prevalence rates
 - o The number of affected persons present in the population divided by the number of people in the population

$$\text{Prevalence} = \frac{\text{\# of cases}}{\text{\# of people in the population}}$$
- Types of incidence Rates
 - o Mortality rates: Death rates, common incidence rates calculated for public health purposes
 - Crude
 - Cause-specific
 - o Incidence density: Use of a person–time denominator in the calculation of rates; a person–day reflects one person at risk for 1 day, and a person–year represents one person at risk for 1 year

$$\text{Incidence density} = \frac{\text{New cases occurring during study period}}{\text{Person-time units accumulated by subjects during study period}} \times \text{Base multiple of 10}$$
 - o Attributable risk: Difference between incidence rates in an exposed group and unexposed group
 - o Attributable risk = Incidence rate in the exposed – The incidence rate of the nonexposed
 - o Relative risk ratio: The ratio of the incidence rate in the exposed group and the incidence rate in the nonexposed group.

$$\text{Relative Risk} = \frac{\text{Incidence rate in the exposed group}}{\text{Incidence rate in the nonexposed group}}$$
 - o Incidence Proportion: Number of cases

$$\frac{\text{Number of cases}}{\text{Total Population}} \times 100 = \%$$
- Sensitivity and specificity
 - o Sensitivity: the ability of a test to identify correctly people who have the health problem under study

- o Sensitivity =
$$\frac{\text{true positive results}}{\text{(true positive results + false negatives)}}$$
- o Specificity: the ability of a test to correctly identify people who do not have the health problem
- o Specificity =
$$\frac{\text{true negative results}}{\text{(true negative results + false positives)}}$$

(notes from rate calculation worksheet below)

- Crude
 - o Rates computed for a population as a whole
- Specific
 - o Rates calculated for subgroups of a population
- Adjusted
 - o Rates calculated to compare populations with different distributions of a factor known to affect the health condition of interest
- Mortality (death) rates are:
 - o Crude death rate
 - The proportion of the population that has died from any cause irrespective of age
 - Example: # of deaths in Illinois / total estimated mid-year population of Illinois X 100,000
 - o Age-specific rate
 - The number of deaths among persons of a given age group
 - Example: # of deaths of persons 18-30 years old in Illinois / # total estimated mid-year population of Illinois X 100,000
 - o Cause-specific rate
 - The number of deaths from a specific cause
 - Example: cancer # of deaths for cancer in Illinois / #total population X 100,000
 - o Case-fatality rate
 - Number of deaths from a specific cause within a given period
 - Example: # of deaths from breast cancer in Illinois / among all individuals diagnosed with the disease over a certain period of time X 100,000
- Vital statistics (multiplier for these will always be 1,000)
 - o Birth rate
 - Example: # of live births / # total population X 1,000 = birth rate
 - o Infant mortality rate
 - Number of infant deaths under 1 year of age in a year.
 - Example: # of infant deaths < 1 year in state / # live births X 1,000
 - o Neonatal mortality rate
 - Number of infant deaths under 28 days in a year.
 - # of neonatal deaths under 28 days in the state / # live births X 1,000

- Morbidity (disease) rates:
 - o Point prevalence rate
 - Measure of existing disease in a population at a specific point in time
 - Example: # of cases of a disease from a specific cause for one year for the state / population at the same time specified in time X 100,000
 - o Period prevalence rate
 - Measure of existing disease in a population over a period of time
 - # of cases of a disease from a specific case for one year for the state / total population of state that year X 100,000
 - o Incidence rate
 - The number of new cases developing in a population at risk during a specified time
 - # of new cases of disease over a specific period of time / # of persons at risk of disease over that specific period of time X 100,000
 - o Incidence proportion
 - The number of new cases in a population
 - # of new cases of disease / total population X 100,000 = proportion (%)