Advanced Public Health Nursing Certification Exam Study Guide

Prepared by:
Lisa Campbell, DNP, RN, APHN-BC, GNP-BC
Director, Population Health Consultants

Michelle Cravetz, MS, RN-BC, APHN-BC
University at Albany, School of Public Health

ASTDN Post-Conference Workshop
May 9, 2012
Disclaimer:

Please note that this course makes no warranty about your chances on the exam. The only way to ensure your success is to put the time in to make sure you are prepared. The authors make no claims to know what will be on the exam or that this study guide contains all critical information. The material herein is not intended to be a comprehensive handling of the subject matter. It is intended to be a reminder, a suggestion and/or a “memory jog,” enabling the learner to self-assess and to look further in areas where review may be necessary.

It is recommended that potential test-takers invest in a good, current public health nursing textbook, if they haven’t already.
**Advanced Public Health Nursing Certification Exam Study Guide**

Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Public Health Nursing Exam – Getting Started: Important Websites</td>
<td>4</td>
</tr>
<tr>
<td>APHN Exam Construction ......................................................................</td>
<td>5</td>
</tr>
<tr>
<td>Content Area I. Foundations of Advanced Public/Community Health Nursing</td>
<td>8</td>
</tr>
<tr>
<td>Content Area II: Theories &amp; Concepts of Human Development ..................</td>
<td>22</td>
</tr>
<tr>
<td>Concept Area III: Theories &amp; Concepts of Epidemiology &amp; Biostatistics ..</td>
<td>26</td>
</tr>
<tr>
<td>Content Area IV. Evaluation and Research ..........................................</td>
<td>30</td>
</tr>
<tr>
<td>Content Area V. Assessment of Public and Community Health ..................</td>
<td>33</td>
</tr>
<tr>
<td>Content Area VI. Strategies to Improve Public and Community Health .......</td>
<td>36</td>
</tr>
<tr>
<td>Content Area VII. Health Promotion, Disease Prevention, Risk Reduction</td>
<td>46</td>
</tr>
<tr>
<td>Content Area VIII. Education for Populations and Communities ..........</td>
<td>49</td>
</tr>
<tr>
<td>Content Area IX. Health Systems, Organizations, and Networks .............</td>
<td>53</td>
</tr>
<tr>
<td>Content Area X. Leadership ...................................................................</td>
<td>63</td>
</tr>
<tr>
<td>Additional References ...........................................................................</td>
<td>66</td>
</tr>
</tbody>
</table>
Advanced Public Health Nursing Exam – Getting Started: Important Websites

A great way to get oriented to the exam is to visit these important sites on the ANCC website. You will find information about qualifications, application, the testing process, locations, and sample test questions. While this workshop will review test content, it is still imperative that you have additional information that is beyond the scope of this course so, please visit the ANCC website. This is the only way to ensure that you have the latest and most critical information.

Location of the ANCC website home page:  http://www.nursecredentialing.org/default.aspx

General Information about ANCC Certification Exams:  

Specific Information about the APHN Exam:  
The APHN exam contains 175 questions, 150 of which will be scored and 25 of which are being pretested for future tests and will not be scored. You will not know which questions are being scored and which are not.

ANCC provides this outline of the APHN exam and the number of questions that are included in the exam (These items are taken directly from the ANCC website):

<table>
<thead>
<tr>
<th>Content Area to Be Tested</th>
<th># of ?s</th>
<th>% of ?s</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Foundations of Advanced Public/Community Health Nursing</td>
<td>26</td>
<td>17.33%</td>
</tr>
<tr>
<td>A. Nursing Theories (e.g., meta-paradigm, conceptual models, constructs/ concepts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Public/Community Health Models (e.g., nursing models, public health nursing models such as Minnesota model, Community as Partner model)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Public Health Core Functions (defined by Institute of Medicine (IOM) as assessment, assurance, and policy development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Social Justice (e.g., health disparities, allocation of resources, principles, contrast with market justice, individual vs. population, access to care, vulnerable populations, environmental justice)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Cultural Competence Skills (e.g., dimensions of diversity such as race, ethnicity, spiritual beliefs, gender, sexual orientation, etc., differences and similarities, customization of programs to community needs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Scope and Standards of Professional Practice (e.g., legal implication, position statements, professional organizations, public health nursing scope and standards, boundaries of practice, education, practice level, and competencies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Ethical Principles and Processes (e.g., autonomy, beneficence, truth-telling, informed consent, advanced directives, confidentiality, anonymity, utilitarian perspective, and other ethical perspectives)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. Communication Principles (e.g., media interaction, partnership building, social marketing, risk communication such as Centers for Disease Control and Prevention (CDC) guidelines, health literacy, community outreach, cross-cultural/interpersonal communication, information dissemination)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Use of Information Systems and Technology (e.g., health informatics, accessing/interpreting information, electronic health records, tele-health, standardized nursing languages, nursing minimum dataset)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Theories and Concepts of Human Development</td>
<td>6</td>
<td>4.00%</td>
</tr>
<tr>
<td>A. Developmental Theories and Concepts (e.g., lifespan of populations, individual developmental theory, group development theory, family development theory, and community development theory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Application of Developmental Theories and Concepts to Advanced Public/Community Health Nursing Practice (vignettes, case examples, scenarios, synthesis (e.g., levels of prevention based on age, anticipatory guidance, health promotion/disease prevention across the life span)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. Theories and Concepts of Epidemiology and Biostatistics</td>
<td>15</td>
<td>10.00%</td>
</tr>
<tr>
<td>A. Theories and Concepts of Epidemiology and Biostatistics (e.g., incidence, prevalence, rates, levels of prevention, vital statistics, modes of transmission, models of causation such as triangle, web of causation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Application of Epidemiology and Biostatistics to Advanced Public/ Community Health Nursing Practice (vignettes, case examples, scenarios, synthesis, e.g., genomics, immunity, infectious disease, case finding, sentinel events)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV. Evaluation and Research</td>
<td>8</td>
<td>5.33%</td>
</tr>
<tr>
<td>A. Evaluation and Research Methods (e.g., levels of data, variables, surveys, participatory action research, human subject protection, qualitative, quantitative, descriptive statistics, participant recruitment, focus groups)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Research Utilization (e.g., locating the literature, analyzing and interpreting research findings, evaluating research quality, translating research into practice, disseminating professional information)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V. Assessment of Public and Community Health</td>
<td>16</td>
<td>10.67%</td>
</tr>
<tr>
<td>A. Community Health Assessment (health status indicators such as infant mortality, Healthy People 2020, etc., methods and data sources such as census data, key informant, and windshield survey, criteria-based assessment, population needs, concerns, values, and beliefs, resources, community capacity, community</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
diagnoses)
B. Environmental Health Assessment (air quality, sanitation, lead, exposure history, food, and water)

<table>
<thead>
<tr>
<th>VI. Strategies to Improve Public and Community Health</th>
<th>26</th>
<th>17.33%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Consultation, Collaboration, and Coalition Building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Social and Political Activism (e.g., campaigning and confrontation, activism, expert testimony, lobbying)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Advocacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Care Coordination (to include case management with vulnerable, chronically ill and high risk populations, working with interdisciplinary teams, community resources, and referrals)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Implementing Change (e.g., principles and processes, social action, mandated and voluntary change, social marketing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Emergency Response and Disaster Preparedness Planning (e.g., natural, man-made, role of first responders, bioterrorism, shelter management, local and national organizations and agencies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Grant Management (e.g., defending the need for a program, targeting the grant to the intended audience, budgetary considerations, grant writing, monitoring)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. Community or Population Outcome Measurement (e.g., health outcomes, health status and quality of life indicators, disparities, measurement and evaluation methods, satisfaction, and cost)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Program Evaluation (e.g., collecting and interpreting program performance data, summative and formative, planned change or improvement, service quality indicators, analysis of cost effectiveness and benefits, application of models)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VII. Health Promotion, Disease Prevention, Risk Reduction</th>
<th>15</th>
<th>10.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Theories and Concepts of Health Behaviors (e.g., social-ecological models, health behavior models such as trans-theoretical model, health belief model, and health promotion model, motivation, self-efficacy, self-management, compliance, adherence, understanding group dynamics, Precede-Proceed model)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Health Screening and Counseling (including lifestyle, behavior modification, annual health screening and health fairs, e.g., theories, principles, strategies, processes, parenting)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VIII. Education for Populations and Communities</th>
<th>12</th>
<th>8.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Learning Needs Assessment (e.g., identifying knowledge deficits, social/political/economic/age-related issues, development assessment, demographic, sensory deficits, literacy levels, education level, special needs populations, vulnerable populations, language barriers, attitudes and beliefs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Health Program Design and Implementation (e.g., community education programs, curricula, teaching/learning strategies, professional and interdisciplinary in-service, developing critical thinking in others, educational methods)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Application of Teaching and Learning Principles (e.g., adult learners, motivation, learning styles)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IX. Health Systems, Organizations, Networks</th>
<th>19</th>
<th>12.67%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Organizations, Networks, Systems Theories, and Concepts (e.g., diffusion of innovations, organizational culture and dynamics, group processes, community development, promoting community empowerment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Application of Organizations, Networks, Systems Theories, and Concepts (e.g., vignettes, case examples, scenarios, synthesis)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Health Care Delivery and Financing Including Public/Community Health Nursing (e.g., public and private systems, health care financing, managed care, profit and non-profit, rural and urban, nurse-managed centers, subspecialties such as parish nursing, correctional, occupational, community outreach and case finding, external fund raising/development, access to care issues)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Regulations and Standards (e.g., Occupational Safety and Health Administration (OSHA), Health Insurance Portability and Accountability Act (HIPAA), Environmental Protection Agency (EPA), Food and Drug Administration (FDA), Center for Medicare and Medicaid Services (CMS), Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Policy Planning and Development (e.g., needs assessment, community partnering, political awareness, best practices, key stakeholders, research utilization, evidence-based practice)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Resource Management (including application of basic management concepts, contractual obligation, policy implementation, public health workforce, e.g., human, monetary/budgetary considerations such as operating and capital budget, time, materials, equipment, space use and allocation, information/communication interface, services and marketing, staffing, performance evaluation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Quality Improvement and Risk Management (e.g., documentation standards, credentialing, accreditation including external agencies, CQI/TQM models, risk management protocols, practice improvement, best</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
practices, evidence-based practice, customer satisfaction, performance standards)
H. Conflict Management (e.g., negotiation, coalition/partnerships, staff, legal issues, values, ethics, culture, policy, practice, intra- and interdisciplinary)
I. Global Health (World Health Organization (WHO), Pan-American Health Organizations (PAHO) and other global organizations, historical evolution of public health, emerging infectious diseases, global distribution of resources, developing and developed countries, immigrants, refugees, and migrant workers)

<table>
<thead>
<tr>
<th>X. Leadership</th>
<th>7</th>
<th>4.67%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Leadership Concepts (vision and mission, formal and informal, promotion of public health and public/community health nursing, managing diversity, ethical leadership, delegation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Professionalism (mentoring, nurturing, professional development, precepting, role modeling, professional creditability, expertise, licensing, and certification)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total 150 100%

This study guide follows the APHN Certification Exam outline.
Content Area I. Foundations of Advanced Public/Community Health Nursing
26 Questions (17.33%)

A.) Summary of Nursing Theories – *Nursing theory is the body of knowledge that supports the practice of nursing. Theory provides the framework around which we organize knowledge and explain phenomena in nursing through definitions, concepts, assumptions or propositions. We use theory to describe the inter-relatedness of concepts so that we can describe, predict or prescribe.*

**Humanistic Nursing Theory – Josephine Patterson & Loretta Zderad**
Humanistic Nursing Theory studies the existence and reality of nursing. The theory is based on the premise of an inter-subjective, transactional relationship between the nurse and the client. It is based on existentialism. Nurses use the theory to reflect on their lived nursing experiences and understand how client and nurse are changed by their interaction. There are 11 essences at the core of the theory: 1.) awareness; 2.) openness; 3.) empathy; 4.) caring; 5.) touching; 6.) understanding; 7.) responsibility; 8.) trust; 9.) acceptance; 10.) self-recognition; and 11.) dialogue.

**Modeling and Role Modeling Theory – Helen C. Erickson, Tomlin and Swain, 1983.**
[http://www.mrmnursingtheory.org](http://www.mrmnursingtheory.org)
Modeling and Role-Modeling (MRM) Theory is a paradigm and grand theory for nursing, encompassing a number of additional mid-range theories, including holistic nursing. According to MRM, “All people want to be the best that they can be…All people are alike in some ways and different in other ways. Some commonalities exist among people as holistic beings, including their basic needs, developmental stages and drive for affiliated-individuation. Differences among people include their genetic endowment, unique model of the world and how they adapt to stress.” MRM has been used in various clinical settings, educational programs, and nursing research.

**Nursing role** – facilitation (mobilize community as client toward health), nurturance (gently nudge), unconditional acceptance (accept community where they are).

**King’s Theory of Goal Attainment – Imogene King – early 1960s.**
According to King’s theory, in order to reach certain goals over time, a person grows and develops, affected by roles, stress, space and time, and affected by three interacting systems of personal, interpersonal and social natures. Each of these systems is said to have its own set of concepts as follows:

- Personal – perception, self, growth and development, space, time, body image.
- Interpersonal – interaction, communication, transaction role and stress.
- Social – power, authority, status and decision-making.

King’s theory is seen as relevant to public health because it applies to both individuals and groups. Also, a key assumption of the theory is that the nurse and patient communicate in order to set their goals and act to achieve the set goals. The nurse and the patient are both seen as changed by the transaction.
Theory of Transcultural Nursing – Madeline Leininger (1991)
http://currentnursing.com/nursing_theory/transcultural_nursing.html
Leininger’s theory has now become a discipline within nursing. Transcultural nursing is a comparison of differing cultures to understand their similarities (what is culture universal) and their differences (what is culture-specific) across human groups. Culture is defined as a set of values, beliefs and traditions that are held by a specific group of people and that are handed down, generation to generation. Language is seen as a primary way to transmit culture, and culture is learned through both informal and formal life experiences. Culture shapes every aspect of human life. Concepts about what is illness and what is wellness are shaped by culture, as are coping skills, the social level of the patient, and their choices of whether or not to seek care and what type of care to seek. Leininger wrote that nursing must develop understanding, respect and appreciation for both the diversity and the individuality of a patient’s beliefs, values, spirituality and culture concerning health, illness, their meaning, cause, treatment and outcome. Care should be adapted as much as possible to the client’s cultural background.

Leininger identified three nursing decision and action modes to achieve culturally congruent care: 1.) Cultural preservation or maintenance; 2.) Cultural care accommodation or negotiation; and 3.) Cultural care re-patterning or restructuring.

Nightingale’s Environment Theory – Florence Nightingale
One of Nightingale’s important observations was the correlation between environmental conditions and patient death rates. She revolutionized the practice of nursing when she published her theory in Notes on Nursing: What it is, What it is Not. The theory contains seven assumptions: 1.) that there are natural laws; 2.) that mankind can attain perfection; 3.) that nursing is a calling; 4.) that nursing is both an art and a science; 5.) that nursing is achieved through environmental alteration; 6.) that nursing requires a specific education; and 7.) that nursing is distinct and separate from medicine. Nightingale focused on changing the patient’s environment in order to alter their health. She identified fresh air, pure water, sufficient food, good drainage, cleanliness of both the patient and the environment, and light, particularly direct sunlight, as necessary for optimal healing. Nightingale’s 10 Canons of the Environment Theory are:

1. ventilation and warming;
2. light and noise;
3. cleanliness of the patient area;
4. health of houses;
5. bed and bedding;
6. personal cleanliness;
7. variety;
8. offering hope and advice;
9. food; and
10. observation.

Orem’s Self-Care Deficit Nursing Theory (SCDNT) – Dorothea Orem
http://nursing-theory.org/nursing-theorists/Dorothea-E-Orem.php
Patients want to care for themselves and will recover sooner if they are allowed to do as much as possible for themselves. The nurse’s role is to support self-care abilities. According to Oren, there are three “requisites”: 1.) universal requisites – air, food, water, rest, activity, effective elimination and absence of hazards; 2.) developmental requisites – maturational or situational; and 3.) health deviation requisites – based on the individual’s condition. When the individual is unable to care for themself, a “self-care deficit” occurs. Dependent behavior and self-care are learned in a socio-cultural context. The theory is applied mainly in primary care and rehabilitation, but has wide applicability in other settings.

**Orlando’s Theory – Deliberative Nursing Process or Nursing Process Discipline Theory – Ida Jean Orlando**  
Orlando’s model for nursing focuses on including the client in every step of decision-making and making the process of providing care to clients more of a partnership. “Nursing role is to discover and meet the patient’s immediate need for help.” The patient’s behavior may not represent the true need, but may be a cry for help. The nurse validates his/her understanding of the need with the patient through their dynamic relationship. Observations immediately shared with the patient are useful in discovering and meeting the patient’s need.

**Rogers’ Theory of Unitary Human Beings – Martha Rogers**  
This theory views nursing as both a science and an art in which nurses seek to promote health and wellbeing for all, wherever they are. It views patients as a unitary human being, who is an integral part of the universe; the environment and the human being are one. The nurse, according to the theory, focuses on observable events created by the changes in wave patterns within the human-environmental field. Health and illness are on a continuum. Energy fields are constantly changing in intensity, density and extent. Health is viewed as an expression of the life process, and various events occurring within the life process show the extent to which a person can achieve their maximum health potential. The nursing process is composed of three steps: 1.) assessment; 2.) voluntary mutual patterning; and 3.) evaluation. Mutual patterning includes:

- Sharing knowledge;
- Offering choices;
- Empowering the patient;
- Fostering patterning;
- Evaluation;
- Repeat pattern appraisal, which includes nutrition, work/leisure activities, wake/sleep cycles, pain, relationships, and fears/hopes.
- Identifying dissonance and harmony;
- Validating appraisal with the patient; and
- Self-reflection by the patient.
B.) Conceptual Models

Neuman’s Systems Model – Betty Neuman
Neuman’s Systems Model focuses on how the patient’s system responds to actual or potential environmental stressors and the nurse’s use of primary, secondary and tertiary preventive interventions to maintain, retain or attain patient system wellness. Primary prevention involves patient assessment and intervention to identify and reduce possible risk factors. Secondary prevention is about detection of symptoms that are a reaction to stressors, appropriately prioritizing interventions, and treatments that reduce the toxic effects of the stressor(s).

Pender’s Health Promotion Model – Nola J. Prender
Health is seen as a dynamic, positive state and not just absence of disease. The nurse directs health promotion efforts at increasing the patient’s level of wellbeing. The model acknowledges the bio-psycho-social complexity of the individual and their interaction with the environment as they progressively are transforming and transform the environment over time. There are 13 theoretical statements within this model:

1. Characteristics that are inherited and acquired, as well as past behavior, influence the individual’s beliefs, affect and health-promoting behavior.
2. Individuals will engage in behaviors that they believe will produce for them benefits that they value.
3. If the individual perceives barriers to their commitment to action, they are less likely to act.
4. The perception of self-efficacy to perform a specific behavior increases the likelihood that the individual will make a commitment to action and actually perform the health behavior.
5. The perception of self-efficacy results in fewer perceived barriers to a specific health behavior.
6. A positive affect toward a behavior creates a stronger perception of self-efficacy, which in turn results in increase positive affect.
7. The probability of commitment and action are enhanced by positive emotions or affect associated with a behavior.
8. When those around the individual model the health behavior, expect that behavior or assist and support the individual to perform the behavior, it is more likely that the individual will commit and act on the behavior.
9. Families, friends and providers are important sources of interpersonal influence on an individual and can increase or decrease the likelihood of commitment and participation in the health-producing behavior.
10. Situations in the external environment can increase or decrease commitment or participation in the health-promoting behavior.
11. The more commitment the individual has to the course of action, the more likely the behaviors are to be sustained over time.
12. Competing demands, over which the individual has little power, can result in less commitment to the plan of action.
13. Individuals can modify their perceptions, affect and interpersonal and physical surroundings to create incentives for health-promoting actions.

**Roy’s Adaptation Model – Sister Callista Roy – 1976**

Sister Callista Roy describes nursing as a service to society, the goal of which is to promote adaptation. Her model asks: 1.) Who is the focus of nursing care? 2.) What is the target of nursing care? and 3.) When is nursing care indicated? Adaptation is defined as a positive response to environmental changes or stimuli. Adaptation involves conscious awareness, self-reflection, and the choice to create human and environmental integration. The model has four key components: person, health, environment and nursing. The model states that a person is a bio-psycho-social being in constant interaction with the changing environment, who possesses both acquired and innate mechanisms to help them adapt to these changes. Roy’s model can be applied not only to individuals, but also to families, groups, organizations, communities and society as a whole. Health is seen as a necessary dimension of people’s lives and as being on a “health-illness continuum.” The environment is seen as having different aspects: the focal environment is what is immediately surrounding the individual, internally or externally; the contextual environment is all of the stimulation that has an effect on the focal environment; and the residual environment, the effects of which on the present may be unclear. The model also talks about two subsystems: The cognator subsystem and the regulator subsystem. The cognator subsystem is where major coping takes place, through perceptual or information processing, learning, judgment and emotion. The regulator system responds automatically through neural, chemical or endocrine changes.

**Nursing Metaparadigm – This** model is well suited for Public Health Nursing

http://currentnursing.com/nursing_theory/introduction.html

1.) Patient (community) – receive the care or interventions
2.) Environment – internal or external that affect the community
3.) Health – promotion, maintenance, and monitoring
4.) Nursing

**C.) Public Health Nursing Models**


The Minnesota Wheel of Public Health Interventions describes public health nursing actions at the level of the individual, the population, the community, population and systems focus. Components include:

1.) Surveillance
2.) Disease and health event investigation
3.) Outreach
4.) Screening
5.) Referral and follow-up
6.) Case management
7.) Delegated functions  
8.) Health teaching  
9.) Counseling  
10.) Consultation  
11.) Collaboration  
12.) Coalition building  
13.) Community organizing  
14.) Advocacy  
15.) Social marketing  
16.) Policy development and enforcement.

Community-As-Partner Model - Anderson and Mafarlain
http://www.atkinson.yorku.ca/NURS/forms/NURS4120.pdf and
http://books.google.com/books?id=ZJoDm8mg8YIC&pg=PA170&lpg=PA170&dq=Community+as+partner+model+Anderson+and+Mcfarlane&source=bl&ots=pHhD0K8V9U&sig=-JQGZwNsTwQOW2pvs1L5engWJuA&hl=en&sa=X&ei=XDWDT5LyIqnk0QGF-JQGZwNsTwQOW2pvs1L5engWJuA&ved=0CGkQ6AEwCECA&ved=0CGkQ6AEwCQ#v=onepage&q=Community%20as%20partner%20model%20Anderson%20and%20Mcfarlane&f=false
(See figure 11.1.)
Based on Betty Neuman’s model of a total-person approach. The nurse is in partnership with community. The model visualizes the each person as being surrounded by three lines of defense: and the nurse as working at three levels of prevention.

The community core consists of the people in their community, their history, demographics, ethnicity, values and beliefs, household compositions, marital status and vital statistics (births, deaths by age, leading causes of death). The community subsystems include the physical environment, economy, transportation, safety, services, politics, government, communication, education and recreation. Perceptions of the community are described from the residents’ views, as well as the nurse’s view of the community.

The PHN assesses the community using the core, subsystem and perception areas, analyzes data, makes a community diagnosis, develops program planning, implements interventions (primary, secondary, tertiary) and conducts program evaluation.

The Epidemiologic Triangle – Host, agent, environment.

The Three E’s of Injury Prevention – Education, engineering and enforcement.

5 A’s of Health Care Access - Perchansky and Thomas - 1981
True access to health services includes all of the following dimensions:

- Availability
- Accessibility
- Affordability
- Acceptability
- Accommodation
C.) Public Health Core Functions as defined by the IOM – *assessment, assurance* and *policy development*.

The ten essential public health services:

1.) **Monitor** health status to identify community health problems.
2.) **Diagnose and investigate** health problems and health hazards in the community.
3.) **Inform, educate, and empower** people about health issues.
4.) **Mobilize** community partnerships to identify and solve health problems.
5.) **Develop policies and plans** that support individual and community health efforts.
6.) **Enforce** laws and regulations that protect health and ensure safety.
7.) **Link** people to needed personal health services and assure the provision of health care when otherwise unavailable.
8.) **Assure** a competent public health and personal healthcare workforce.
9.) **Evaluate** effectiveness, accessibility, and quality of personal and population-based health services.
10.) **Research** for new insights and innovative solutions to health problems.

This publication also defines the 10 essential services of public health in detail.  
Also see:  
http://www.apha.org/programs/standards/performancestandardsprogram/resexxentialservices.htm

D.) Social Justice

See Dan Beauchamp article, Public Health as Social Justice.  
http://www.heartlandcenters.slu.edu/kmoli/assignments/06.pdf

“In the broadest sense, justice means that each person in society ought to receive his due and that the burdens and benefits of society should be fairly and equitably distributed.” In PH we look at problems of disability and premature death; protection of the minority and the poor.

This website is dedicated solely to the topic of public health and social justice. It contains several slideshows, articles and syllabi: http://phsj.org/

PHNs provide services and care regardless of ability to pay; everyone is entitled equally healthy life and sustainable income. **Social Justice** is often compared and contrasted with **market justice** and **environmental justice**.

**Market Justice** – people are only entitled to what they can earn. The focus is on individual responsibility “minimal collective action and freedom from collective obligations except with respect to others fundamental rights.” See: http://www.psr.org/resources/market-justice-and-us-health.html

**Environmental Justice** – See: http://www.epa.gov/environmentaljustice/
According to the EPA: “Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.”

**Vulnerable Populations** – This term is sometimes used to denote fragility, susceptibility, or an increased predisposition for harm to be done. Conditions that render someone vulnerable include:
- low income
- less education
- homelessness
- women (especially pregnant women), infants and children
- military veterans
- immigrants
- prisoners
- migrant and seasonal farm workers and their families
- those with chronic illness
- those with mental illness
- essentially anyone at social or political disadvantage

See: [http://bioethics.georgetown.edu/publications/scopenotes/sn44.pdf](http://bioethics.georgetown.edu/publications/scopenotes/sn44.pdf)

**The Social Determinants of Health** - “The social determinants of health are the circumstances in which people are born; grow up, live, work, and age, as well as the systems put in place to deal with illness.”

**Health disparities** – difference in health outcomes between populations, social, demographic and geographic. Inequities persist even beyond equal access to care.

**Health inequities** are modifiable associate with social inequalities and are considered unfair
[http://www.cdc.gov/mmwr/pdf/other/su6001.pdf](http://www.cdc.gov/mmwr/pdf/other/su6001.pdf)

Also see: ASTDN’s Publication of The Public Health Nurses Role in Achieving Health Equity: Eliminating inequalities in Health at:

**E.) Cultural Competence**

[http://www.culturediversity.org/cultcomp.htm](http://www.culturediversity.org/cultcomp.htm)

**Leininger – Transcultural Nursing** – requires an awareness of self, sensitivity to others, respectful dialogue – outwardly manifests in thought and action.
Cross T, Bazron B, Dennis K and Isaacs M (1989)  
http://web.clark.edu/bellis/Cultural_Competence.htm  
Five elements that contribute to becoming more culturally competent, which should be manifested at every level of an organization:  
- Valuing diversity  
- Having the capacity for cultural self-assessment  
- Being conscious of the dynamics inherent when cultures interact  
- Having institutionalized cultural knowledge  
- Having developed adaptations of service delivery reflecting an understanding of cultural diversity  

**Ethnocentric** – Defined as the tendency to believe others think the same way as “they do,” have the same world view, culture. The person who is ethnocentric may view their own culture as superior. See: http://www.culturediversity.org/basic.htm  

**F.) Scope & Standards of Care**  
(See: American Nurses Association. *Public Health Nursing Scope and Standards of Practice*)  
Each standard ensures quality of care and has a measurement criteria used to determine competence in practice. Standards typically remain constant over time; however, measurements can change to reflect best practice or evidence-based practice (EBP) and measure competency.  
Standard 1. Assessment  
Standard 2. Population Diagnosis and Priorities  
Standard 3. Outcomes Identification  
Standard 4. Planning  
Standard 5. Implementation  
  A. Coordination  
  B. Health Education and Health Promotion  
  C. Consultation  
  D. Regulatory Activities  
Standard 6. Evaluation  

*Note:* This document is currently under revision! Check to see if the latest version has been released!  

**G.) Ethical Principles and Processes**  
Code of Ethics for Nurses with Interpretive Statements:  
The authors suggest that public health practice requires an ongoing approach to ethics in two dimensions: professional relationships and day-to-day public health activities. A framework is provided for analyzing questions and framing discussions with the public or the public health department management team: *(This is verbatim.)*

1. Analyze the ethical issues in the situation.
   a. What are the public health risks and harms of concern?
   b. What are the public health goals?
   c. Who are the stakeholders, and what are their moral claims?
   d. Is the source or scope of legal authority in question?
   e. Are precedent cases or the historical context relevant?
   f. Do professional codes of ethics provide guidance?

2. Evaluate the ethical dimensions of the alternate courses of public health action.
   a. *Utility:* Does a particular public health action produce a balance of benefits over harms?
   b. *Justice:* Are the benefits and burdens distributed fairly (distributive justice), and do legitimate representatives of affected groups have the opportunity to participate in making decisions (procedural justice)?
   c. *Respect for Liberty:* Does the public health action respect individual choices and interests (autonomy, liberty, and privacy)?
   d. *Respect for legitimate public institutions:* Does the public health action respect professional and civic roles and values, such as transparency, honesty, trustworthiness, promise-keeping, protecting confidentiality, and protecting vulnerable individuals and communities from undue stigmatization?

3. Provide justification for a particular public health action.
   a. *Effectiveness:* Is the public health goal likely to be accomplished?
   b. *Proportionality:* Will the probable benefits of the action outweigh the infringed moral considerations?
   c. *Necessity:* Is it necessary to override the conflicting ethical claims to achieve the public health goal?
   d. *Least infringement:* Is the action the least restrictive and least intrusive?
   e. *Public justification:* Can public health agents offer public justification for the action or policy, on the basis of principles in the Dode of Ethics or general public health principles that citizens and in particular those most affected could find acceptable in principle?

**Additional concepts in ethics:** *(Many of the concepts are presented in Longest³)*

*Altruism* = putting others interests before one’s own, being present is an example

*Autonomy* = PHN independent and responsible for actions – respects community and individual right to self-determination. Maintain privacy, honesty, & fidelity.

*Beneficence* = seek to do good, not harm.

*Common Good Perspective* = good for the whole
**Ethics** = standards of behavior that tell us how we ought to act in various situations we encounter in life.

**Fairness Perspective** = Focuses on how fairly or unfairly actions affect a group – how benefits and burdens are distributed; requires consistency in the way people are treated.

**Justice** = equitable distribution, allocation based on need – burden only when necessary.

- **Egalitarian** – equal access to benefits and burdens
- **Libertarian** – maximum social & economic liberty with regards to fairness
- **Utilitarian** – fairness occurs when public utility is maximized, balances benefit over harm

**Non-maleficence** – *primum non nocere* – first do no harm

**Utilitarian Perspective** = focuses on the consequences of actions and policies on the wellbeing (utility) of the people who will be affected, both directly and indirectly. One principle is that “Of any two actions, the most ethical will produce the greatest balance of benefits over harms.”

**Virtue Perspective** = ethical actions/behaviors develops virtuous behaviors/actions (honesty, etc)


**H.) Communication Principles**

**Health Literacy** -


“Health literacy includes the ability to understand instructions on prescription drug bottles, appointment slips, medical education brochures, doctor's directions and consent forms, and the ability to negotiate complex health care systems. Health literacy is not simply the ability to read. It requires a complex group of reading, listening, analytical, and decision-making skills, and the ability to apply these skills to health situations.”

Higher rates of elderly have low health literacy, links to higher hospitalization rates, mortality and morbidity rates, and lower quality of life. People with low literacy skills are more likely to be poor, have lower lifetime income, work in hazardous conditions, be exposed to environmental toxins, have poorer housing, and have less access to medical care.

Vulnerable populations for poor health literacy: elderly, minority populations, immigrant populations, low-income populations, people with chronic mental and/or physical conditions. Reasons for limited health literacy skills: learning disabilities, lack of educational opportunities, cognitive decline, reading skills decline over time (use it or lose it).

CE: Health Literacy and Public Health: An introduction
[http://www.phtc-online.org/learning/pages/catalog/phlit01/](http://www.phtc-online.org/learning/pages/catalog/phlit01/)

CE: Health Literacy and Public Health: Strategies for Addressing Low Health Literacy
[http://www.phtc-online.org/learning/pages/catalog/phlit02/](http://www.phtc-online.org/learning/pages/catalog/phlit02/)

**Cross cultural/inter-professional communication**

Clarke and Sanchez, 2001: “Cross-cultural communication” is a process of exchanging, negotiating, and mediating one's cultural differences through language, non-verbal gestures, and space relationships. It is also the process by which people express their openness to an intercultural experience.”

Toolkit for Cross-Cultural Collaboration
http://nnlm.gov/bhic/2009/12/21/toolkit-for-cross-cultural-collaboration/

CE Offering: Exploring Cross Cultural Communication
http://www.phtc-online.org/learning/pages/catalog/cc/

CDC Principles – Crisis and Emergency Risk Communication (CERC)
1. Pre-crisis – planning & test messages
   a. Express empathy
   b. Explain risk in simple terms
   c. Establish credibility
   d. Provide emergency information
   e. Provide updates – timing
2. Initial – audience wants information NOW
   a. Express empathy
   b. Explain risk in simple terms
   c. Establish credibility
   d. Provide emergency information
   e. Provide updates – timing
3. Maintenance – on-going assessment of the situation
   a. Help people understand their personal risk
   b. Provide background information to media
   c. Gain support for recovery plans
   d. Thoroughly explain emergency plans
   e. Empower people to make their own decisions
4. Resolution – community will not be ready to conduct risk reduction immediately after emergency
   a. Educate public to improve response
   b. Evaluate responsiveness to emergency
   c. Gain public support
   d. Reinforce agency’s identify internally and externally
5. Evaluation CERC response

“SOCO” = Single Over-Riding Communication Objective
http://www.cdc.gov/ncidod/eid/vol6no4/howard.htm
1) What is the key point of this interview?
2) What are the three facts or statistics you would like the public to remember after reading or hearing about this story?
3) Who is the main audience or population segment you would like this story to reach?
4) What is the single message your audience needs to take away from this report?
5) Who in your department will serve as the primary point of contact with the media and when will this person be available?

Social Marketing
Commercial marketing techniques are applied to public health program analysis, planning, implementation and evaluation;
Creates a competitive advantage;
Designed to influence the voluntary behavior of a target audience.

4 – P’s of Social Marketing –
• Product (behavior you want the target to change to)
• Price (cost to change)
• Place (where & when behavior will occur)
• Promotion (message)

Information Dissemination
“Dissemination of information on project activities and the early results from their evaluation increases visibility, community wide acceptance, and involvement”.5
“…ensure that practitioners are trained not only to gather data about the target audience but also to manipulate the data to allow them to define their target audience accurately. Practitioners will thus be armed with the necessary tools to ensure maximum benefit for their audience for the optimum use of the information providers’ resources.” 6 Use social market theory to understand the audience (receiver) in order to manipulate the information to promote a particular view point.


CE on delivering difficult messages:
The Messenger Chronicles: Intro and the 4 C’s.
http://www.phtc-online.org/learning/pages/catalog/mc-intro/
The Messenger Chronicles: Moving Toward Synergy
http://www.phtc-online.org/learning/pages/catalog/mc-synergy/

Partnerships and Collaboration
Shared goals, mutual participation, clear responsibilities & boundaries


CE: Community Dimensions of Public Health Practice. Coming soon to:
http://www.empirestatephtc.org/resources/res-phn.cfm

I. Use of Information Systems and Technology/Informatics

http://nursing-informatics.com/process.html
Nursing Informatics = triad integrating computers, information, and nursing knowledge/sciences.

Nursing-specific information

- **NICs** – nursing interventions classification; may be preventative or therapeutic; may be physiological or psychosocial. Each intervention has a code. 7 domains. [http://www.nursing.uiowa.edu/cncc/nursing-interventions-classification-overview](http://www.nursing.uiowa.edu/cncc/nursing-interventions-classification-overview)
- **NOCs** – nursing outcomes classification designed to evaluate the outcome of nursing care; 7 domains. [http://www.nursing.uiowa.edu/cncc/nursing-outcomes-classification-overview](http://www.nursing.uiowa.edu/cncc/nursing-outcomes-classification-overview)


Tele-Health - [http://www.hrsa.gov/ruralhealth/about/telehealth/](http://www.hrsa.gov/ruralhealth/about/telehealth/)
Tele-health is the use of electronic technologies to support clinical health care, patient and practitioner education, public health and health administration by long distance. Tele-health applications may include the internet, streaming media, videoconferencing, store-and-forward imaging, land and wireless communications.

“Right-to-Know” Laws [http://www.epa.gov/epahome/r2k.htm](http://www.epa.gov/epahome/r2k.htm)
Right-to-Know laws give people and communities the right to know about possible chemical exposures where they live and work. RTK laws may apply to both individuals and communities. There are RTK laws about:
- Water quality –
- Air pollution –
- Lead - [http://www.epa.gov/opptintr/lead/index.html](http://www.epa.gov/opptintr/lead/index.html)
- Hazardous Waste –
- Food Quality Protection Act –
- Community Environmental Issues –
- Toxic Substances and Releases -
- Emergency Planning and Community Right-to-Know Act (EPCRA) – Requires that the community have access to information about releases that could potentially have toxic effects to health. [http://www.epa.gov/epahome/r2k.htm#epcra](http://www.epa.gov/epahome/r2k.htm#epcra)
Content Area II: Theories & Concepts of Human Development
6 Questions (4%)

A.) Developmental theories & concepts

Erikson’s Theory of Psychosocial Development
http://psychology.about.com/od/psychosocialtheories/a/psychosocial.htm

Erikson’s 8 Stages of Development
1. Infancy – birth -18mths.
   a. Oral
   b. Trust vs. mistrust
   c. Hope & Drive
2. Early Childhood – 18mths.-3yrs
   a. Autonomy vs. shame
   b. Self-confidence/control
   c. Will/courage
3. Play Age – 3-5yrs
   a. Initiative vs. guilt
   b. Independence
4. School Age 6-12yrs
   a. Industry vs. inferiority
   b. Competence
5. Adolescence 12-16yrs
   a. Identity vs. Inferiority diffusion
   b. Sense of self/loyalty
6. Young Adult 18-35 yrs.
   a. Intimacy vs. Solidarity/Isolation
   b. Affiliation & Love
7. Middle Adult 35 – 55/65
   a. Generativity vs. Self-absorption/Stagnation
   b. Production & Care
8. Late Adulthood 55/65 to death
   a. Integrity vs. despair/wisdom

Continuum at each stage of development resolution is required – each stage of development may
not be fully actualized, however some degree of mastery is acquired. Internal conflicts stimulate
change and growth, as they are resolved new stages emerge using previous experiences to build
on internal change. Each step builds on the skills acquired in the previous phase.

Piaget’s Stages of Cognitive Development -
http://www.learningandteaching.info/learning/piaget.htm
Maturation increases a child’s ability to understand their world; they cannot undertake more
advanced tasks until they are psychologically mature enough to do so. According to Piaget,
development does not progress smoothly and evenly. Instead, there are times when development
“takes off” and move into new areas. No matter what their intelligence, children are unable to understand the world in certain ways until they reach a certain level of maturity.

Piaget’s stages include:

- **Sensory-motor stage** – birth to 2 – when the child learns to differentiate self from objects, recognizes self as an agent of action that can cause other things to happen, and when the child learns object permanence.
- **Pre-operational stage** – about 2-7 years of age – when the child learns to use language and represent objects by images and words. Thinking is egocentric.
- **Concrete operational stage** – ages 7 – 11. The child learns to think logically about events.
- **Formal operational stage** – 11 years and older. Can think abstractly and test hypotheses systematically. Becomes aware of the future, the hypothetical, the ideological problems. It now appears that children can perform concrete operations much earlier than he thought.

Key ideas in this theory include: assimilation, accommodation, adaptation, classification, conservation, decentration, and egocentrism.

**Group development/process** –
Kurt Lewin coined the term “group dynamics.” There are mutual cross-level influences that can overcome inertia to produce change. His three stage process was Unfreezing, Change, Freezing.

Bruce Tuckman characterized groups as having 5 stages:

- **Forming** – group depends on facilitator building trust setting boundaries
- **Storming** – structure is needed
- **Norming** – move toward cohesion, trust, improved productivity
- **Performing** – interdependence, work as a group
- **Adjourning** – termination phase

Tuckman also hypothesized that there are two aspects to the role within the group: interpersonal relationships and task behaviors.

Other models describe group interaction to have phases of: orientation, conflict, consensus and closure.

Benne and Sheats identified several task-oriented roles that are important to a group task: 
http://tobyonline.co.uk/lecturenotes/resources/teamwork/teamtraining3.pdf

- Initiator-contributor (generates new ideas)
- Information-seeker (seeks info about the task)
- Opinion-seeker (asks the group about what it values)
- Opinion-giver (states beliefs)
- Elaborator (explains ideas within the group, offers examples)
- Coordinator (shows relationship between ideas)
- Orienteer (shifts the direction of the group’s discussions)
- Evaluator-critic (compares progress to objectives)
- Energizer (stimulates activity)
- Procedural-technician (is logistical)
- Recorder (keeps a record of group actions).
Social roles include:

- Encourager (praises others)
- Harmonizer (mediates)
- Compromiser (moves group to position that is favored by all members)
- Gatekeeper/expediter (keeps communication channels open)
- Standard setter (suggests criteria for what group will achieve)
- Group observer (uses information to give feedback to the group)
- Follower (goes along with the group and accepts the group’s ideas)

Individualistic roles include:

- Aggressor (attacks, deflates others)
- Blocker (resists progress)
- Recognition seeker (calls attention to self)
- Self-confessor (seeks to disclose non-group feelings or opinions)
- Dominator (asserts control with manipulation of other members)
- Help-seeker (seeks sympathy)
- Special interest seeker (uses stereotypes to assert own prejudices)

**Family Systems Theory** – provides a framework for thinking about the family as a system. The approach lets nurses understand and assess a family and/or the individuals within the family as an interactive and interdependent system. Assumptions are that the family is designed to maintain stability, and systems may be adaptive or maladaptive.

- All parts of the family system are interconnected.
- The whole is more than the sum of its parts.
- All family systems have some form of boundaries or borders between the system and the environment.
- Systems can be further organized into systems.

Traditional family life cycle stages, each with developmental tasks, include:

http://parenteducation.unt.edu/sites/default/files/FamilyDevelopmentTheory.pdf

- Married couple (learning to establish relationship)
- Childbearing family with infant(s) (adjust to pregnancy, then infant; blending new roles)
- Families with preschool children (understanding normal growth and development)
- Families with school-aged children (working with authority and socialization roles at school)
- Families with adolescents (allowing to develop identities)
- Families with young adults (launching)
- Middle-aged parents (refocus on marriage, security after retirement), maintaining family ties)
- Aging families (adjust to retirement, grandparent roles, death of spouse, living alone)

**Also see:** Bowenian Family Therapy

http://www.psychpage.com/learning/library/counseling/bowen.html
**Family Development Theory (Hill & Rogers)** – Each stage of development has different norms and expectations, with specific sequences and timing. Examines the interplay of work and career with family.

1. Early marriage
2. Families with young children
3. Launching of children out of the home (begin school)
4. Empty nest
5. Family career – influenced by education & occupation
   a. Siblings career
   b. Martial career
   c. Parental career

**Community Development Theory** – may apply to geographic or other communities of interest. Multiple definitions exist, but all involve the capacity of people to work together to address their common interests. May involve building community capacity, community organizing, building a sense of community, building on strengths (the “strengths-based approach” or “the assets-based approach”), and social planning. Key points are:

1. How community develops over time – changing with population needs/trends
2. Promote community development proactively & constructively
   a. Community as a partner – needs assessment with community involvement

**Lifespan of Population Theories**

Fastest growing segment of the population is the group over age 65 years. In 2006, those over 65 years made up 12.4% of the population; 34% of this age group cannot live independently. Therefore, they consume more services and communities have to plan for this segment of the population.

Not all populations enjoy the same longevity. Certain populations have shorter lifespans. Examples: African American men and women, migrant and seasonal farmworkers, the disabled, the obese.

**B.) Application of theories in practice**

The PHN should be prepared to apply the various theories to their public health nursing practice involving different age groups. Some examples of theory application appear in the table on the following page.

<table>
<thead>
<tr>
<th>Applications of Family Developmental Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age group</strong></td>
</tr>
<tr>
<td>Young families</td>
</tr>
<tr>
<td>Families with school-aged children</td>
</tr>
</tbody>
</table>
Families with adolescents  |  Sexual maturation  |  Career counseling, STDs, Substance abuse, college or vocational training
Families with young adult children  |  Launching children  |  Intellectual & emotional support Wellness or prevention, anemia in pregnant women, calcium supplements, etc.

*Anticipatory guidance*- provides information before someone needs it in anticipation of need. Requires consideration of the developmental stage of the family and anticipation of what their next task(s) will be. Examples: Birthing classes, emergency preparedness, sex education, substance use risks, and screenings with education.

**Concept Area III: Theories & Concepts of Epidemiology & Biostatistics**
15 Questions (10%)

**A.) Theories of Epidemiology & Biostatistics**

*Epidemiology* – distribution and determinants of health related states/events in populations and the use of this study to control of health problems.

Review biostatistics.
- Variables
- Data display (histograms, graphs, charts)
- Measures of central tendency (mean, median, mode)
- Measures of spread or measurement of central tendency (interquartile range, standard deviation, confidence intervals)
- 2 x 2 Tables
- Relative Risk and Odds Ratios
- p-values

Recommended web resource for epidemiology: [http://www.cdc.gov/training/products/ss1000/ss1000-ol.pdf](http://www.cdc.gov/training/products/ss1000/ss1000-ol.pdf)

Recommended CE: **Field Epidemiology** [http://www.phtc-online.org/learning/pages/catalog/fe/](http://www.phtc-online.org/learning/pages/catalog/fe/)

Glossary of Epidemiology Terms: [http://www.albany.edu/sph/cphce/fieldepi_glossary.pdf](http://www.albany.edu/sph/cphce/fieldepi_glossary.pdf)

*Proportion* – measures the fraction of a population that have a characteristic of interest. Those included in the numerator are also in the denominator. The value is always between 0 and 1 or can be presented as a percentage by multiplying by 100.

*Prevalence* – measures the **proportion** of the population affected by a specific condition in a specific time period. *Prevalence does not measure risk*: it is a snapshot from which *no temporal association can be made.*

\[ N \text{- Number case of disease in population at set time} \times (\text{set number} \ast) \]
D- Total population at set time

*Point Prevalence* – refers to prevalence at one particular moment in time.
“Were you ill on Monday?”

*Period Prevalence* – measures prevalence of the condition during a specified time period.
“Did you have the flu in last week?”

*Lifetime Prevalence* – measures how many have ever had the condition/event.
“Have you ever been pregnant?”

Prevalence is useful for describing the extent of public health need.

*Rates* – the requirements for a rate calculation include 1.) the time frame for the rate measurement; and 2.) a unit of the population. The denominator includes all those who are eligible to appear in the numerator or those at risk for the observed event. Describe how fast a disease is occurring in a population.

\[
\text{N- # Cases} \\
\text{D-Population at risk}
\]

*Incidence* – measures the risk of developing a new condition (disease, injury, symptom, or death) over a specific period of time, such as a year. Incidence conventionally measures the number of *new cases or events* that occur in a population during a specific time period compared to those who are at risk for the condition. Incidence is useful for studying the causes of disease or the order in which events take place. People who already have the disease at the time of the calculation are not included in the denominator because they already have the disease, so they can’t be considered “at risk.” Again, timeframe should be specified.

Ex: Uterine cancer those at risk only women.
N-new cases ___ X (1, 000, 10,000 or 1 million)*
D-persons at risk
Therefore get cases per 1,000/10,000 or million.

*Cumulative incidence* – uses a time period that population is at risk (flu season) vs. incidence density – sum of all time periods observed (different rates)

*Mortality Rate* = also called the *death rate* = an estimation of the proportion of a population that dies during a specified time period.

*Duration of the Disease* = the average duration is calculated by dividing the prevalence by its incidence.

*Case Fatality Rate* = the risk among all people who acquire a disease that they will subsequently die from that disease. Indicates the severity of the disease.

*Rate Ratio* = the ratio of incidence rates between a group exposed to the disease-causing agent and the non-exposed group. This measurement is used to measure the magnitude of the exposure’s impact.
**Odds Ratio** = the odds or the ratio of getting a disease between the group exposed to a disease-causing agent and a non-exposed group. It is used to measure the size of the association between the exposure to an agent and a disease outcome.

**Rate Difference** = the difference between the incidence rates of the exposed group and the non-exposed group. Indicates the proportional decrease in incidence if the entire population were no longer exposed to the agent.

**Epidemic** – rates exceed normal or expected frequency in a given population/community/region

**Pandemic** – worldwide epidemic (influenza & plague)

**Epidemiological Triad/Triangle**

Example: The **vector** or flea picks up *Yersinia pestis* or **agent** from the dirt. The flea then bites the Human or Rat **host**. Given the current warm climate, close quarters, garbage that the rats feed on these **environmental conditions** results in the **Plague**.

**Chain of causation** = a chain of events where every event was caused by the previous event; the sequence of steps that have been identified as linked to the disease. Diagraming the chain of causation helps to pinpoint at what points intervention(s) can occur.

**Web of causation** = especially useful to examine causation of chronic diseases. Describes events that have multiple causative factors. We commonly investigate how the multiple factors interact to determine strength of association; rates of the disease (ratio with/without disease), consistency, specificity, temporality, biological gradient (greater exposure increase risk disease), plausibility, coherence of explanation, experiment, analogy. If a causal factor removed there should be a decrease in disease. [http://www.pitt.edu/~super1/lecture/lec19071/001.htm](http://www.pitt.edu/~super1/lecture/lec19071/001.htm)

### B.) Utilization

**Types of Immunity** –
- **Passive** – newborns via maternal antibodies
• **Active** - acquired after exposure to a disease or via immunizations
• **Cross-immunity** - immunity to one pathogen confers immunity to another such as cowpox providing immunity to smallpox.
• **Herd-immunity** - present in a population, the higher the immunity decreases risk of disease (use of immunizations). Increasing immunizations reduces risk of exposure to disease of those not immunized.

**Natural History of Disease** – Discerning the progress of pathogenesis. Understanding and responding to disease.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1567819/
http://www.sdnhm.org/archive/exhibits/epidemic/overview.html

• Asymptomatic period is followed by a symptomatic period.
• Susceptibility phase – disease is not present, no exposure but conditions increase risk
• Co-factors in progression.
• Sub-clinical disease stage- exposed but asymptomatic, incubation period (induction or latency)
• Clinical disease stage- The individual exhibits signs and symptoms of the disease.
• Resolution state- The individual is returned to health, enters a chronic disease state, or death occurs.

**Levels of Prevention** –
• **Primary Prevention** – Used before the person gets the disease or condition to reduce the incidence and prevalence of the disease. Includes health promotion (education) & protection (immunization).
• **Secondary Prevention** - Secondary prevention is applied after the disease has occurred but before the signs are evident. Focuses on early diagnosis (screening) & prompt treatment to limit disability
• **Tertiary Prevention** – Tertiary prevention is applied when the person already has the disease. Focuses on preventing damage from the condition, slowing the process of the disease, preventing complications, and returning the person afflicted to their optimal level of health (rehabilitation).


**Case Finding** – locating a population of interest or finding cases of a particular disease or condition. May be found through surveillance (active or passive), investigation of contacts, screening events, sentinel events.

**Case Reports** - Many reportable diseases are tracked state to federal (CDC). For the list of diseases reportable to the CDC: http://www.cdc.gov/DiseasesConditions/ State health departments usually have a similar list on their websites.
JCAHO defines as any unexpected event in a health care setting that causes death or serious injury not related to the natural course of a person’s illness. Identification of these events and using RCA (root cause analysis) is critical.

Other points:
- Don’t forget the finer points of line listing and using line lists to create 2 x 2 tables. http://www.cdc.gov/excite/classroom/outbreak/steps.htm
- Don’t forget that more aggressive ascertainment of disease may raise rates.

Content Area IV. Evaluation and Research
8 Questions (5.33%)

A.) Evaluation and Research Methods


Scientific studies - Add to the formal body of knowledge. Investigates the association of 2 factors/variables.

- Case Series and Case Reports – collection of reports. No control group. Easy to understand and can be written up quickly.
- Case Control Studies – compare those with the disease to those without. Estimates odds of getting the disease or condition. (Uses odds ratio.) Less reliable than randomized control trials (RCTs). Works well for rare conditions.
- Cohort Studies – May be prospective or retrospective (i.e. Framingham – prospective cohort study). Used to establish causation or evaluate the impact of treatment when RCTs are not possible over time - longitudinal. Not good for rare conditions. Requires large study group.
- Randomized Controlled Studies – Requires a treatment group and a control group. Patients are randomly assigned to all groups. Considered “the gold standard” of medical research to determine cause and effect.
- Double blind method – neither patient nor researcher knows if the subject is in the control or treatment group.
- Meta-Analyses – combines data from numerous studies and arrives at pooled estimates of treatment effectiveness and statistical significance.

2. Types of Data

Nominal - The data are classified into mutually-exclusive categories, such as male/female.
Ordinal - The data are systematically categorized in an ordered or ranked manner. Ordinal measures do not permit a high level of differentiation among subjects.
Interval - The level of measurement allows different levels or gradations in the data. Interval data are on a scale with equal intervals between numbers, but with an arbitrary zero.
Concept of Ratio Data

**Ratio** - Data can be arranged in rank order with equal intervals and absolute zeros. Ratio data has categorizing, ordering, ranking and also has a zero that has meaning.

### 3. Variables

Dependent variable (Y) is not manipulated and is the consequence of the independent variable (X). However, association does not imply a causal relationship. In experimental studies, the independent variable may be manipulated to see change in the dependent variable.

### 4. Surveys

Survey studies are exploratory, descriptive or comparative studies. Data are collected to provide detailed descriptions of the variables of interest. A response rate of 72% is required to generalize to a population. Data are used to:

- assess the current condition of the sample or population;
- examine current practices;
- assess knowledge, attitudes, behaviors;
- plan programs; or
- evaluate the impact of current or past programs.

### 5. Participatory Action Research

[http://www.incite-national.org/media/docs/5614_toolkitrev-par.pdf](http://www.incite-national.org/media/docs/5614_toolkitrev-par.pdf)

Community development research whereby community members are partners and involved with the research development at every stage. Their input is sought and honored, and the process is centered on and reflects the lived experience of the people most affected by the problem(s). Community ownership and the PHN facilities and takes direction from the community as they set priorities. Often there is not a formal hypothesis; however, usually there is an evaluation process.

### 6. Human Subjects Research and the Protection of Human Subjects –


Federal regulations require that human subjects of clinical research be protected through institutional review boards (IRBs), obtaining informed consent, fair and informed participant recruitment, and conducting research ethically. Researchers and IRB members must receive training before approving or conducting research. The website above reviews the history and current ethical standards.

This article contains a thorough discussion of all IRB requirements:

This website offers information on study participant recruitment:
[http://www.irb.vt.edu/pages/recruitment.htm](http://www.irb.vt.edu/pages/recruitment.htm)
7.  Descriptive, Qualitative, and Quantitative Studies –

**Descriptive Studies** – are observational studies that seek to describe phenomena. They are useful for generating hypotheses, planning care and providing the basis for further study. Types of descriptive studies include case reports, case series, cross-sectional or prevalence studies, and ecological studies. See: [http://www.drcath.net/toolkit/descriptive.html](http://www.drcath.net/toolkit/descriptive.html)

**Qualitative Studies** – describe phenomena of interest. Methods include participant observation, in-depth interviews, and focus groups.

[http://www.fhi360.org/NR/rdonlyres/etl7vogszehu5s4stpb3tyqlpp7rojv4waq37elpbyei3tgmc4ty6dunbccfzxtaj2rvbaubzm4f/overview1.pdf](http://www.fhi360.org/NR/rdonlyres/etl7vogszehu5s4stpb3tyqlpp7rojv4waq37elpbyei3tgmc4ty6dunbccfzxtaj2rvbaubzm4f/overview1.pdf)

Focus groups are small groups (~6-10) that represent the wider population. The idea is to collect the various themes that come out in the discussion, not to reach consensus. Because the method involves free discussion and does not require participants to make forced choices, as they would on a survey, the method tends to produce a wider variety of responses than a survey would.


**Delphi Technique** – iterative process conducted in rounds until consensus is reached, anonymous with the goal to identify community priorities, problems, and strengths. For a good discussion of the Delphi Technique and other research methods, see: [http://www.wounds-uk.com/pdf/content_9357.pdf](http://www.wounds-uk.com/pdf/content_9357.pdf)

B.  Research Utilization

**Locating the literature** for evidence-based public health nursing practice –

**Analyzing and interpreting** research findings – Evaluating research quality –

**Levels of Evidence Pyramid** - The higher the study type on the pyramid, the higher the level of evidence. **Randomized Control Trials (RCT) are considered “the gold standard.”**
Translating research into practice -
http://nursing201.pbworks.com/f/EBP+Coopey.pdf and
http://www.ahrq.gov/about/nursing/nrsevbr.htm

Disseminating professional information – publications, presentations, posters, programs.

Content Area V. Assessment of Public and Community Health
16 Questions (10.67%)

A.) Community Health Assessment-

Identifies risks, needs, values, strengths, resources using data collection techniques and analysis.
Leads to community diagnoses.
Steps: http://www.health.ny.gov/statistics/chac/10steps.htm and

1. Health status indicators –
http://www.communityhealth.hhs.gov/homepage.aspx?j=1 and


Healthy People 2010/2020 – goals to increase quality and years of healthy life, eliminate
health disparities, and list health indicators (obesity, smoking, activity, substance abuse,
responsible sexual behavior, mental health, injury and violence, immunization, and access to
health care). Leading Health Indictors list 26 indicators that prepare an overview of health of the
nation.
2. Methods and data sources

*Census Data* – Collected every 10 years, reports census tracks, demographics about the population. Estimates are done in between the decennial Census. 
http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml


**Key informants** - are interviewed to get information that is not readily available, they are usually considered to reflect the views of the community at large or the group they represent.  

**Windshield survey** – Used to evaluate a designated area.  Drive, walk or take public transportation using all senses (sight, hearing, smell, taste, touch) to gather data and assess community strengths and weaknesses  
1 See:  http://www.scribd.com/doc/28775271/Final-Windshield-Survey

**Criteria-based assessment**- Uses specific criteria to assess a problem and is usually a scored process based on absence of presence of criteria. **Helps assess risk** for example using the Framingham Risk Assessment tool.

**Youth Risk Behavior Survey (YRBS)** -  [http://www.cdc.gov/HealthyYouth/yrbs/index.htm](http://www.cdc.gov/HealthyYouth/yrbs/index.htm)  
CDC-funded survey administered through state Education Departments. Measures youth behavior in six areas: behaviors that contribute to unintentional injuries and violence; tobacco use; alcohol and other drugs; unhealthy dietary behaviors; and physical inactivity.

A CDC-sponsored telephone survey that has been conducted since 1984.

**Population needs, concerns, values, beliefs and resources can be assessed using a variety of techniques.**

- Level of community resources to meet the needs can counter balance risk factors or put the community population at greater risk.
- Resources can come from within (schools, agencies, faith based organizations), the community or outside (state or federal funding, foundations)
- Community capacity- strengths/assets that exist in a community and can be mobilized to develop activities and policies. Available human capital.

**Community diagnosis**- for the PHN it is an extension of nursing diagnosis and should include community strengths, sources for solution, and identified problem(s). The diagnosis will point to the solution  Development of a community diagnosis helps with program planning.  
Community diagnoses are stated in hypothesis format and represent a conclusion based on the data.  

1
<table>
<thead>
<tr>
<th>Risk of...</th>
<th>Name the condition, disease, injury, or premature death.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Among...</td>
<td>Name those in the community/population that will be most affected.</td>
</tr>
<tr>
<td>Related to...</td>
<td>Name what puts the population at risk. Environmental conditions, lack of knowledge, an adverse situation, or health beliefs?</td>
</tr>
<tr>
<td>Demonstrated by...</td>
<td>Name the evidence.</td>
</tr>
</tbody>
</table>

**B.) Environmental Health Assessment**


**Air quality** - directly linked to health. [http://envirn.org/pg/blog/read/44063/clean-air-an-essential-ingredient-in-public-health](http://envirn.org/pg/blog/read/44063/clean-air-an-essential-ingredient-in-public-health) and  
[http://www.epa.gov/airquality/montring.html](http://www.epa.gov/airquality/montring.html)

Clean Air Act 1990- EPA-6 monitored pollutants are:

- **sulfur dioxide** by product of industry produces acid rain and contributes to respiratory illness;
- **nitrous oxide** combustion product contributes to illness of lungs, immune system and asthma;
- **carbon monoxide** car exhaust reduces oxygen delivery at high concentrations;
- **particulate matter** dust, soot, smoke, contributes to lung damage;
- **lead** paint, which can be aerosolized n particulate matter contributes to toxicity to nerves, immune system, heart, blood vessels, bone marrow, kidneys and reproductive system;
- **ozone**, which protects against UV in the stratosphere however, at ground level (dry cleaning, cars, chemicals, paint shops) damages lungs

**Sanitation** – disease prevention through promotion of sanitary conditions. Sewage and garbage disposal.

**Lead** – reducing exposure by checking homes built before 1978 for lead paint hazards, lead plumbing pipes, well and tap water testing, food contamination from lead based ceramics, lead in folk remedies and stained glass making. Exposure history is important. Currently calls for lowering the blood lead level of concern from 10 mcg/dl to 5 mcg/dl.  

**Radon** – Naturally occurring radioactive gas that cannot be detected by our senses, but is the leading cause of lung cancer in non-smokers. It is the second cause of lung-cancer behind smoking. [http://envirn.org/pg/pages/view/4136/](http://envirn.org/pg/pages/view/4136/)
Food – Usually safety breaches that lead to food borne outbreaks occur during preparation, transport, or production. Leaving foods out at room temperature will precipitate the growth of bacteria and lead to food poisoning. [http://www.utexas.edu/safety/ehs/food/sanitation_requirements.html](http://www.utexas.edu/safety/ehs/food/sanitation_requirements.html)

Water - sources are surface and underground aquifers they must be tested for contaminates mainly; bacterial or parasitic infection (giardia form wild animal feces), toxic substances from industry, thermal pollution from power plants. [http://www.who.int/water_sanitation_health/en/](http://www.who.int/water_sanitation_health/en/)

Content Area VI. Strategies to Improve Public and Community Health
26 questions (17.33%)

A.) Consultation, Collaboration and Coalition-Building

Consultation- Involves seeking advice or an opinion of an expert. The consultant does not solve the problems, but assists and guides the group seeking consultation to solve their own problems. [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1623245/?page=1](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1623245/?page=1)

Collaboration – taking an active role in implementing the plan, this requires understanding of each party’s perspectives, on-going communication and feedback. [http://www.cacsh.org/pdf/MPH.pdf](http://www.cacsh.org/pdf/MPH.pdf)


B.) Social and Political Activism

- Running for office: [http://ppn.sagepub.com/content/2/2/149.abstract](http://ppn.sagepub.com/content/2/2/149.abstract)
- Political Action Committees: [http://www.nursingworld.org/anapac](http://www.nursingworld.org/anapac)
- See ASTDN publication for implications for public employees.

Confrontation –
- Becoming competent in confrontation: [http://journals.lww.com/nursingmanagement/Citation/2004/07000/Become_competent_in_confrontation.8.aspx](http://journals.lww.com/nursingmanagement/Citation/2004/07000/Become_competent_in_confrontation.8.aspx)
- Standing up for good care: [http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/](http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/)
Activism – through public policy to impact funding of programs (assurance function)
http://www.capitolupdate.org/

C.) Policy Formulation Models:


Kingdon states that agenda-setting is the first stage in the policy formation process. Moving an idea up on the policy agenda involves 1.) persuading policy makers to pay attention to the problem; 2.) proposals generated, debated, revised and adopted for serious consideration; and 3.) politics and the voices of the “pro” and “con” groups. This theory also takes into account the timing of the proposal.

Schneider & Ingram – Ways of Knowing

There are multiple ways of knowing about a problem or issue: from a trusted source, by intuition or personal inspiration, by direct experience, or by reason or thinking logically about the first three. Focus is on how people conceptualize issues and on the perception of public officials regarding target populations and views on dependents, contenders & deviants.

Cobb and Elder – Participation in American Politics. (1972)

Advocates’ success in getting attention for an issue is driven by the issue’s “inherent social significance,” timeliness, complexity or lack thereof, and how similar issues were resolved in the past. The expertise and effort of issue advocates is also critical. The affected group must be visible, intense, offer specificity. This theory also talks about “trigger mechanisms” that bring issues into the spotlight – like natural disasters, changes in social conditions, catastrophes.

Expert testimony – someone who had knowledge beyond the ken of the average person therefore and expert is required to aide understanding. See ASTDN guidelines on how to offer testimony.

Lobbying – art of persuasion individual usually paid by a special interest group. Government agencies and not-for-profits must comply with specific rules about lobbying. See ASTDN guidebook.

C.) Advocacy – The purpose of advocacy is policy change. This is a critical role for the PHN, actions on the behalf of others.

See:
D.) Care Coordination /Case Management -

Practiced early by PHN defined as “a collaborative process of assessment, planning, facilitation and advocacy for options & services to meet the needs through communication, & available resources to promote quality cost-effective outcomes”

Populations commonly being “case managed” include:

- **Chronically ill** – identify upstream measures for prevention, mitigation, treatment to halt progression of the disease/restore health.
  [http://pediatrics.aappublications.org/content/104/4/978.full](http://pediatrics.aappublications.org/content/104/4/978.full)

- **High risk/vulnerable populations** – such as poor, homeless, disabled, severely mentally ill, very old, pregnant adolescents, immigrants, victims of violence, substance abusers, persons with HIV or STDs.

**Interdisciplinary teams** - other disciplines working together seeing their unique contribution to achieve a/the goal(s). Members of the group need to know the strengths and limitation of each discipline.  

**Community resources and referrals** – It is critical that the PHN know community resources, including those for human services resources outside of health. PHN should learn as much as she can and get feedback from clients as to their satisfaction with the agencies to which they are referred.

Effectiveness of referrals:  
[http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1438527/?page=1](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1438527/?page=1)

E.) Implementing Change

**Principles & Processes –**

**Stages of Change**

[http://changingminds.org/disciplines/change_management/lewin_change/lewin_change.htm](http://changingminds.org/disciplines/change_management/lewin_change/lewin_change.htm)

1. Unfreezing – becoming change ready – sometimes it requires empowering with knowledge/as PHN educating others can provide the proper motivation
2. Changing/Transition – the most difficult step is the first the PHN act as the change agent
3. Refreezing- establishing “roots” so the behavior/change can be sustained.

**Role of PHN in Change** – Management Steps

1. Assessment
2. Diagnose Need
3. Analyze
4. Select Change
5. Plan Change
6. Implement Change
7. Evaluate Change
8. Stabilize the Change/Sustain/Reinforcement

Change Strategies – [http://www.sedl.org/change/facilitate/approaches.html#early1](http://www.sedl.org/change/facilitate/approaches.html#early1)

- Empiric-rational change – assumes people are rational and will make/adopt change when given empirical information (hope in family planning clinics)
- Normative-re-educative change – present new information with the hopes of influencing behavior can be reinforced with sanctions. The individual chooses and change occurs by virtue of evaluating values and beliefs.
- Power-coercive change – use coercion to impact change (economic, political or moral sanctions), can derive power from the law (health code violation with restaurants, etc.) – policy change.


- Cognitive –thinking (comprehension, analysis, synthesis, application, evaluation). Evaluate the level of the learner.
- Affective –feeling (receptive, active participation, valuation, internalization), includes changes in attitudes and values.
- Psychomotor – acting -demonstrates performance skills.

Also see: Bloom’s Taxonomy for how to word learning objectives. [http://www.nwlink.com/~donclark/hrd/bloom.html](http://www.nwlink.com/~donclark/hrd/bloom.html)

Community Change Models –

- Community Empowerment (process goals) – build community capacity, grass-roots to achieve change. [http://www.copecoalitionaz.org/Documents/CEM_for_distribution%20rev%201-30-08.pdf](http://www.copecoalitionaz.org/Documents/CEM_for_distribution%20rev%201-30-08.pdf)
- Social Action Model – direct approach sometimes confrontational to redistribute power and resources (social justice) mobilizing others into action. [http://www.amm.mb.ca/PDF/Presentations/MOS06_SocialAction.pdf](http://www.amm.mb.ca/PDF/Presentations/MOS06_SocialAction.pdf)
  - Assessing readiness
  - Building and equipping a leadership team
  - Early wins/getting to work
  - Energizing the community and building knowledge for action
  - Setting the direction for change
  - Implementing change and making it last

Community Based Participatory Research - “community-based participatory research (CBPR) can be viewed as epidemiology enriched by contemporary social and behavioral science because it incorporates what we have learned about community processes and engagement, and the complex nature of interventions with epidemiology, in order to understand how the multiple determinants of health interact to influence health in a particular community.” [12](http://www.cbprcurriculum.info/)

**Precede** = predisposing, reinforcing & enabling factors in Education/Environmental Diagnosis & Evaluation

1. Identify quantitative objectives for the implementation phase and measure for evaluation
2. Focus on the outcomes first vs. inputs.
3. Begin with the end in mind, “the determinant of health must be dx before the interventions designed” [13]

**Proceed** = policy, regulatory, organizational factors for Education and Environmental Development

**Mandated Change** – via laws, regulations (seatbelts, drinking age, speed limits)

**Voluntary Change** – Assumption is that, empowered with knowledge, rational people want to change. [http://pdf.usaid.gov/pdf_docs/Pnacp390.pdf](http://pdf.usaid.gov/pdf_docs/Pnacp390.pdf)


1. Mission Statement Clarification – clear direction to meet goals
2. Stakeholder Analysis – those with a vested interest and will or could benefit from the program
3. Problem Identification – identify gaps
4. Analysis of Strengths, Weaknesses, Opportunities & Threats (SWOT)
5. Economic Analysis – can inform decision makers but should not place value on programs or be concerned with available finances it is simply an analysis
6. Cost-minimization analysis (CMA) – each approach is considered equal looks for the most cost effective approach
7. Cost-consequence analysis (CCA) – evaluates outcomes against expenditures
8. Cost-effectiveness analysis (CEA) – measures outcomes in the same units across alternatives to determine which is effective at say prevention, etc. – dollars per year life
9. Cost-utility analysis – (CUA) – measures quantity and quality of life with the outcome or quality-adjusted life years (QALY)
10. Cost-benefit analysis (CBA) – measures both the cost and outcomes in dollars

**Economic Analysis of Prevention** -

1. Discounting – costs and benefits of a program/project compared to alternative use of funds in the present. Looks at benefits that accumulate over time vs. at a specific time. Example: Use of immunizations to reduce future cost of illness.
2. Externalities – “unpriced by-product of production or consumption that adversely or beneficially affects another party not directly involved in the market transaction.” [14]
   Paying for employee insurance and not receiving any apparent benefit.
3. Intangible – Non-monetary costs for example the benefit of childhood immunizations when an immunized child does not get ill.

**Social Marketing** – process using data and information about a specific population to bring about adoption or acceptance of ideas or practices [13].


Disaster life cycle - http://www.fema.gov/about/what.shtm
Six stages – “emergency managers prepare for emergencies and disasters, respond to them when they occur, help people and institutions recover from them, mitigate their effects, reduce the risk of loss, and prevent disasters such as fires from occurring.” (FEMA website)

Natural Disasters – due to weather or other natural occurrences. Man-Made Disasters – intentional power outages, chemical spills, acts of bioterrorism. First Responders – first medically trained person on the scene. In huge disasters they are exposed to the stress of handling survivors. The stress of the responders is related to the outcome of the disaster “vicarious traumatization”.

Injury can occur before the disaster as people leave, during and after. Stress, PTSD, mental health counseling is often needed.

Emergency Management Assistance Compact (EMAC) - offers assistance after governor-declared states of emergency through a system that allows states to send resources to other states suffering a disaster (staff, equipment, commodities). http://www.emacweb.org/


Disaster preparedness – CDC Centers for Public Health Preparedness http://emergency.cdc.gov/cdcpreparedness/cphp/index.asp
Offer free continuing education on preparedness and response. Housed regionally, but all work together and collaborate on offerings. Example: http://www.ualbanycphp.org/

Local & National Agencies & Organizations
1. American Red Cross – responding to needs of communities in disasters
   a. Founded in 1881. In 1905, Congress gave authority to act as primary voluntary disaster relief agency, coordinate federal agency efforts.
   b. Five programs- damage assessment, mass care, health services, family services and disaster welfare inquiry services (gather statistics on the disaster, M & M)
2. CDC – monitoring
   a. Strategic National Stockpile (SNS) – regional containers prepared to respond to disaster (medications, etc.)
   b. Technical Advisory Unit (TARU) advises areas on how to disperse SNS
3. Laboratory Response Network for Bioterrorism
4. National Electronic Disease Surveillance System (NEDSS)
5. Public Health Information Network (PHIN)
6. FEMA – prepare nation for all hazards, manage response and recovery efforts
7. Locally – how power companies respond, DOT in clearing roads, hospitals to handle emergencies, local emergency preparedness to handle evacuation, shelter, etc.

- **Bacterial Agents** – anthrax, plague
- **Viral Agents** – smallpox
- **Radiological**
- **Biological toxins** –
  - **Category A** – considered high priority and pose national security threat-high morbidity and mortality.
  - Smallpox, anthrax, plague, Ebola, Lassa fever, Q fever, botulism, tularemia, hemorrhagic fevers
  - **Category B** – moderate to low morbidity and mortality, difficult to detect
  - Brucellosis, clostridia toxin, staph enterotoxin, salmonella, shigella, e.coli, cholera
  - **Category C** – emerging pathogens such as yellow fever, drug-resistant TB

**Disasters influence on planning and response** -
- predictability (meteorology)
- frequency (hurricanes in Gulf Coast)
- controllability (levees to prevent floods)
- time (advance warning)
- scope & intensity (geographic distribution).

**Triage** - [http://www.orau.gov/hsc/RadMassCasualties/content/Triage.htm](http://www.orau.gov/hsc/RadMassCasualties/content/Triage.htm)
- Red- urgent
- Yellow- second priority
- Green – third priority
- Black- dying or dead
- Contaminated (triangle tag)- hazardous material

- Keep families together
- Assign companions to those who are frightened or injured
- Assigning tasks to survivors to keep them occupied, reduce trauma and improve self-esteem
- Provide privacy
- Clear communication to reduce anxiety and panic
- Provide psychological support

**Family disaster plan** - Encourage families to prepare a family emergency/disaster kit (flashlight, batteries, food, water, radio, etc.). Because they might be deployed to local disaster sites, public

G.) Grants and Grants Management

Grants are monetary awards made for a specific purpose. State and Federal grants may be awarded to carry out a specific public purpose authorized by law. Foundations also make grants for public health purposes.

**Grant writing** – locate the grant, submit letter of inquiry in order to be invited to submit a grant. Follow guidelines request for proposals. If denied, request a review of submission.

**Defending need for and of the program** -
- Grant writing and program development begin with a good needs assessment. State clearly and document the need.
- Grant proposals describe what you intend to accomplish, why it is needed, what part each player plays in the successful execution of the program.
- Get input from the intended targets of the intervention. Interventions must be closely targeted to meet specific needs of the target population.
  - Specific
  - Measureable
  - Achievable and Assignable
  - Realistic
  - Time-phased
- The budget should relate closely to the work plan.
- Evaluation criteria should be planned before the program is implemented.

**Targeting the grant to the intended audience** - review funders mission and vision, previous grants awarded.

**Budgetary considerations** - Budget must include all expenses, including in-kind. Usually two categories: Personal Services and Non-Personal Services or Other Than Personal Services (OTPS). Personal services include cost of employee personnel, fringe benefits. OTPS can include specific overhead expenses, cost of research. May also include the cost of contract personnel. Make sure calculations are realistic and cover all costs. Look at costs of similar projects.

**Monitoring** - PI must monitor financial disbursements to stay on budget and prevent misappropriation of funds. Submission of reports may be required. Management Information Systems can be used to capture grant activities, interactions with the target population, process and outcome indicators.

H.) Community or Population Outcomes Measurement
Collecting and interpreting program performance data, both summative and formative
http://jan.ucc.nau.edu/edtech/etc667/proposal/evaluation/summative_vs._formative.htm

- Summative = Is the program working as it was intended to? Summative evaluation is conducted on an established program.
- Formative = Evaluation aimed at improving the program or product while in development. Formative evaluation helps “shape” the program.
- Process Evaluation = measuring the activities that take place within the program.
- Outcome Evaluation = measuring program impact on the target population.
- Management Information Systems = systems that track grant activities, interactions with the target population, process and outcome indicators.

Health outcomes - for health promotion interventions there must be outcomes to measure
Analysis of proper structure and constructive process, operationalizing outcomes (improved health = weight loss, lower blood sugars, etc.).

Health status & quality of life indicators – individual perception based on health, cultural background, education, moral and ethical values. Difficult to assess because it is very subjective.  
http://www.uic.edu/orgs/qli/

“Health-related quality of life (HRQL) indices are also used to quantify health and to analyze cost-effectiveness. These indices are based on interviewer- or self-administered questionnaires that address various health dimensions or domains, such as mobility, ability to perform certain activities, emotional state, sensory function, cognition, social function, and freedom from pain. Six such indices, several of which are proprietary, are used in the United States: the EuroQol EQ-5D; the Health Utilities Index Mark 2 and Mark 3; the Quality of Well-Being Scale, self-administered form; the SF-6D; and the HALEx (12). More detailed descriptions of these indices are available (9,12). The Centers for Disease Control and Prevention has also developed HRQL measures that are used in BRFSS and the National Health and Nutrition Examination Survey (NHANES); these measures were recently validated against the SF-36v2 (13, 14).” From CDC
http://www.cdc.gov/pcd/issues/2010/jul/10_0005.htm

Benchmarking – comparing an organization against a national standard or standard to improve quality (measures internal strengths and weaknesses)

Disparities (in health) exist due to poverty, lower educational levels, unequal access to healthcare, language barriers, environmental conditions, racism.
http://www.cdc.gov/Features/HealthDisparities/

I.) Program Evaluation-

CDC recommends the following for program evaluation:
1. Engage stakeholders to determine information needs
2. Describe the PH program – create a logic model (links process to effects)
3. Describe the evaluation purpose and uses
4. Data collection
5. Analysis
6. Dissemination
http://www.cdc.gov/eval/framework/index.htm


- Measurements ideally are quantifiable therefore the outcomes/aims, activities or outputs must be clear.
- Evaluation can be continuous quality improvement (CQI) or periodic.
- Need to isolate program effects so that you can be sure effects of a program are due to outputs.
- **PROCEED** – assess resources required to assure the program, organizational changes required to sustain or assure the program, and political or regulator changes required. Finally it ensures that the program will be accountable. http://lgreen.net/precede.htm
- **Donabedian Model** - uses similar evaluation process; evaluates the organizational resources or structure, process or delivery, outcomes of the program (change in health measures). http://www.ahrq.gov/qual/medteam/medteamfig2.htm

The **Gantt Chart** is extremely helpful for PHNs who are monitoring large programs or projects: www.gantt.com

**Models** have 3 assumptions: 1.) populations change and grow over a lifetime; 2.) inputs/process are connected to outcomes of a program; and 3.) programs must allow for flexibility based on population/community need(s).

- **Logic Models** - links process/inputs to effect, goals are set, describes the programs intended work (prescriptive), assumptions, and external factors are considered http://nnlm.gov/outreach/community/logicmodel.html or https://apps.publichealth.arizona.edu/CHWToolkit/PDFs/Logicmod/chapter1.pdf
- **PRECEDE-PROCEED** –
  - **Program Development Phase:**
    - **PRECEDE** = Predisposing, Reinforcing & Enabling factors in Education/Environmental Diagnosis & Evaluation
    - Identify quantitative objectives for the implementation phase and measure for evaluation
    - Focus on the outcomes first vs. inputs. - Begin with the end in mind, “the determinant of health must be diagnosed before the interventions designed.”¹³
  - **Evaluation Phase:**
    - **PROCEED** = Policy, Regulatory, Organizational factors for Education and Environmental Development
• **Diffusion of Innovations Theory (Rogers)** – how new ideas move or spread through a community. Diffusion, Adoption of Innovation, early vs. late adopters, Innovation specifics affects rate of adoption, used to assess the development, dissemination, and impact of TIPS (treatment improvement protocols on substance abuse)


**Satisfaction and Service Quality Indicators** – Quantitative measures of populations or clients response to care given or programs provided. “Implementing this program will improve x by y.”

**Analysis of Cost Effectiveness and Benefits**

*Cost Effectiveness* - Asks: Is the gain (if there is a gain) worth the cost? Are the dollars spent effective in producing desired outcomes (benefits)?

**Accreditation of Local Public Health Departments** –
IOM suggested benefits to accreditation:
- Promote high standards and CQI
- Recognition
- Clarification of the public’s expectations of state and LPHD
- Increase credibility and accountability

**Content Area VII. Health Promotion, Disease Prevention, Risk Reduction**
15 Questions (10%)

**A. Theories and Concepts of Health Behavior**

Models/Theories: [http://msucares.com/health/health/appa1.htm](http://msucares.com/health/health/appa1.htm) lists a number of theories and models.

**Health Belief Model (HBM)** – predicts health related behavior and compliance to prevent disease. Health promotion empowers populations so they can have control over personal health and access resources. People behave based on perception, attract positive value (health) and repel negative value (illness). Takes into account personal beliefs perceived importance of health, health status, self-efficacy, benefits, barriers and definition of health, as well as, interpersonal and situational influences.

**Transtheoretical Model (TTM)** – five stages of progression (1)pre-contemplation-no thought of change (2)contemplation-owning the problem/evaluate options (3)preparation-plan of action (4) action-changes are attempted (5) maintenance-behavior sustained usually 6mths or longer.

**Social Cognitive Theory** – if someone is to perform a behavior he must know what it is and how to perform it. The theory posits that behavior, environmental factors, and personal factors (cognitive, behavioral & biological events) are constantly interacting in a fluid manner.
Social Change Theory (SCT) – at the community level behavior is influenced by the environmental factors. SCT focuses on changing community standards to influence behavior.¹

Ecological Model of Health Behavior (EMHB) – Reciprocal relationships exist between the individual (community) and the social environmental factors. Focus on environmental causes of behavior to avoid victim-blaming. Behavior is influenced by intrapersonal factors, interpersonal relationships, organizational & community factors, public policy. http://www.cdc.gov/ViolencePrevention/overview/social-ecologicalmodel.html

Integrative Model for Holistic Community Health Nursing – expands the concept of community as a client allowing the PHN to look at the individual, family or agate/community realizing that each is part of the whole. There are 3 foci of care, health promotion; illness, disease, or disability prevention; and illness care.¹

Structural Model of Health Behavior – four factors that influence health at the population level in a positive or negative manner (1) availability/accessibility to consumer products (2) physical structures (3) social structures & policies (4) media and cultural messages.¹⁵

Health Promotion Model– Pender; actions to improve health using the following drivers – individual characteristics and experiences, behaviors, behavioral outcomes, health promotion activities involve removing internal and external barriers and promoting public policy to remove barriers.
Motivation – Moved from contemplation to action.
Self-efficacy – belief about capabilities to produce effects
Self-Management – manage independently choices and consequences of life
Compliance – degree to which a plan is followed (passive)
Adherence – agreement to follow a plan of action (active)
Group Dynamics – Mentioned previously. See: page 23 of this guide.

B. Health Screening and Counseling

• Health Screening can be targeted (to individuals/cases), mass (target to populations) or periodic (done on a regular basis over time).
• Screening guidelines must be evidence-based
• Screening is aimed at finding early cases of disease, before the individual knows that they are affected. This allows earlier treatment, when the outcomes are likely to be more favorable.
• An ethical decision to do screening is based on:
  o Screening is not undertaken unless it will produce population benefits, prevent or remove harm.
  o Screening must be valid/accurate.
  o Screening must be reliable/precise.
    ▪ Must be able to detect new cases, but have few false positives.
  o Screening must be inexpensive.
  o Screening must be capable of large group administration.
  o Screening must have few side effects and minimally invasive.
  o There must be something that can be done for the condition for which you are screening and somewhere to send cases.
  o Privacy must be protected.
• Screening can be a form of case finding.
• Family history aids in determining risk and the discussion of risk reduction.

Screening Program Planning-
• Location/setting accessible to the targeted population
• Consider targeted community populations
• Timing – what other community activities are going on
• Plan for protecting privacy and maintaining the community’s trust
• Provide adequate assessment
• Referral resources – line them up ahead of time. Know what you will do with cases.

Screening Program Evaluation -
• Evaluate impact- outcomes
• Evaluate process – was the plan followed? Did the plan work for the target population?
• Justification to continue
• Improve services provided
• Process – numbers served, number of volunteers and volunteer hours, efficacy of reporting results to participants, validity and reliability of testing, location and timing

Referral Process -
• Appropriate referral and counseling – Did anyone get lost?
• F/U calls to participants who were referred to see if appointments were made and experiences, to agencies to see if referrals were appropriate

Content Area VIII. Education for Populations and Communities
12 Questions (8%)

A.) Learning Needs Assessment –

Attributes of Effective Health Communication
http://www.businessgrouphealth.org/healthtopics/maternalchild/investing/docs/5_healthcommunication.pdf (page 2)

• Accurate – valid, not biased
• Available – accessible and appropriate to audience
• Balance – benefits and risks
• Consistent – internal consistency
• Culturally competent
• Evidence based- based on research
• Reach – content reaches the largest numbers in target population
• Reliable – credible and up to date
• Repetition – repeated over time
• Timeliness – provided when the audience needs it
• Understandability- readability and language level appropriate to audience

Learning Process
http://www.limglobal.net/readings/articles/Excerpt%20IFAL%20Sept%202004.pdf

• Learning as acquisition- knowledge is substantive (i.e. learning a skill) that is acquired through learning experiences (tangible actions).
• Learning as reflective – create new meaning rather that digest pre-existing knowledge
• Practice base community process- participate in meaningful activities in the community rather than on their mental meanings (self-awareness)
• Learning as “embodied co-emergent process” – occurs in all experiences and relationships
• Learning is a change in behavior and teaching can be seen as “reshaping behavior”.

Pedagogy – Literally means the “art and science of teaching children”16 - the teacher structures the learning environment and content, and guides the learning process.
http://www.intime.uni.edu/model/teacher/pedagogysummary.html
• Teachers are committed to students and their learning
• Teachers thoroughly know the subject matter they teach
• Teachers take responsibility for managing and monitoring their students’ learning
• Teachers systematically examine their craft and learn from experience teaching
• Teachers are members of a learning community

**Andragogy**
“Is any intentional and professionally guided activity that aims at a change in [adults].”\(^\text{16}\) The adult learner guides their own learning, so are guided to be self-directed. The following tenants are involved:

- Adult learners need to know the value of what is to be learned/why they should learn something
- Adult learners desire autonomy and self-direction
- Adult learners want their experience and what they bring to the table to be respected and valued
- Education must meet the adult learners goal or need
- Adult learners are motivated to learn when content is connected to real-life experience
- Adult learners are motivated by their own internal drivers.

http://teachinglearningresources.pbworks.com/w/page/30310516/Andragogy--Adult%20Learning%20Theory

**Effective Adult Education** is based on the needs of the learner. The learner acknowledges a gap between their knowledge & skills and what they want/need to know. \(^\text{16}\)

**Learning Needs Assessment** - Effective education takes into consideration the learner’s developmental level, demographic, ethnographic.

- Starts with an assessment of learning readiness
- VARK – visual, aural, read/write, kinesthetic inventory assesses learning style (uses case studies) developed by Fleming & Mills. [http://thelearningstyles.com/](http://thelearningstyles.com/)
- Myers-Briggs (introvert/extravert) – assesses learning style and how information is processed and applied/decisions

**Kolb’s Experimental Learning Style Inventory** -\(^\text{16}\)

Uses a test to categorize learners:

- **Converger** – Scores high on abstract thinking. Internalizes by doing. Likes the practical application of what is learned. Likes a single, correct answer and does best in situations where this is the case. “The Devil’s Advocate Learner.” Like to learn by impersonal learning situations, observation, projects, homework. Frustrated by unstructured discovery learning, exercises and simulations.

- **Diverger** – Polar opposite of the Converger. Greatest strength is creativity and the ability to imagine. Excels at brainstorming. Interested in people. Tend to be emotional. “The Social Comfort Learner.” Like to learn by concrete experience, lectures, field trips, demos, simulations, feedback.
• **Assimilator** – Strength is in their ability to reflect and to conceptualize theories. Excells in inductive reasoning and taking various ideas and observations and synthesizing them into an integrated whole. Likes to learn theory that is precise and logically sound. Likes basic sciences and math better than applied sciences. “The Fact Oriented Learner” Like to learn through impersonal experiences like lectures, private reflection.

• **Accommodator** – Polar opposite of the Assimilator. Strengths lie in carrying out experiments and plans. They like to involve themselves in new experiences. This person is a risk taker and learns by trial and error. “The Hands-On Learner.” Likes internships, practice sessions, laboratory experimentation.

**Creating successful public health education projects/programs** –
• Must determine the outcomes of learner, objectives, and goals. The work plan should include SMART Objectives –
  - S-Specific
  - M-Measurable
  - A-Achievable/Assignable
  - R-Realistic
  - T-Timely
  - Written to include- behavior, condition of performance & performance criteria
  - Program content is dictated or prescribed by objectives
• Also see: [http://www.marchofdimes.com/chapterassets/files/SMART_objectives.pdf](http://www.marchofdimes.com/chapterassets/files/SMART_objectives.pdf)

**Implementation includes:**
• Selection of instructional method
• Delivery system
• Organization of content – by level of difficulty
• Engage community to deliver public health education

**Evaluation of educational programs:**
• Formative – assess effects of education through testing, discussion
• Process – evaluates data such as; numbers of participants, subjective feedback from
• Participants, direct observation, helps to identify barriers, make adjustments
• Outcome – were learning objectives met use, valid, reliable, parametric (interval, ratio) Measures

**Low Health Literacy**–
• Approximately 50% of healthcare clients have difficulty reading health related materials above a 5th grade level.
• Information should be produced at or below a 6th grade reading level. Low health literacy is most often hidden and linked to increased morbidity.
  - Use SMOG Index – count polysyllabic words (more than 3 syllables), in 30 sentences take square root and add 3.
  - [http://www.harrymclaughlin.com/SMOG.htm](http://www.harrymclaughlin.com/SMOG.htm) and
  - Health literacy is the ability to read, comprehend and act.
Helping those with low literacy: shame-free environment, simple language with examples, teach-back, invite family or friends.

### Culturally and Linguistically Appropriate Services (CLAS) Standards

[https://www.thinkculturalhealth.hhs.gov/Content/clas.asp](https://www.thinkculturalhealth.hhs.gov/Content/clas.asp)

<table>
<thead>
<tr>
<th>CLAS Standards</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Health care organizations should ensure that patients/consumers† receive from all staff members effective, understandable, and respectful care that is provided in a manner compatible with their cultural health beliefs and practices and preferred language.</td>
</tr>
<tr>
<td>2</td>
<td>Health care organizations should implement strategies to recruit, retain, and promote at all levels of the organization a diverse staff and leadership that are representative of the demographic characteristics of the service area.</td>
</tr>
<tr>
<td>3</td>
<td>Health care organizations should ensure that staff at all levels and across all disciplines receive ongoing education and training in CLAS delivery.</td>
</tr>
<tr>
<td>4</td>
<td>Health care organizations must offer and provide language assistance services, including bilingual staff and interpreter services, at no cost to each patient/consumer with LEP at all points of contact and in a timely manner during all hours of operation.</td>
</tr>
<tr>
<td>5</td>
<td>Health care organizations must provide to patients/consumers in their preferred language both verbal offers and written notices informing them of their right to receive language assistance services.</td>
</tr>
<tr>
<td>6</td>
<td>Health care organizations must ensure the competence of language assistance provided to limited English proficient patients/consumers by interpreters and bilingual staff. Family and friends should not be used to provide interpretation services (except on request by the patient/consumer).</td>
</tr>
<tr>
<td>7</td>
<td>Health care organizations must make available easily understood patient-related materials and post signage in the languages of the commonly encountered groups and/or groups represented in the service area.</td>
</tr>
<tr>
<td>8</td>
<td>Health care organizations should develop, implement, and promote a written strategic plan that outlines clear goals, policies, operational plans, and management accountability/oversight mechanisms to provide CLAS.</td>
</tr>
<tr>
<td>9</td>
<td>Health care organizations should conduct initial and ongoing organizational self-assessments of CLAS-related activities and are encouraged to integrate cultural and linguistic competence-related measures into their internal audits, performance improvement programs, patient satisfaction assessments, and outcomes-based evaluations.</td>
</tr>
<tr>
<td>10</td>
<td>Health care organizations should ensure that data on the individual patient’s/consumer’s race, ethnicity, and spoken and written language are collected in health records, integrated into the organization’s management information systems, and periodically updated.</td>
</tr>
<tr>
<td>11</td>
<td>Health care organizations should maintain a current demographic, cultural, and epidemiological profile of the community as well as a needs assessment to accurately plan for and implement services that respond to the cultural and linguistic characteristics of the service area.</td>
</tr>
<tr>
<td>12</td>
<td>Health care organizations should develop participatory, collaborative partnerships with communities and utilize a variety of formal and informal mechanisms to facilitate community and patient/consumer involvement in designing and implementing CLAS-related activities.</td>
</tr>
<tr>
<td>13</td>
<td>Health care organizations should ensure that conflict and grievance resolution processes are culturally and linguistically sensitive and capable of identifying, preventing, and resolving cross-cultural conflicts or complaints by patients/consumers.</td>
</tr>
<tr>
<td>14</td>
<td>Health care organizations are encouraged to make available regularly to the public information about their progress and successful innovations in implementing the CLAS standards and to provide public notice in their communities about the availability of this information.</td>
</tr>
</tbody>
</table>
Content Area IX. Health Systems, Organizations, and Networks
19 Questions (12.67%)

A.) Organizations, Networks, Systems Theories & Concepts

General Systems Theory – Ludwig von Bertalanffy
http://currentnursing.com/nursing_theory/systems_theory_in_nursing.html
• A theory about the general science of “wholeness.”
• Systems are self-regulating and self-correcting through feedback.
• Every living organism is an open system. Organizations and communities are systems, too.

Communities as Systems – Have:
• Boundaries
• Goals
• Unique characteristics
• External influences - resources, stresses
• Internal influences - economy, communication, values, polity (a politically organized unit)
• Outcomes
• Feedback- information about community functioning

Diffusion of innovation (Rogers, 1995)
http://www.stanford.edu/class/symbsys205/Diffusion%20of%20Innovations.htm
“Tipping point” makes spreading change easier/diffusion. To impact diffusion of an innovation requires persuasion (by the change agent) of an opinion leader (change an attitude) and diffuse information through mass media.
• Knowledge – person becomes aware of an innovation and has some idea of how it functions
• Persuasion – person forms a favorable or unfavorable attitude toward the innovation
• Decision – person engages in activities that lead to a choice to adopt or reject the innovation
• Implementation – person puts an innovation into use
• Confirmation – person evaluates the results of an innovation-decision already made

Organizational Culture and Dynamics-
http://www.tnellen.com/ted/tc/schein.html
• Every organization has its own culture.
• To truly understand an organization, you must understand its culture. To understand the culture, you need to assess:
  o Behavior, language, traditions
  o Group standards and values
  o The organization’s “public” values (what it says it is)
  o Its mission
  o Rules of the game
  o Climate for group interaction
  o Skills embedded in the organization
o Paradigms, how it habitually thinks and acts
o Shared meanings among the group
o Symbols or metaphors

- The culture determines the leadership.
- For public health agencies, consumers can be aware of and react to the culture.

**Group Processes - See Page 23 - Group Development/Processes**

**Community Development** - See Page 23 – Community Development Theory.

**Community Development Block Grants** – President Johnson signed legislation making community development block grants available to improve housing for low- to middle-income families and improve the economic potential of community residents in order to reduce disparities (1974). Local citizens must be involved the idea being to empower communities with funding.


**Promoting Community Empowerment** –

http://www.huduser.org/Periodicals/CITYSCPE/VOL2NUM2/dreier.pdf

Leadership-building and organizational capacity-building are essential. Examples are:
- Partnering with a capacity-building organizations or consultants
- Community member participation
- Getting community or stakeholder buy-in
- Community participation in needs identification
- Forming alliances by building across socioeconomic groups
- Helping people to impact policy locally and at the state level
- Overcoming hopelessness/barriers to sustain momentum.

Some examples of successful empowerment activities include: “take back our street” nights for making neighborhoods safer, homeownership fairs partnering with local banks (fair housing and lending), and tenant cooperatives to hold landlords accountable. Also see Page 39.

**B. Application of Organizations, Networks, Systems Theories, and Concepts** –

The test taker will be asked to demonstrate knowledge through vignettes, case examples, scenarios, synthesis.

**C. Health Care Delivery and Financing – Including Public/Community Health Nursing**

**Public and Private Systems** -
- Review Medicare and Medicaid, Child Health Insurance, the Patient Protection and Affordable Care Act – from Federal and State perspectives.
  http://www.cms.gov/
- Review Health Care Financing – including managed care, for-profit and not-for-profit providers.
  http://www.enotes.com/health-care-financing-reference/health-care-financing and
Rural vs. Urban Issues -

    - One quarter of the US population lives in rural areas; only 10% of practitioners do.
    - Rural residents are poorer than the rest of the population. More rural residents are on SNAP (Food Stamps).
    - Rural residents are twice as likely to die of unintentional injuries as more urban residents.
    - Hypertension and obesity rates are higher, as are suicide rates.

- Urban Health Issues - [http://www.rwjf.org/pr/product.jsp?id=42329](http://www.rwjf.org/pr/product.jsp?id=42329)
  - Definitions of what is urban vary.
  - One definition = population of 50,000 and have a core population density of 1,000 people per square mile

Nurse-Managed Centers - Nurse-managed centers provide a safety net for the poor and underserved in rural and urban areas. They are run by advanced practice nurses, and may be associated with universities or may be independent. Will be expanded under the PPACA. Funded by HRSA. See: [http://www.nncc.us/site/index.php/about-nurse-managed-care](http://www.nncc.us/site/index.php/about-nurse-managed-care) and [http://bhpr.hrsa.gov/nursing/grants/nmhc.html](http://bhpr.hrsa.gov/nursing/grants/nmhc.html)

Subspecialties in Public Health Nursing -


Correctional Health Nursing – nurses working with populations in jails, prisons, detention centers, holding facilities. [http://correctionalnurse.net/](http://correctionalnurse.net/)

Occupational Health Nursing – nurses working with populations within their work environment. OHNs provide workplace clinics, conduct safety education and improving working conditions to prevent injury. They balance the company’s need for productivity with worker protection (prevention, promote health, restore health). Worker/Work-place assessment – knowledge of occupational health and workforce/place safety. [https://www.aaoohn.org/](https://www.aaoohn.org/)

Community outreach and case finding - focus is connecting people to needed services.

D.) Regulations & Standards
OSHA – Occupational Health and Safety Administration –
Sets health and safety work standards. Employers are legally required to protect workers from hazards; employees have a right to know what hazards they are exposed to.

NIOSH – National Institute for Occupational Safety and Health –
http://www.cdc.gov/niosh/about.html
A Federal agency, created by the 1970 Health and Occupational Safety Act, which is under auspices of the CDC. Conducts research on occupational health and safety and makes recommendations for standards, provides education and training.

HIPPA - Health Insurance Portability Accountability Act 1996 -
http://www.hhs.gov/ocr/privacy/
Protects the privacy of identifiable, private health information. Certain public health functions are exempted from HIPPA. Information can be disclosed to a Public Health Authority (CDC, OSHA, FDA, state or local health department) for the purposes of protecting public safety, to prevent injury (child abuse, adverse events), for controlling disease or disability.

EPA- Environmental Protection Agency –
http://www.epa.gov/aboutepa/whatwedo.html
Established in 1970 to reduce environmental risk and protect the public, maintain safe air and water, establish pollution regulations, solid waste and toxic substance disposal, regulate pesticides, oversee radiation hazards, and noise abatement.

HHS – US Dept. of Health and Human Services
http://www.hhs.gov/about/
Principle government agency that protects the health of our country. Under its umbrella are: CMS, CDC, NIH, FDA, SAMHSA.

CMS - Center for Medicare and Medicaid Services –
http://www.cms.gov/History/
Provides oversight of Medicare, Medicaid, SCHIP programs. Signed into law 1965 by President Johnson. In 2003, the Medicare Modernization Act was passed that added prescription medication coverage (Medicare Part D).

CDC – Centers for Disease Control and Prevention
http://www.cdc.gov/about/organization/mission.htm
Monitors and tracts diseases, research injury, infectious disease, environmental health, genomics, global health, chronic disease prevention, birth defects and developmental disorders. Publishes the Morbidity and Mortality Weekly Report (MMWR), health statistics. Is organizational home to NIOSH.

FDA – Food and Drug Administration -
http://www.fda.gov/AboutFDA/WhatWeDo/History/default.htm
Began with the 1906 Pure Food & Drug Act and is one of the oldest regulatory agencies. Enforces safety and standards for food, drugs and cosmetics. Gives approval for experimental testing of drugs and medical devices.
NIH – National Institutes of Health –  
http://www.nih.gov/  
The mission of NIH is to seek fundamental scientific truth about the nature and behavior of living systems and the application of science to improve health, lengthen life and reduce the heavy load of illness and disability. Also contains the National Library of Medicine.

SAMHSA - Substance Abuse and Mental Health Administration –  
http://www.samhsa.gov/about/  
Coordinates and funds sustainable substance abuse and mental health programs in communities or community health agencies. Priorities are to reduce violence, substance abuse, support military families, mental health needs, recovery support after complete programs to transition into the community – housing support, etc.

E.) Policy & Planning Development

Community Health Needs Assessment –  
A process that describes the health of people in a specific area or community, enabling the identification of major risk factors for poor health and the causes of illness, and enabling the construction of actions that can address the identified needs. Need is the gap between what is and what should be in a given community. Community health problems are conditions that need improvement.

There are several widely accepted models for community health assessment. See Page 33.

Community Partnering/Community As Partner Model – (Anderson & McFarlane, 1995)  
http://journals.lww.com/ajnonline/Fulltext/2012/01001/Community_health_nursing___A_partnership_of_care.5.aspx

• PHN establishing relationships with stakeholders to achieve desired goals.

• Community-as-a-Partner Model recognizes that the community has natural barriers or defenses, some more permeable than others. People are at the heart of the model, surrounded by 8 separate sub-systems:  
  o Housing  
  o Education  
  o Health  
  o Fire and Safety  
  o Politics and government  
  o Communication  
  o Economics  
  o Recreation  
  Planned change should take into account all of these sub-systems.

• Political Awareness within the Community – Politics are about influence. It’s important to know who has influence over stakeholders in the community and what kind of leverage is in
any particular situation. Part of political competence is timing. Those seeking to influence community processes must be aware of what else is going on in the community, and why pressing an issue at a particular time may be helpful or not.

Political awareness is on a continuum. Levels of understanding:
http://blogcritics.org/politics/article/the-five-levels-of-political-awareness/
- Illiterate - may know who the president is but they do not know the issues
- Misinformed – usually patrician and gravitate to “charismatic” politicians with extreme views
- General – (most of Americans) they have a general awareness, select politician based on personal preferences not party line, are passionate about a few issues
- Activist – clearly understands issues on both sides, is involved, well read
- Expert – makes the news, sought after for opinions

- Stakeholders = Those who stand to gain or lose from the success or failure of an initiative. Stakeholders should be involved in any community-based program throughout its implementation, from brainstorming to evaluation.

- Stakeholder Analysis - http://erc.msh.org/quality/ittools/itstkan.cfm
  - Identify program target group (stakeholders – positive and negative interests)
  - Engage stakeholders – the earlier the better
  - Identify stakeholder criteria for program effectiveness – what impact are they looking for?
  - Evaluate if program will meet needs
  - Evaluate importance of each criteria

Evidence-Based Practice in Public Health – Strength for Change in Practice
Translating research into practice, “level of evidence + quality of evidence = strength for practice change”. 17
- Review of the Literature
- Levels of Evidence
- Quality of Evidence
- Program History and Data

F.) Resource Management –

Basic Management Concepts

There are three categories with functions for a manager:
- Interpersonal Contact – (figurehead, leader, & liaison)
- Information Processing – (monitor, disseminator, spokesperson)
- Decision Making- (entrepreneur, disturbance handler, resource allocator, negotiator)

Contractual Obligation – The responsibility of two or more parties to fulfill terms of a contract.
Fiduciary Responsibility – Relationship in which one person has the responsibility of care for the assets or rights of another. PHNs have a fiduciary responsibility to their community to act in the best interest of all.

http://www.efmoody.com/arbitration/fiduciary.html

Policy Implementation- Putting guidelines/plans into practice (effect); promulgation of rules that set up structures & personnel to enforce them. 3

Operating and Capital Budgets-
- Budgets are “numerical expressions of program plans”1.
- Operating budget - plan of expenditures and revenues over a specified period of time (1 year)1.
- Capital expenditure budget – long-range plan for the “acquisition of fixed assets” like buildings, capital improvements. 1

Performance Evaluation = Assessing the performance of an employee and addressing areas for improvement and development. Performance evaluation measures whether agency standards being met. Managers must develop measurable goals for improvement with time frames to re-assess. Self-assessment can be a component. Evaluations are usually conducted annually and may be used to justify pay step increases.

G.) Quality Improvement & Risk Management –

Documentation Standards- = An agency’s standards for how care is recorded документирован on an individual or program level. Provides a legal record, and should be performed in a timely manner to ensure accuracy

- Credentialing – There are several types of credentialing pertinent to PHNs.
  - Licensure – possession of a registration and license to practice as an RN or APN. Verified through the state licensing board.
  - Education – ANA Scope and Standards document calls for a BSN as minimum preparation to practice as a PHN. Verified through transcripts.
  - Additional credentials – such as APHN-BD or CPH may be obtained after earning a Master’s degree.
  - The purpose is to determine if the professional can perform the tasks required for the job.
  - Patient care reimbursement to the agency may require certain credentials.
- Accreditation- conducted for institutions.
  - evaluate operations, policies, standards, quality of care
  - For public health agencies, this is done through PHAB – the Public Health Accreditation Board. See: www.phaboard.org
  - See Page 46.

Continuous Quality Improvement (CQI)/Total Quality Management (TQM) Models
Continuous Quality Improvement (CQI)
http://www.statit.com/services/CQIOverview.pdf
- Seeks to continually improve processes of care.
- Must be able to identify and measure success; success is meeting the needs of the populations we serve.
- Maintain consistency of purpose (clear objectives, mission)
- New organizational philosophy (involving all staff)
- Systems decisions must consider more than price (quality, impact)
- Focus on small, incremental changes and work toward constant improvement and customer satisfaction.
- Provide adequate staff training and retraining of staff (reinforce)
- Create leaders at all levels
- Create an atmosphere of reporting (facilitates improvement) not fear
- Encourage or set up work across departments (cooperation)

Total Quality Management Process - Plan, Do, Check, Act (PDCA).
http://searchcio.techtarget.com/definition/Total-Quality-Management
- In the planning phase, problem is defined, relevant data collected, and the root cause of the problem is identified.
- In the doing phase, a solution is developed and implemented based on available evidence. At this phase, agreement is reached about how effectiveness will be measured.
- In the checking phase, the before and after data comparison is done.
- In the acting phase, recommendations are documented for addressing issues during the next Plan, Do, Check, Act cycle.

Risk management protocols = Identification of areas where mistakes of omission or commission can be made. For health departments, this might include safety check-lists, accessible protocols, hand washing reminder programs. The focus is on providing steps to reduce critical errors and putting safety systems in place, not in assigning blame.

Performance Standards = defined standards/expectations for how business is to be conducted and how performance will be measured. Standards might reflect completion of work products or standards for patient outcomes as an ideal.

H.) Conflict Management –
http://home.snu.edu/~hculbert/conflict.htm
There are several available models and strategies for conflict management.

Conflict is both natural and inevitable. Not all conflict is bad. Conflict forces evaluation and, if managed properly, can promote growth and harmony. If handled inappropriately, it can cause reduce morale, impair productivity, encourage inappropriate behavior. Conflict can arise out of differing values, competition over scarce resources, relationship or communication breakdowns, and lack of information.
http://www.mediatecalm.ca/pdfs/what%20nurses%20need%20to%20know.pdf

Each technique has advantages and disadvantages.

- Collaborating – I win, you win.
- Compromising – I bend, you bend.
- Accommodating – I lose, you win.
- Competing – I win, you lose.
- Avoiding – No winners, no losers.


**Steps:**

- Calm down and think clearly.
- Listed and tell, using reflection and “I-statements.”
- Make a diagnosis: What are the main issues or needs?
- Brainstorm solutions, without evaluating.
- Now, evaluate the solutions and pick the best one(s).
- Put a plan in place for how the solution will become reality.

**Causes of conflict in the workplace for managers:** [http://edis.ifas.ufl.edu/hr024](http://edis.ifas.ifas.ufl.edu/hr024)

- Conflicting needs – competition of resource availability
- Conflicting styles – employees need for structured vs. unstructured
- Conflicting perceptions – this requires clear communication
- Conflicting goals – job responsibilities need to be clear
- Conflicting pressures – deadlines and resource issues
- Different personal values – strive for a culturally competent staff
- Unpredictable policies – consistency and clear communication reduces conflict

**Workplace Conflict Management Considerations** -

- May be a legal issue – if actions are seen as inciting prejudice, injustice.
- Have good policies and procedures in place to help avoid workplace conflict.
  - Grievance procedures
  - Always follow policy to avoid accusations of unfairness.
- Cultural differences are to be respected, but unacceptable behaviors must be addressed.
- Interdisciplinary teams being aware of other disciplines will help avoid conflict.

I.) Global Health Concepts

**Global Health Organizations -**

**World Health Organization (WHO)** - [http://www.who.int/en/](http://www.who.int/en/)

- Established in 1954 as the directing and coordinating authority for health within the United Nations system. It provides leadership in global health matters, setting norms and standards, setting the world health research agenda and sharing evidence-based policy options. WHO also provides training and technical support to countries and monitors health trends.
- US is a member.
• The United Nations also sponsors United Nations Educational Scientific & Cultural Organization (UNESCO) and The United Nations Children’s Fund (UNICEF).

Pan American Health Organization (PAHO) –
• Established 1902 and linked to WHO. U.S. is a member.
• Has mission to improve health and living standards in the Americas.

International Federation of Red Cross and Red Crescent Societies-
http://www.ifrc.org/
• Worldwide humanitarian organization – a volunteer network.
• Provides assistance without discrimination for nationality, race, ethnicity, religion, class or political leaning.
• Responds to health emergencies, including wars and conflicts.
• Gives a global voice to vulnerable people.

The Three P’s of Public Health Nursing and the evolution of Health Conditions -
• PHN has 3 main foci in global health – Population, Problem and Procedure or intervention.\(^\text{10}\)
• There are 3 periods stemming from modernization of cultures (evolution of health conditions).\(^\text{8}\)
  • **Infectious Disease** – More common in developing countries. Measles and diarrheal diseases are major causes of mortality in children under age 5 in the developing world.
  • **Chronic Disease** – Once infectious diseases are reduced with antibiotics and other control measures, chronic disease emerges more strongly. In developed countries, there is a lower mortality rate but higher morbidity (heart disease, cancer, arthritis).
  • **Social Health Conditions** – obesity, sexually-transmitted disease, additions.
    Some countries can experience all 3 simultaneously (H1N1, Heart disease, and adolescent prostitution.)

Meeting basic needs with all population– basic needs must be met before public health can be adequately addressed (first things first). This concept is analogous to Maslow’s Hierarchy of Needs, but on the population level.

Emerging and Re-Emerging Infectious Diseases- Linked to NIH website.

<table>
<thead>
<tr>
<th>Anthrax</th>
<th>Lyme disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial Resistance</td>
<td>Plague</td>
</tr>
<tr>
<td>Botulism</td>
<td>Prion Diseases</td>
</tr>
<tr>
<td>Campylobacteriosis</td>
<td>SARS</td>
</tr>
<tr>
<td>Dengue Fever</td>
<td>Salmonellosis/Salmonella</td>
</tr>
<tr>
<td>Ehrlichiosis</td>
<td>Shigellosis/Shigella</td>
</tr>
<tr>
<td><em>E. coli</em></td>
<td>Smallpox</td>
</tr>
<tr>
<td>Flu (Influenza)</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Group A Streptococcal Infections</td>
<td>Tularemia</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>West Nile Virus</td>
</tr>
</tbody>
</table>
Global distribution of resources –

A major ethical issue for health care is the inequitable distribution of health resources, including health care professionals, facilities, pharmaceuticals and devices. A hot issue is the luring of health professionals away from their country of origin to work in more affluent countries. See: http://content.healthaffairs.org/content/23/3/69.full.pdf

Immigrants, Refugees, & Migrant Workers -

Certain infections are not endemic or indigenous to the U.S. and are often missed in immigrants, refugees & migrant workers.
• Chagas disease (trypanosomiasis) protozon from assassin bug – indigenous in Latin American
• Pork tape worm (cysticercosis)
• Resistant TB
• Lead or Mercury Poisoning

Refugees often misunderstand US health care. See:
http://www.health.state.mn.us/divs/idepc/refugee/hcp/healthguideeng.pdf

See: CDC Refugee Health Guidelines
http://www.unhcr.org/pages/49c3646cdd.html

Migrant farmworkers - have a very low life expectancy, and are crippled by lack of access to health care, social isolation, language differences, repetitive occupational injuries, untreated chronic diseases, exposure to pesticides, lack of water and toilet facilities, long hours, lack of continuity of care, lack of transportation and many other disadvantages that contribute to their early mortality.

The Immigration Paradox – This occurs when new immigrants have lower rates of disease or negative health outcomes (like low birth weight, psychiatric disorders) than those who have been in the country longer.
http://pediatrics.aappublications.org/content/124/Supplement_3/S187.full

Content Area X. Leadership
7 Questions (4.67%)

See ASTDN Paper on Public Health Nursing Leadership, Responsibilities and Issues in State Health Departments:
A.) Leadership Concepts –

• Leadership is the ability to influence others, performing at a level above what is required, motivate and mobilize others.¹
• Formal (holds a position of authority) vs. Informal (someone viewed by peers as worthy of listening to or following, does not hold a position of authority).
• Managing diversity – creating an environment of inclusion, “safe for differences” that maximized everyone’s full potential.¹⁸
• Ethical Leadership – knowing your core values and having the courage to carry them out (4 V’s of ethical leadership – aligns the internal and external for the purposes of common good). http://ethicalleadership.org/about-us/philosophies-definitions/ethical-leadership

B.) Professionalism

Mentoring – expert who establishes a long-term relationship with the mentee to help them meet professional goals and or learn the role


Sources of free public health nursing continuing education:
www.phnready.org
www.nursetip.org
Preceptor – guidance and role modeling are ways to nurture colleagues or students

Professional Credibility - clearly demonstrates expertise in an area

Expert – perform as an expert maintain standards of behavior and accountability

Another resource that was referenced but could be reviewed in the Ervin text is the Anderson & McFarlane text (see reference list). 19

Figure 1 Minnesota Wheel

Additional References