Acknowledgements

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The development of the practice guide was initiated in 2008 as part of graduate nursing student’s practicum, and evolved over multiple academic semesters to include contributions of nine students from the University of Hartford and one from the University of Connecticut. Separate components of the practice applications were developed by the following individuals:

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- Rita Foster, RN, MSN, Public Health Nurse, East Shore District Health Department
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- Joan Lazar, RN, MSN
- Beth Mertz, RN, MSN, Public Health Nurse, Hartford Department of Health and Human Services

With sincere appreciation,

Barbara Dingfelder, RN, BSN, MPH, PHCNS-BC, CHES
CAPHN Board Member & Practice Guide Workgroup Chair
PREFACE

In response to repeated requests from local public health nurses, the Connecticut Association of Public Health Nurses coordinated the development of the first orientation guide for nurses employed by Connecticut’s municipal health departments and health districts (i.e., local health agencies). The purpose of the information and materials complied in the Practice Guide for Connecticut’s Local Public Health Nurses is two-fold:

1) To assist the nurse’s transition from illness focused care for individuals to health promotion, disease and injury prevention for families, communities and population-based services.
2) To introduce the nurse to the broad scope of municipal health department and health district (i.e., local health agencies) services.

The Practice Guide for Connecticut’s Local Public Health Nurses includes:

- Context regarding the public health core functions to include the ten essential services with corresponding examples of public health nursing practice interventions.
- An integrated nursing and public health framework with a descriptive model for practice.
- A description of characteristics that distinguish public health nursing from other nursing specialties.
- A discussion of the influences and ethical considerations for local public health nursing practice in Connecticut.
- Reference materials and tools to assist nurses carryout the various functions and public health nursing applications with processes and teaching points summarized.

The Practice Guide for Connecticut’s Local Public Health Nurses is organized into three broad sections, with chapters that are interrelated with content outlined in the table of contents, which includes:

I. FOUNDATIONAL CONTENT

- **Chapter 1** provides an introduction and foundation for contemporary public health nursing practice.

- **Chapter 2** describes an integrated nursing and public health framework and the distinguishing features of local public health nursing practice with professional and ethical considerations.

- **Chapter 3** provides an overview of the historical influences and evolution of public health nursing practice in Connecticut.

- **Chapter 4** discusses the contemporary influences affecting local health services and public health nursing practice in the 21st century.

II. PRACTICAL APPLICATIONS

- **Chapters 5-12** provide the Local Public Health Nursing Practice Applications in relation to the various roles and activities that nurses may engage in to carry out the local health agencies’ services. Teaching tips, considerations for local public health nursing practice, and resource
information are integrated throughout each of the preceding chapters, which are categorized under the following focus areas:

- Assessing Community Health Status
- Acute Communicable Disease
- Chronic Disease Considerations
- Preventive Health Interventions
- Community Outreach Activities
- Environmental Health Risk Considerations
- Mobilizing Community Partnerships and Actions to Identify and Solve Health Problems
- Evaluation of Services and Program Considerations

III. TOOLS AND SAMPLES

- Appendices provide additional resource materials and sample worksheets

Recommendations on How to Use this Guide

The Practice Guide for Connecticut’s Local Public Health Nurses was developed to be a reference and resource for nurses working or affiliated with Connecticut’s municipal health departments and health districts (i.e., local health agencies). The Guide is a compilation of a broad scope of information gleaned from a literature review, orientation resources utilized in other states, leading nursing and public health national organizations, input from practicing local public health nurses, and Connecticut General Statutes. Due to the breadth and nature of information, it is anticipated that the user of the guide will use various components or specific sections as needed (or relevant) at different times. Local public health nurses are encouraged to review content covered and selectively choose and revisit sections as needed.

Disclaimer

The Practice Guide for Connecticut’s Local Public Health Nurses was developed by the Connecticut Association of Public Health Nurses in an effort to fill a need to streamline resource information on the broad and varied services that local public health nurses may be engaged. The Guide is intended to be a resource tool and does not provide or replace the local health agency’s policies, procedures or protocols. Every effort has been made to align the content and practice applications with the various state programs and requirements; as well as maintaining sensitivity to the nuances of the variations in Connecticut’s municipal health departments and health districts.

Links to the program requirements and sources of references are provided throughout the guide to assure credibility of content, validity of considerations, and context for applications. The organizational source or state program is responsible for maintaining current guidance and requirements, which is outside of the scope of the Connecticut Association of Public Health Nurses. The Connecticut Department of Public Health has not endorsed or approved the Guide.
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Final Draft For Review/Not for Distribution

CONNECTICUT ASSOCIATION OF PUBLIC HEALTH NURSES
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I. Foundational Content
CHAPTER 1: INTRODUCTION

Public health nursing is the practice of promoting and protecting the health of populations using knowledge from nursing, social and public health sciences. (1996, American Public Health Association, Public Health Nursing Section)

Welcome to the challenging work of Connecticut’s local public health nursing practice! Nurses bring a unique combination of education, clinical experiences and perspectives to the delivery of essential public health services. Regardless of your clinical experience and education preparation, nurses working in Connecticut’s municipal health departments and health districts (i.e., local health agencies) need to have a frame of reference for action. Fundamental considerations include gaining an understanding of Connecticut’s public health system’s infrastructure and the implications for local health services, as well as being knowledgeable about the scope of public health nursing practice. This introductory chapter of the practice guide focuses on establishing a foundation for understanding local public health nursing practice in Connecticut by:

- Defining Local Public Health Nursing Practice.
- Describing Connecticut’s Local Health Infrastructure and Implications for Practice.
- Discussing the Three Core Functions and 10 Essential Public Health Services.
- Introducing the public health nursing core competencies.

SECTION 1-1: OVERVIEW AND CONTEXT

Scope of Local Public Health Nursing Services

Nurses working for Connecticut’s local health system perform a variety of services for citizens that range from direct care to population-based health services to managing and administering programs. The practice may be specialized in an area such as communicable disease, environmental health, maternal-child health, or may require a generalist who covers multiple areas of public health. Examples include:

- Planning, implementing and conducting community-based health screening or vaccination clinics;
- Communicable disease investigations and case management;
- Convening health promotion education campaigns for the specific populations, public and private organizations, as well as health care professionals.

Professional nursing entities recognize that there is a transitional shift of nursing practice from hospital based tertiary care to models encompassing preventatives measures for population-based services. Population-based practice can be defined in part by interventions that shape the over-all health profile of a group of people or community. Interventions focus on prevention and protection in contrast to primarily rescue and medical treatment.  

and strategies employed to target behavior, reduce risk or exposure. Some examples include administering childhood immunizations for preventable diseases (e.g., polio, diphtheria, and influenza), implementing infection control protocols in daycare centers, or educating families on asthma environmental triggers and techniques for effective disease management.

**Practice Guide Context**

The development of this guide includes considerations for a collective view of Connecticut’s local health system for a nurse new to public health, as well as the experienced local public health nurse. The Practice Guide for Connecticut’s Local Public Health Nurses does NOT provide protocols or replace the standard operating procedures instituted by municipal health departments or health districts. Nor does the guide replace the Department of Public Health program specific guidance. Where available, links to specific requirements and forms are included to assist the nurse find current instructions and forms. The Practice Guide provides context for a frame of reference for the nurse.

Staff-level public health nurses inherently have different needs than nurses who work at the community systems level and those who are in management and policy positions within an agency. Consequently, some nurses may need only a portion of the materials, while others may use it as a beginning of continuing education and academic preparation.

This practice guide integrates key constructs and principles from:

- The Public Health Nursing Scope and Standards of Practice (2007, ANA),
- A literature review of orientation materials for nurses used in other states,
- Core competencies for public health nursing,
- The National Public Health Performance Standards and the Public Health Accreditation Board’s performance measures, and
- Considerations of Connecticut’s public health system and state laws.

**SECTION 1-2: DEFINING LOCAL PUBLIC HEALTH NURSING PRACTICE**

**Defining Public Health Nursing**

Public health nursing is the practice of promoting and protecting the health of populations using knowledge from nursing, social and public health sciences. Integral to public health nursing practice is community involvement and knowledge about the entire population with personal, clinical understandings of the health and illness experiences of individuals and families within the community.

---


Public Health Infrastructure

Public health infrastructure refers to the federal, state and local governments’ capacity to meet the basic responsibilities of preserving the health of communities. The public health system includes many diverse organizations and collaborations encompassing local, state, and federal governmental entities, as well as public and private organizations, and academia. However, governmental agencies (i.e., federal, state and local health agencies) are the recognized “backbone” of the public health system. The public health system comprises the collective response of federal, state and local government to provide surveillance, vital statistics, health information and education, epidemiological investigations, laboratory analysis, regulatory oversight, case management, and administration of public health services and programs.6

SECTION 1-3: CONNECTICUT’S LOCAL HEALTH SYSTEM AND IMPLICATIONS FOR PUBLIC HEALTH NURSING PRACTICE

Tiers of Connecticut’s Public Health State’s System and the Inter-Connectivity

The Connecticut public health system encompasses only two tiers, the state and local level, and has a long history of being a home rule state preferring local governmental control. Consequently, the public health system is decentralized where the municipal health departments and health districts operate independently from each other and are separate from the Connecticut Department of Public Health (DPH). However, the local health agencies are linked to DPH by statute7 in several important ways:

- Approval of appointments of directors of health by the Commissioner of the Department of Public Health.
- Mandates to carry out critical public health functions in the areas of infectious disease control in the community, environmental health, etc.
- Legal authority to levy fines and penalties for public health code violations, and to grant and rescind license permits such as for food services establishments or septic systems.
- Funding to carry out public health activities to improve the health of people within their respective jurisdictions.

Connecticut’s Local Health Agencies

Each municipality in Connecticut is served by a local health agency. Municipal health departments serve the local jurisdiction within the town or city and may operate on a part-time or full-time basis. A district department of health is formed when two or more municipalities join voluntarily and a full-time local health agency provides services for the communities within the combined jurisdiction as authorized by Connecticut General Statute Section (CGS) §19a-241.

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7 Connecticut Genera Statutes Chapter 368a Sections §19a-2a, 19a-200, and §19a-244
• **Municipal Health Departments**

Municipal health departments serve under the direction of municipal legislative body (i.e., Board of Selectpersons or Town Council) as defined by the municipal charter of the town served. Municipalities having a population of 40,000 or more for five consecutive years are required to be served by a full-time director of health.\(^8\) The municipal health department is part of the local governmental system. As an agency of the local government some of the operational functions may be carried out by staff not directly affiliated with or employed by the municipal health department. For instance, human resources and contracts, or provisions for office space and utilities may be provided as part of the local governmental services. Municipalities may or may not include provisions for social services, school health and housing authority, depending on their town charters.

• **Health Districts**

A health district serves under the direction and governance of a board of directors, which includes representatives from each member of the respective municipalities.\(^9\) A health district operates as an independent business and affiliate of each of the municipalities within the combined jurisdiction of the health district. A health district is responsible for all of the operational costs of the agency (e.g., office space, utilities, equipment, staff, supplies, etc.) and receives funds from each of the municipalities comprising the district.

• **Governance**

Municipal boards in the early 1900’s were governing as well as responsible for policy-development, and determined the services and programs that the local health agency would provide. The municipal boards were eventually codified in local municipal charters, where many remain today and function in an advisory capacity. The local chief elected officials approves the final activities and annual budgets are included as a component of the municipality’s annual budget.

In contrast, all district boards of health are governing bodies empowered pursuant Chapter §368f of the Connecticut General Statutes. The board for the district develops and implements strategic goals and objectives that support desired public health outcomes and establishes public health policy for the health district. The Board of the district establishes by-laws in compliance with Connecticut’s Public Health Code, state statutes and local ordinances that should describe the scope of services to be provided by the health agency for the district. The Board for the district provides oversight of financial activities of the health district and the development and approval of the annual budget following a public hearing.\(^10\)

• **Distribution of Local Health Agencies and Proportion of Population Served**

As of January 2013, Connecticut has 74 independent local health agencies serving 169 towns within approximately 4,800 square miles. Connecticut has an estimated population of 3.5 million (2010 census), and includes two sovereign tribal nations. Local health agencies include 51 full-time and 23 that are operational on a part-time basis. The full-time departments include 30 individual municipal health departments and 21 health districts (encompassing from two to 18 towns), which provide services to

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\(^8\) Connecticut General Statues, Municipal Health Authorities, Chapter 368e, Section 19a-200(a).

\(^9\) Connecticut General Statues §19a-241.

\(^10\) Connecticut General Statute §19a-243(c).
approximately 95% of the state’s residents. A map of Connecticut delineating the local health agencies (2012) across the state is provided as Appendix 1.

Provisions for Local Health Services

- **Scope of Responsibilities**

Municipal health departments and health districts must include in their responsibilities the enforcement of Connecticut’s public health code and mandates authorized by Connecticut General Statutes as required by DPH, as well as local ordinances and health district regulations. Municipal health departments and health districts may contract or employ professional staff to carry out public health services. Services that are provided by professional staff through contractual agreements supplement the local health services and add to the local health infrastructure (e.g., physicians, nurses, technicians, community health centers, school based health centers, etc.).

- **Medical Advisor for Local Health Services**

Medical advisors provide formal delegation of medical acts to licensed professional nurses, licensed practical nurses, and lesser skilled assistants. Municipal health departments and health districts may contract or employ physicians for health services pursuant of municipal charters or health district’s Board of Health by-laws. In cooperation with the director of health, a medical advisor should make interpretation of factors related to the health of residents and work with the nursing staff to deal with communicable disease control and the delivery of local health services such as vaccinations.

A medical advisor who works with a local health agency should take steps to preserve and improve the health of residents in accordance with the requirements of Connecticut’s Public Health Code and the sanitary regulations in force in municipalities or health district. It is recommended that only physicians who are currently licensed and whose license is in good standing with the Connecticut Department of Public Health and Connecticut Medical Board be eligible for the role of medical advisor.

- **Variations in Revenues Supporting Local Health Services**

Data regarding municipal health departments and health districts’ revenues is reported to the DPH, Office of Local Health Administration, annually and includes sources of funding for their operations. This information is not standardized across all municipal health departments and health districts. The annual reports include data regarding staffing and illustrates the variability between the size and capacity of the local health agency operations.

As a group, the local health agencies receive over half of their revenues from municipal appropriations and agency fees and charges. Some of the municipal health departments receive significant amounts of categorical grants from state and federal agencies to fund particular services or programs such as AIDS prevention and treatment, immunizations, preventive health programs, STD prevention and other programs.

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12 Connecticut General Statute §19a-223a.
SECTION 1-4: THE CORE FUNCTIONS OF PUBLIC HEALTH

Three Core Functions

The core functions of public health are categorized into three primary areas that are carried out through the collective efforts of our federal, state, and local public health system. The three core functions are inter-connected and include:14

- **Assessment**—encompasses all the activities involved in the concept of community diagnosis, such as surveillance, identifying needs, analyzing the causes of health problems, collecting and interpreting data, case finding, monitoring and forecasting trends, research, and evaluation of outcomes.

- **Policy development**—occurs as the result of interactions among many public and private organizations and individuals. It is the process by which decisions to address problems are made, goals and the proper means for reaching them are chosen, conflicting views about solutions are handled, and resources are allocated. Policy development includes the development and revision to legislative mandates, as well as the agency’s policies and protocols.

- **Assurance**—provides services necessary to reach agreed upon goals, either by encouraging private sector actions, by requiring it, or by providing services directly. The assurance function in public health involves stimulating the implementation of legislative mandates and enforcing regulations, as well as maintaining statutory responsibilities.

The Ten Essential Public Health Services

The Core Public Health Function Steering Committee (1994) developed the framework for the essential services necessary to carry out the three core public health system functions. Committee members included representatives from the U.S. Public Health Service agencies and other leaders from public health organizations. The ten essential public health services were defined and remain the foundation of the collective efforts and roles of all public health professionals today. The essential services are inter-connected as illustrated in Diagram 1 and do not occur in discrete entities operating in isolation from one another.15

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Four essential components are necessary for implementing public health core functions, which encompass evidence base of practice, clinical preventive services – health promotion, health systems and health policy, and community aspects of practice. As described in the *Public Health Nursing: A Partner for Healthy Populations* (2000), examples of nursing activities for each of the 10 essential public health services are provided in Table 1.

**Table 1: Examples of Public Health Nursing Practice and the Ten Essential Public Health Services**

<table>
<thead>
<tr>
<th>Essential Public Health Services</th>
<th>Examples of Public Health Nursing Interventions</th>
</tr>
</thead>
</table>
| Monitor health status to identify community health problems | • Participate in community assessment.  
• Identify sub-populations at risk for disease, injury or disability.  
• Collect information on interventions to special populations.  
• Define and evaluate effective strategies and programs.  
• Identify potential environmental hazards. |
| Diagnose and investigate health problems and health hazards in the community | • Understand and identify determinants of health and disease.  
• Apply knowledge about environmental influence on health.  
• Recognize multiple causes of or factors in health and illness.  
• Participate in case identification and treatment of persons with communicable diseases. |
| Inform, educate, and empower people about health issues | • Develop health and educational plans for individuals and families in multiple settings.  
• Develop and implement community-based health education. |

| Mobilize community partnerships to identify and solve health problems. | • Interact regularly with many providers and services within each community.  
• Convene groups and providers who share common concerns and development of interventions.  
• Provide leadership to prioritize community problems and development of interventions.  
• Explain the significance of health issues to the public and participate in developing plans of action. |
|---|---|
| Develop policies and plans that support individual and community health efforts. | • Develop health and educational plans for individuals and families in multiple settings.  
• Develop and implement community-based health education.  
• Provide regular reports on health status of special populations in clinic settings, community settings, and groups.  
• Advocate for and with underserved and disadvantaged populations.  
• Assure health planning that includes primary prevention and early intervention strategies.  
• Identify health population behaviors and maintain successful intervention strategies through reinforcement and continual funding. |
| Enforce laws and regulations that protect health and ensure safety. | • Regulate and support safe care and treatment for dependent populations such as children and frail elderly.  
• Implement ordinances and laws that protect the environment.  
• Establish procedures and processes to ensure competent implementation of treatment schedules for diseases critical to public health.  
• Participate in the development of local ordinances that protect communities and the environment from potential hazards and pollution. |
| Link people to needed personal health services and assure the provision of health care when otherwise unavailable. | • Provide clinical preventive services to certain high-risk populations.  
• Establish programs and services to meet special needs.  
• Recommend clinical care and other services to clients and |
| Ensure a competent public health and personal health care workforce. | their families in clinics, homes and the community.  
- Provide referrals through community links to needed care.  
- Participate in community provider coalitions and meetings to educate others and to identify service centers for community populations.  
- Provide clinical surveillance and identification of communicable disease. |
| Evaluate effectiveness, accessibility, and quality of personal and population-based health services | Participate in continuing education and preparation to assure competence.  
- Define and support proper delegation to unlicensed assistive personnel in community settings.  
- Establish standards for performance.  
- Maintain patient record systems and community documents.  
- Establish and maintain procedures and protocols for patient care.  
- Participate in quality assurance activities, such as record audits, agency evaluations, and training. |
| Research for new insights and innovative solutions to health problems. | Collect data and information on community interventions.  
- Identify unserved and underserved populations in communities.  
- Review and analyze data on the health status of communities.  
- Participate with communities in assessing services and outcomes of care.  
- Identify and define enhanced services required to manage health status of complex populations and special risk groups.  
- Implement nontraditional interventions and approaches to effect change in special populations.  
- Participate in the collection of information and data to improve the surveillance and understanding the special problems.  
- Develop collegial relationships with academic institutions to explore new interventions.  
- Participate in early identification of factors detrimental to the community’s health.  
- Formulate and use investigative tools to identify and affect care delivery and program planning. |

SECTION 1-5: PROFESSIONAL PUBLIC HEALTH NURSING COMPETENCIES

Public Health Core Competencies

The Council of Linkages Between Academia and Public Health Practice (Council of Linkages) has defined core competencies that describe the desirable skills and performance measures of the public health professionals for the delivery of the ten essential public health services. The Council of Linkages is a coalition of representatives from 19 national public health organizations, which includes the Quad Council of Public Health Nursing.17 The Quad Council of Public Health Nursing is an alliance of four national nursing organizations that address public health nursing issues, and includes:

- The American Nurses Association Council on Nursing Practice and Economics,
- The Public Health Nursing Section of the American Public Health Association,
- The Association of Community Health Nurse Educators,
- The Association of Public Health Nurses, formerly the Association of State and Territorial Directors of Nursing.18

Public Health Nursing Core Competencies

The Quad Council defined core competencies for public health nursing practice and used the Council of Linkage core competencies as the base, while also reflecting the unique practice of public health nursing. The competencies span a continuum along three tiers, which intersect both public health and nursing practice and moves from a generalist to specialist and leader:

- Tier 1 reflects public health nursing practice primarily directed at individuals, families and groups in the community.
- Tier 2 reflects public health nursing practice primarily directed at communities or populations.
- Tier 3 reflects systems level leadership demonstrated by public health nurses.

The Council of Linkages recognizes eight domains of public health professional's core competencies and is provided as Appendix 2. The public health nursing competencies reflect basic competencies for each of the eight domains:

- Analytic and Assessment Skills.
- Policy Development/Program Planning Skills.
- Communication Skills.
- Cultural Competency Skills.
- Community Dimensions of Practice Skills.
- Public Health Sciences Skills.
- Financial Planning and Management Skills.
- Leadership and Systems Thinking Skills.

SECTION 1-6: INTRODUCTION CHAPTER SUMMARY

In summary, public health and nursing have a mutual goal rooted in the promotion of health and the prevention of disease, injury, and disability. Nurses contribute to all facets of the public health mission, disease prevention, health protection and health promotion.\(^{19}\) As seen during the 20th century, public health nurses, in partnership with environmentalists, epidemiologists, and other public health specialists worked to minimize the threats of diphtheria, smallpox, cholera, and other communicable diseases. Professional public health nurses continue to work with families and neighborhoods to assure basic hygiene, sanitation, and health promotion practices.\(^{20}\)

Ask yourself?

1. How is population-based practice defined?
2. What is the public health infrastructure?
3. Are there differences between the roles for nurses employed by a municipal health departments or health districts?
4. What are the eight domains for public health nursing competencies?

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CHAPTER 2: HISTORICAL INFLUENCES AND PUBLIC HEALTH NURSING PRACTICE IN CONNECTICUT

A review of more than one hundred and thirty years of local public health nursing practice in Connecticut reveals a legacy of dynamic leadership and professional practice. The history of public health nursing helps us to better understand the societal forces and issues that have and continue to confront the profession today. This chapter discusses:

- Highlights of the history of professional public health nursing practice and Connecticut’s local health agencies.
- Socio-political influences that have and continue to affect public health services.
- Lasting implications for local public health nursing practice today based on influences of early professional nursing leaders.
- Contemporary influences on public health nursing practice.

SECTION 2-1: FORMATIVE YEARS FOR PROFESSIONAL PUBLIC HEALTH NURSING PRACTICE

Health Considerations and Public Health Nursing Interventions

Nurses have a long history of advocating for and working with vulnerable populations to educate, assist and empower them to improve their health conditions, decrease the spread of communicable disease, and reduce mortality. Early professional nursing leaders applied public health constructs to enhance the health of communities by addressing factors such as the environment, sanitation, nutrition, and interrupting the pattern of disease transmission.

The public health nursing care plan recognizes that the health status of a population is influenced by many factors drawn from biology, behavior, the environment, and the use of health care services. An ecological perspective includes considerations for populations’ health and potential implications of determinants such as socio-economic status, race and ethnicity, and the environment. Ample evidence illustrates the importance of influencing population-based determinants of health as shown by the increased life expectancy from 45 to 75 years of age for individuals living in the U.S. during the 20th century. The majority of this gain has been attributed to public health interventions, such as immunizations, food safety, and improved sanitation.

Early Professional Nursing Leaders and Public Health

Early professionally prepared nursing leaders were influential in shaping communities’ health with far reaching implications that remain relevant today. A few exemplar pioneers in professional nursing practice and public health include:

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• **Florence Nightingale** founded nursing practice on public health concepts that recognized modifying the environment (i.e., ventilation, food, lighting, and cleanliness) were important to enhancing health of hospitalized patients as early as the 1850’s. She showed graphically through epidemiological surveillance activities, biostatistical analysis, and data collection that provided evidence that “wherever her nurses were, far fewer died, and wherever they were not, far more died” \(^{23}\). In addition, she distinguished a difference in nurses caring for the “sick” and those working to promote the “health” of the clients, and stressed the need for structured nursing training. \(^{24}\)

• **Lillian Wald** was the first to coin the term of “public health nurses” to describe efforts she organized in 1893 that brought nursing care into the poor neighborhoods with the Henry Street Settlement in New York City. She promoted health education by working with families and communities to address environmental conditions, and dramatically reduced the mortality rates of those living in this area. Further, her efforts brought nurses into elementary schools to promote infection control and health screening to improve the health and quality of life of children. \(^{25}\)

• **Jessie Sleet Scales** was the first African American professional nurse employed by the New York City Health Department in 1900. Overcoming adversity and discrimination, Ms Scales worked with other nurses to help African American communities transcend the educational, occupational, economic and racial barriers of the time that compromised their health and wellbeing. \(^{26}\)

• **Jane Delano** is credited for bringing nursing to the forefront of the American Red Cross organization and was instrumental in making the Red Cross nurse a vital national symbol. While Ms. Delano was the superintendent of the Army Nurse Corps in 1909, she was named the chairman of the National Committee on Red Cross Nursing Services and influential in recruitment of trained nurses for emergency services that were valued as the nursing reserve for the Army and Navy during World War I. Ms Delano created courses in elementary hygiene and home care of the sick. \(^{27}\)

**Some Legacies from Early Nursing Leaders and Lessons for Contemporary Practice**

Nursing leaders such as Florence Nightingale, Lillian Wald, Jessie Sleet Scales, Jane Delano, as well as others, changed the social context of health care and the community consciousness. Early nursing leaders played a critical role in identifying and addressing health issues of diverse populations. They used the political process to change policies, health care practices, and the delivery of care. \(^{28}\)

Early nursing leaders illuminated the value of and importance of consistent record keeping, systematic data collection, evaluating the effectiveness of interventions, and political astuteness. These tenets continue to be essential to public health nurses today for program administration, management, accountability, and delivery of essential services. Early nursing leaders illustrated graphically the effectiveness and value of

\(^{23}\) As cited by Fralic, M.F. 2000. What is leadership? *Journal of Nursing Administration*, 30[7/8], 340-341


providing health education to populations at-risk where they worked and lived, as well to those affected, to prevent the spread of infectious diseases and injuries.

SECTION 2-2: DEBATES AND FUNDAMENTAL REFORMS FOR PUBLIC HEALTH AND NURSING EDUCATION

The Debate: The Scope of Local Public Health Services

Views of what encompasses local public health services have long been debated nationally. As seen at the turn of the 20th century, perspectives range from incorporating medical and nursing care as part of the essential services to confining efforts to epidemiology, environmental sanitation, and recordkeeping with nursing for case finding and preventive health education.

Dr. Charles Edward Amory Winslow, one of the leading theoretician of the American public health movement in the early 1900’s and Professor of Yale School of Medicine defined public health, and his definition continues to be relevant today.

“Public health is the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and the development of social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health.”

System Reforms

Dr. C. E. A. Winslow was instrumental in the formation of the public health system in Connecticut and the establishment of the Yale Schools of Public Health and Nursing, both prototypes for the current schools. Under Dr. Winslow’s leadership, the Yale School of Public Health was a catalyst for public health reform and health surveys carried out under his leadership by his faculty and students led to considerable improvement in public health organization in Connecticut.

Nursing Education: Labor verses Academic Standards

In 1919, Dr. C. E. A. Winslow chaired the Committee for the Student of Nursing Education and members included prominent nursing leaders and physicians. The committee was initiated to identify the problems of preparing nurses for the field of public health, which lead to assessing the broader context of professional nursing education. One of the controversial recommendations stressed that academic preparation and training be based on educational standards with the primary focus on education. This recommendation was contradictory to the typical training practices in the United States at the time. Until

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29 Yale School of Public Health (1922). From the Archives: The Past, Present and Future of Yale School of Medicine and Affiliated Clinical Institutions (1922). Accessible on line via http://publichealth.yale.edu/about/history/index.aspx
the 1940’s training of nurses was through apprenticeships under the hospital’s control that were often criticized by academicians and external review agencies because the emphasis was on low cost labor through the use of non-paid nursing students, and lacked intellectual rigor. Despite the findings, significant changes in nursing education were not implemented until the 1950s.

SECTION 2-3: EVOLUTION OF CONNECTICUT’S PUBLIC HEALTH SYSTEM

Formation of Connecticut’s Public Health System

Connecticut has long been a home rule state preferring local government to determine best how to meet the needs of their jurisdiction. New Haven established the first municipal Board of Health in 1873. The establishment of State Board of Health was 5 years later in 1878 and lead to the formation of the State Department of Health in 1917. As in other states, Connecticut has experienced numerous reorganizations of governmental agencies and the public health system (state and local) has evolved in the past century as health needs have changed.

Efforts to Regionalize Connecticut’s Local Public Health Services

The interest of regionalization of public health services came about in 1963 and legislation was passed that gave municipalities the authority to form health districts. The first local health district was the Aspetuck Valley Health District established in 1966, now known as the Westport-Weston Health District. The health districts are governed by a board whose members are appointed by the municipalities. This gives the local government control over the new local public health agency. After two years, member towns have the option to leave a health district, if the model is not working and the residents vote to dissolve the relationship.

Health districts are able to design their services to support and accommodate local existing structures and arrangements for delivering regional public health services for the combined jurisdiction. As of 2012, 115 municipalities, representing nearly half of the state’s population, have formed or joined one of the 21 health districts throughout Connecticut.

SECTION 2-4: EARLY PUBLIC HEALTH NURSES IN CONNECTICUT AND THE ROLE OF LOCAL HEALTH AGENCIES

Evolving Role of Public Health Nurses in Connecticut

The evolution of public health nursing in Connecticut, as well as across the nation, was influenced by the changing needs of communities, diverse societal and political factors, technological advances, and gaps in

32 Connecticut General Statute §19a-246.
health care delivery systems. As the value of public health nursing was realized at the beginning of the 20th century, numerous voluntary private nursing agencies were established. Gradually the state and municipalities developed local health agencies that provided public health nursing services.

**Influential Nursing Leaders and Public Health Initiatives in Connecticut**

Nurses working in community and home settings have been called by a variety of titles that include visiting nurses, district nurses, public health nurses, home care nurses, and community health nurses. These nurses shared a common mission to help individuals, families, and communities to plan for and care for their own. Some examples of pioneers in public health nursing and initiatives in Connecticut include:

- **Lavina Dock** was employed as part of an experiment by community leaders in Norwich in 1887 to care for townspeople in their homes, that it was continued more than a century later and it formed the basis for home health nursing in Connecticut.

- **Martha Minerva Franklin**, born in 1870 and a resident of New Milford, Meriden and New Haven (CT), was one of the first to seek changes in the unequal and discriminatory realities of African American nurses in the United States. Ms. Franklin was a catalyst for collective action and worked on influencing national efforts to integrate minorities in the delivery of healthcare services.

- School nursing was first provided in Connecticut by the New Haven Visiting Nurses Association as early as 1905. The New Haven Health Department assigned a nurse to public schools in that community in 1908. Some local health agencies continue to provide school health nurses for the schools in their municipalities or health district today, while other municipalities have turned the school health programs over to local boards of education who hire nurses directly.

- **Annie Warburton Goodrich**, a distinguished nursing leader, was selected to be the founding dean of the Yale School of Nursing and became the first woman dean at Yale University. One of Ms. Goodrich’s priorities was “the preparation of nurses in prevention as well as curative care in a curricular that integrate the two concepts.” The reforms Ms. Goodrich initiated were the antitheses of apprenticeships training and focused on enabling the student to not only master required skills, but also to integrate and understand the physical, psychological, social and economic factors in the origin of disease and aspects of nursing care.

The goal of public health nursing is the prevention of disease and disability for all people through the creation of conditions in which people can be healthy. (Quad Council, 1999)

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SECTION 2-5: CHANGES OF THE 20TH CENTURY AND THE IMPACT ON DEMAND FOR PUBLIC HEALTH NURSING SERVICES

Nursing Licensure

By 1912 the field of public health nursing had gained such prominence that the National Organization of Public Health Nurses (NOPHN) was founded to set standards and to plan for the expansion of community-based nursing. During this time there was a growing interest in nursing licensure to distinguish between educated nurses and uneducated nurses. At that time only one-tenth of the persons who practiced nursing in the United States were graduates of nurse training schools. Nursing licensure and laws to regulate the practice of professional nursing was considered vital to the protection of the public. By 1921, nursing practice acts for licensure as “registered nurse” were enacted in 48 states, as well as the District of Columbia and the territory of Hawaii. However, mandatory licensure laws to practice nursing were not passed until the late 1940s.38

Certification

Certification is the formal recognition of educational achievements, experience and performance. The American Nurses Credentialing Center provides certification in many specialty areas to include Public Health Nursing. Obtaining certification is voluntary and dependent on meeting the qualification criteria and passing an exam. The certification is usually for a specific area of nursing and it requires continuing educational units to maintain the certification.

Socio-Economic and Political Influences

During the 1920s local public health nurses came to a cross-road, which resulted due to the rapid growth in preventative services, by both voluntary and official government agencies and varied from city to city and agency to agency. Local health departments, school health services and visiting nurse associations provided varied curative and preventive nursing services, leading to an overlap in responsibilities, gaps in services, and competition for funding support.39

The nation’s economic collapse that occurred with the Great Depression gravely affected the nursing profession, as well as every group of workers, with the increase of unemployment and the inability of people to pay for services. Few professional nurses were employed by hospitals. Hospitals with training schools used nursing students for bedside care. Hospitals without the training schools usually staffed with uneducated attendants.40

Changes in socio-economic and political environment with the advent of World War 1, and World II, resulted in significant shifts in the demand for professionally trained nurses. As the wars progressed, trained nurses were increasingly recognized for their skills in caring for the ill and wounded soldiers. With the increased need for professionally trained nurses during World War II, the U. S. government took action

40 Egenes, K. J. (http://www.jblearning.com/samples/0763752258/52258_ch01_roux.pdf
and provided resources to both increase the supply of nurses and improve the quality of nursing education which lead to standardizing curriculum.

**Technological Advances and Implications for Public Health Nursing Practice**

Technological advances in medical care for women, infants and children, along with preventive health measures produced marked improvements and decreased mortality in maternal and child health seen in the 1950’s. By 1951 premature infants were surviving longer and being sent home for community care. The first state sponsored institute on nursing care of premature infants was held in New Haven and Hartford. Community nursing agencies played an important role in 1954 when Connecticut participated in the national study of the effectiveness of the new polio vaccine against poliomyelitis.41

**Medical Care Reform and the Changing Role of Governmental Public Health System during the 1970’s**

The growing national emphasis on tertiary health care and advances in medical technology in the mid 1970’s created an environment in which funding decreased for public health at all levels and too often local public health nursing positions were frozen or eliminated. The role of local health departments shifted as funding for health care shifted to capitated reimbursement for specific treatment or service (e.g., administering immunizations). Consequently, local public health nurses were generally in a position based on disease category such as TB, STI, or Maternal-Child Health.42

However, emerging infectious disease continued as evidenced by the acquired immune deficiency syndrome (AIDS) epidemic in the 1980s. Coordinated public health system responses demonstrated the advantage of collaboration among epidemiologists, laboratory investigators, health care clinicians and public health nurses working in the community.43

**SECTION 2-6: HISTORICAL INFLUENCES RELATED TO PUBLIC HEALTH NURSING PRACTICE CHAPTER SUMMARY**

Reviewing the history of public health nursing reaffirms the important role nurses have had over the years in promoting and protecting the health of populations and communities. Nurses working in Connecticut’s municipal health departments and health districts have been in the forefront of battles against communicable diseases, instrumental in initiating policies to assure safe health care, and implementation of initiatives to improve the health of communities such as childhood immunization programs.44 Early professional nursing leaders worked with others to make significant improvements to the delivery of care and health care systems. In summary, public health nursing roles has evolved and paralleled changes in the public health system across the nation in the 20th and 21st centuries.45

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44 As cited by Erickson (1985/p.4). Nowak (1985). All from the same handiwork. Advances in Nursing Science. 1(2), XIII-IX.
Ask yourself?

1. Which pioneer in professional nursing demonstrated the importance of record keeping and systematic data collection to evaluate the effectiveness of nursing care?

2. Who is credited with bringing nursing into public health emergency preparedness to work with communities to build resilience?

3. Why are the social, economic and political issues relevant to nursing practice?
CHAPTER 3: NURSING AND A PUBLIC HEALTH FRAMEWORK

Nurses working in local health agencies need to be able to combine critical thinking, creative problem solving, and establishing collaborative relationships with diverse disciplines and community representatives to carry out the necessary services. The focus requires working with individuals, families, communities, systems for goal directed activities such as: community health assessments, effectively planning, implementation, and evaluation of the impact of interventions to improve health outcomes.

The purpose of this chapter is to:

• Describe the Public Health Nursing Practice Model and interventions.
• Discuss the characteristics that distinguish contemporary public health nursing practice from other nursing specialties.
• Discuss legal and ethical considerations for nurses employed by local health agencies.

SECTION 3-1: PUBLIC HEALTH AND THE NURSING PROCESS

The Public Health Nursing Practice Model

Population-based interventions involve broad considerations and a systematic approach using the nursing process working with communities, as follows: 46

1. **ASSESSMENT** is the collection and analysis of relevant epidemiological data to evaluate health status of a community to identify problems, opportunities, needs, and assets.
2. **PLANNING** requires collaborative goal setting with the community and stakeholders, mapping strategies to achieve those goals.
3. **INTERVENTION** involves carrying out a plan of action in partnership with the client based on priority of need.
4. **EVALUATION** entails determining the effectiveness of the interventions and revising the plan when needed.

A *Public Health Nursing Practice Model* was developed by the County of Los Angeles Public Health Nursing Education and Professional Development Unit (2009) that illustrates the integration of nursing practice with the public health services and is provided as Figure 2. 47

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**Essential Skills**

Public health nurses require a wide range of skills and the ability to function effectively to meet the complex demands and work with the turbulent public health and health care environment. The changes in communities’ health care needs and systems require that public health nurses are adept in:

- Responding to varying community expectations and values.
- Cultural competency and sensitivity.
- Relationship building to support and assist community endeavors to change behaviors, foster healthy lifestyles, and build community resilience.
- The delivery and coordination of clinical programs and nursing services across settings and timeframes.

Strengths and unique expertise nurses bring to municipal health department or health district include:

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A Practice Guide for Connecticut’s Local Public Health Nurses

**Final Draft For Review/Not for Distribution**

- Clinical expertise developed through the application of nursing practice and human response to care.
- Real-life anecdotes to policymaking and program planning.
- Enhanced skills with working in multi-disciplinary teams.
- Strong organizational skills with a “wholistic” view.
- Interconnectedness between and across settings and among multiple constituencies.
- Roles are fluid and goal oriented.

**Scope and Standards of Practice for Public Health Nurses**

The state of Connecticut does not distinguish scope of practice of a registered nurse specific to public health nursing. The *Scope and Standards of Public Health Nursing Practice* were defined nationally through the efforts of the Quad Council in 1986, refined in 1999, updated in 2007 and 2012. The Quad Council of Public Health Nursing is an alliance of four national nursing organizations that address public health nursing issues. Members of the Quad Council include: the American Nurses Association Council on Nursing Practice and Economics, the Public Health Nursing Section of the American Public Health Association, the Association of Community Health Nurse Educators, and the Association of Public Health Nurses (formerly the Association of State and Territorial Directors of Nurses).\(^{50}\) The *Public Health Nursing: Scope and Standards of Practice* (2007) outlines the expectations, performance, and directs public health professional nursing practice in all settings.\(^{51}\) A summary of the scope and standards is provided as Appendix 3.

**SECTION 3-2: PUBLIC HEALTH NURSING INTERVENTIONS**

**Public Health Interventions**

Interventions are actions that public health nurses take on behalf of individuals, families, communities, and systems to improve or protect health status of communities. A nationally recognized framework adopted by many states is the “intervention model”, which was developed by the Minnesota Department of Health Division of Community Health Services - Public Health Nursing Section (2001). The intervention model describes the scope of practice by what is similar across settings and is not exclusive to public health nursing as the actions are also used by other public health disciplines. This model recognizes that interventions will frequently be carried out through a collaborative effort of a public health nurse in conjunction with other public health professionals.\(^{52}\) A summary of the 17 interventions and corresponding definitions based on the *Public Health Interventions: Applications for Public Health Nursing Practice* (2001) guide is provided as Appendix 4.

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\(^{50}\) Quad Council PHN Competencies (2003). Available on line
http://www.resourcenter.net/images/ACHNE/Files/Final_PHN_Competencies.pdf


\(^{52}\) Minnesota Department of Health Division of Community Health Services Public Health Nursing Section (2001, March). *Public Health Interventions: Applications for Public Health Nursing Practice*. Accessible on-line via
The Tenets of Public Health Nursing Practice

The Quad Council of Public Health Nursing Organizations defined eight tenets that are the foundation of public health nursing practice and include:

1. Population-based assessment, policy development, and assurance processes are systematic and comprehensive.
2. All processes must include partnering with representatives of the people.
3. Primary prevention is a given priority.
4. Intervention strategies are selected to create healthy environments.
5. Public health nursing practice includes an obligation to actively reach out to all who might benefit from the intervention or service.
6. The dominant concern and obligation is for the greater good or all people of the populations as a whole.
7. Stewardship and allocation of available resources supports the maximum population health benefit gain.
8. The health of people is most effectively promoted and protected through collaboration with members of other professions and organizations.


Characteristics that Distinguish Public Health Nursing Practice from Other Nursing Specialties

The American Nurses Association distinguishes public health nursing from other nursing specialties by its adherence to all of the following eight principles:

1. **The client or unit of care is the population.** While a public health nurse may engage in activities with individuals, families, or groups, the dominant responsibilities is to the population as a whole.

2. **The primary obligation is to achieve the greatest good for the greatest number of people or the population as a whole.** Public health nurses recognize that it may not be possible to meet individual needs if those needs conflict with priority health goals that benefit the whole population.

3. **The processes used by public health nurses include working with the client as an equal partner.** The public health nurse’s actions must reflect awareness of the need for comprehensive health planning in partnership with communities and populations and include the perspectives, priorities, and values of the population in interpreting the data, making policy and program decisions, and selecting appropriate strategies for action.

4. **Primary prevention is the priority in selecting appropriate activities.** Primary prevention includes health promotion and health protection strategies.

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5. **Public health nursing focuses on strategies that create healthy environmental, social, and economic conditions in which populations may thrive.** Public health nursing interventions include education, community development, social engineering, policy development, and enforcement. Such interventions emerge from work with the population and result in laws and rules, policies, and budget priorities. Advocating for and teaching advocacy skills to others to create healthy conditions is an essential part of public health nursing practice.

6. **A public health nurse is obligated to actively identify and reach out to all who might benefit from a specific activity or service.** Because risk factors are not randomly distributed, specific subpopulations may be more vulnerable to disease or disability or may have more difficulty in accessing or using services, thus requiring special outreach. Public health nurses focus on the whole population and not just those who present for services.

7. **Optimal use of available resources to assure the best overall improvement in the health of population is a key element of the practice.** Public health nurses must be involved in organizing and coordinating the actions of others in response to health issues. In addition, they must use and provide information to other decision-makers regarding the scientific evidence related to outcomes of specific actions, programs, or policies, as well as the cost effectiveness of potential strategies. Public health nurses must also strive to create the evidence where it is lacking.

8. **Collaboration with a variety of other professions, populations, organizations, and other stakeholder groups is the most effective way to promote and protect the health of the people.** Creating the conditions in which people can be healthy is an extremely complex, resource-intensive process. Public health nurses join with appropriate experts from a variety of fields and professions, as well as community members, in efforts to improve population health. This includes public health nurses’ recognition of the importance of legislative action and involvement in other means by which health and social policies are set at all levels. This collaboration may occur within the healthcare system or the government; it promotes adoption or revision of such policies.

Source: American Nurses Association (2007). Public Health Nursing: Scope and Standards of Practice. (pp. 7-9)

### SECTION 3-3: POLITICAL ACTIVITIES AND ETHICAL PRACTICE CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

#### As a Governmental Official

As a State of Connecticut representative and municipal health department or health district official, you may be subject to certain restrictions in political activities. These restrictions are derived from federal and Connecticut State Law, as well as municipal charters and boards of health district’s by-laws and regulations. You are strongly encouraged to familiarize yourself with and review the following ethics materials:

Health Care Professional and Public Health Nurse

**Licensure**

Local public health nurses must be licensed under the Board of Registration of Nursing in Connecticut. As licensees you are individually responsible and accountable for your practice and professional behavior. Because licensure is not venue specific, nursing practice in public health bridges many areas of health and social service care. It is important that the nurses who work in public health understand the complexities, policies of the local health agency, the inter-relationships and the context of your nursing practice.

**Protection of Confidentiality**

The Health Insurance Portability and Accountability Act (HIPAA) of 1996 provides federal protections for personal health information held by covered entities and gives patients an array of rights with respect to that information. At the same time, the HIPAA Privacy Rule is balanced so that it permits the disclosure of personal health information needed for patient care and other important purposes.

The protected health information includes individually identifiable health information such as name, social security number, address that may be transmitted or maintained in any form or medium (e.g., electronic, paper, or oral), but excludes certain education records and employment records. Among the provision, the Privacy Rule set boundaries on the use and release of health records and holds violators accountable with civil and criminal penalties that can be imposed if they violate the patients’ privacy rights.

**The Privacy Rule and Public Health**

At the same time, the HIPAA Privacy Rule recognizes the legitimate need for public health authorities and others responsible for ensuring public’s health and safety to have access to protected health information to carry out their public health mission. The Privacy Rule permits covered entities to disclose protected health information, without authorization, to public health authorities who are legally authorized to receive such reports for the purpose of preventing or controlling disease, injury, or disability. This would include, for example, the reporting of a disease or injury; reporting vital events, such as births or deaths; and conducting public health surveillance, investigations, or interventions.55

Connecticut General Statute Section §19a-2a. authorizes reporting and compiling of health information “with the health authorities of this and other states, secure information and data concerning the prevention and control of epidemics and conditions affecting or endangering the public health, and compile such information and statistics and shall disseminate among health authorities and the people of the state such information as may be of value to them.”

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In addition, HIPAA permits providers and other covered entities to disclose personally identifiable health information without a patient’s consent or authorization, and without an opportunity for the patient to object, in various circumstances, including, but not limited, to the following:\textsuperscript{56}:

- To other providers and other covered entities for treatment, payment and health care operations (TPO). 42 CFR §164.502(a)(1).
- To DPH, regardless of whether there is a declared emergency, as part of the Department’s mission and public health oversight activities, and as required by law. 42 CFR §164.512(a), (b), and (d).
- To prevent or lessen a serious and imminent threat to the health and safety of the individual or the public when the disclosure is to a person or persons reasonably able to prevent or lessen the threat. 42 CFR §164.512(j); DHHS, 9/2/05; 3/14/06.
- To a public or private entity authorized by law or charter to assist in disaster relief efforts for the purpose of coordinating with such entities in notifying family members, personal representatives of an individual, or another person responsible for the care of the person (if person is present, obtain agreement; if not, the provider may use his professional judgment in determining whether the disclosure is in the best interests of the person.) 42 CFR §164.510(b).
- To law enforcement officials regarding victims of a crime (e.g., terrorist attack, WMD, or disease caused by criminal activity) if the individual agrees, or if the individual is unable to agree due to incapacity or other emergency circumstances, and the officer provides sufficient representations as required by HIPAA, or if a death may have resulted from criminal conduct. 42 CFR §164.512(f)(3) and (4).

\textbf{SECTION 3-4: NURSING AND A PUBLIC HEALTH FRAMEWORK CHAPTER SUMMARY}

The practice of nursing and the core public health functions are both forms of analytical thinking and scientific processing of information. Federal and state laws, local ordinances, and health district regulations directly influence the local public health nurses scope of practice, providing parameters for public health services.

\textbf{Ask yourself?}

1. How are nursing practice and public health services integrated?
2. What are the core tenets of public health nursing practice?
3. When can protected health information be disclosed?

CHAPTER 4: CONTEMPORARY INFLUENCES: LOCAL HEALTH SERVICES AND PUBLIC HEALTH NURSING PRACTICE

Public health nursing practice focuses on health promotion, disease prevention, and improved health status through nursing care and collaboration with communities. (ANA, 2007)

Public health has experienced dramatic shifts in needs including changes in demographics, reemerging communicable disease, an increased number of people affected by chronic disease(s), the growing health disparities between communities and populations, and the need for increased involvement in emergency response activities. This chapter discusses:

- The operational definition for local health agencies.
- The roles of contemporary public health nurses.
- The 21st century’s national move towards accreditation for public health departments (state and local) and what this means for practice.
- Science based national health objectives, the role of government, and implications for practice.
- Key concepts of performance management and quality improvement.

SECTION 4-1: PUBLIC HEALTH SYSTEM ROLE CLARIFICATION

Transformation of the Public Health System

At a time that the health care and public health systems were found to be fragmented and in disarray, the Institute of Medicine (IOM) released a report, *The Future of Public Health* (1988) that has led to transformation of the systems. The 1988 IOM report was unprecedented and it delineated the responsibility of local government public health agencies to serve as focal points for identifying and resolving community health problems.57 Since then, increasingly the focus has shifted to results based accountability, standardization of public health services, and the emphasis on the need for evidenced-based health outcomes.58

Operational Definition for Local Health Agencies

A significant step in acting on the IOM recommendations has been the development of an operational definition of functional local health departments. It encompasses a broad continuum of care that includes "preventing, minimizing and containing adverse health effects from communicable disease, disease outbreaks from unsafe food and water, chronic disease, environment hazards injuries; and riskily health

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This operational definition provides the foundation for defining the scope of operations and the integration of the 10 essential public health services recognized nationally.

**National Public Health Standards**

In response to the shifting needs, key public health leaders have worked collectively at the local, state, and federal levels in collaboration with national professional organizations and developed the **National Public Health Performance Standards Program**. Professional organizations engaged in this program focused on defining expectations of the provision of services of local public health departments. Organizations included: the American Public Health Association, the Association of State and Territorial Health Officials, the Centers of Disease Control and Prevention (CDC), the National Association of County and City Health Officials, the National Association of Local Boards of Health, and the Public Health Foundation. The NPHPSP are based on the three core functions and further describe performance measures for the effective delivery of the 10 essential public health services.

**21st Century’s National Move towards Accreditation for Public Health Departments**

Evidence-based practice, systems thinking and performance improvement processes are fundamental to maintaining the public health infrastructure necessary to meet the needs of our local communities (IOM, 2011).

The Public Health Accreditation Board (PHAB) was formed in 2009 to foster quality and high standards of services and a performance managed system. Efforts are underway to create a major paradigm shift for government that changes the focus from assuring minimal standards are met to identifying and striving for optimal evidence-based performance managed system.

The PHAB’s goal is to “improve and protect the health of the public by advancing the quality and performance of all health departments in the country.” Accreditation is a system of common performance measures that were defined to meet the standards for the essential public health services. Municipal health departments and health districts can put into practice the nationally recognized performance measures to ensure they are providing the best services possible to keep their communities safe and healthy. The expectation is for “people across the country to receive the same quality of public health programs and services, focused on improving health outcomes in communities.”

**SECTION 4-2: DEFINING THE ROLE OF CONTEMPORARY PUBLIC HEALTH NURSES**

As noted in Chapter 1, in conjunction with the movement to improve accountability of health departments, public health nursing leaders formed an alliance, the Quad Council of Public Health Nursing Organizations. Partners in the Quad Council include representatives from the American Nurses Association (ANA) Council for Community, Primary and Long-Term Care Nursing Practice; the American Public Health Association (APHA) Public Health Nursing Section; the Association of Community Health Nurse Educators (ACHNE), and

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59 National Association of County and City Health Officials (2005). Operational Definition of Functional Local Health Departments.
the Association of Public Health Nurses (APHN), formerly the Association of State and Territorial Directors of Nursing (ASTDN).

Collaboratively, the alliance defined the goal of public health nursing is the prevention of disease and disability for all people through the creation of conditions in which people can be healthy. As noted in Chapter 1, the Quad Council defined core competences for nurses along a continuum of learning starting with awareness, advancing as the individual becomes knowledgeable, moving towards proficiency as experience is gained. The core competencies represent the set of skills, knowledge, and attitudes necessary for public health nurses.

SECTION 4-3: SCIENCE BASED NATIONAL PUBLIC HEALTH OBJECTIVES

Roadmap and Benchmarks

The U.S. Department of Health and Human Services launched Healthy People to provide science-based, 10-year national objectives for improving the health of all Americans. Since 1979, Healthy People has established benchmarks and monitored progress over time in order to:

- Encourage collaborations across sectors.
- Guide individuals toward making informed health decisions.
- Measure the impact of prevention activities.

The Healthy People initiative is grounded in the principle that setting national objectives and monitoring progress can motivate action. “Healthy People is the nation’s roadmap and compass for better health, providing our society a vision for improving both the quantity and quality of life for all Americans.”

Healthy People 2020

Building on earlier efforts, Healthy People 2020 is the result of a multiyear process that reflects input from a diverse group of individuals and organizations. It integrates input from public health and prevention experts, a wide range of federal, state and local government officials, a consortium of more than 2,000 organizations and the public. The Healthy People 2020 initiative strives to:

- Identify nationwide health improvement priorities.
- Increase public awareness and understanding of the determinants of health, disease, and disability and the opportunities for progress.
- Provide measurable objectives and goals that are applicable at the national, state, and local levels.
- Engage multiple sectors to take actions to strengthen policies and improve practices that are driven by the best available evidence and knowledge.
- Identify critical research, evaluation, and data collection needs.

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63 As cited by the U.S. Department of Public Health (2010, December 2). Press release: HHS announces the nation’s new health promotion and disease prevention agenda. Quote by Assistant Secretary for Health Howard K. Koh, MD, MPH.
64 Centers of Disease Control and Prevention (no date). Healthy People Homepage. Accessible on-line via http://www.healthypeople.gov/2020/about/default.aspx
**Conceptual Framework: Life Course, Health Determinants and Health Outcomes Model**

A conceptual framework for organizing and displaying the 24 objectives selected for Healthy People 2020 was developed by a committee for the IOM (2010). The framework views health determinants and their relative importance at different stages of life to guide the development of targeted health policies, programs and actions to improve health.

The life course approach is based on trajectory of the continuum of life span that considers both the:

1. Impact of specific risk factors and the determinants of health that vary over the course of life, and
2. Health and disease result from the accumulation of the effects of risk factors and determinants over the life span.

This trajectory can be improved through the reduction of risk factors and the promotion of health through individual and targeted population based actions.\(^{65}\) As an example, consider the impact of childhood immunizations and car seat and seat belt laws and the reduced morbidity and mortality related to childhood diseases (e.g., polio, diphtheria, whooping cough) and improved auto safety. The impact of factors during early life and at other points during the life span can be influenced, either positively or negatively.\(^ {66}\) Table 2 provides a framework to contrast the life stage with health determinants and health outcomes.\(^ {67}\)

**Table 2: Framework for objectives for leading health indicators**

<table>
<thead>
<tr>
<th>LIFE STAGE</th>
<th>HEALTH DETERMINANTS AND HEALTH OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Policy</td>
</tr>
<tr>
<td>Pregnancy and infancy: birth, growth and maternal bond</td>
<td></td>
</tr>
<tr>
<td>Childhood: growth, learning and development of familial and social bonds</td>
<td></td>
</tr>
<tr>
<td>Adolescence: transition to independence</td>
<td></td>
</tr>
<tr>
<td>Young adult: independence and work</td>
<td></td>
</tr>
<tr>
<td>Adult: work, family, societal contribution</td>
<td></td>
</tr>
<tr>
<td>Elderly: meaning, legacy, decline</td>
<td></td>
</tr>
</tbody>
</table>


SECTION 4-4: PERFORMANCE MANAGEMENT SYSTEM AND QUALITY IMPROVEMENT

The current economic challenges facing governments through the nation makes the public health strategic planning for performance based system all the more necessary to sustain the local public health system. All the assets of the infrastructure must demonstrate proficiency, competence, and emergency readiness if the full public health system is to function well in ordinary, as well as, extraordinary times.

Overview of the Performance Management System

The four core functional areas of a performance managed system are dependent on integration of: performance standards, performance measurement, quality improvement process, and reporting of progress. Performance management is the practice of actively using performance data to improve the public’s health. This practice involves strategic use of performance measures and standards to establish performance targets and goals.68

A Performance Management Model was developed by the Turning Point Performance Management National Excellence Collaborative and Figure 3 illustrates the inter-connectivity and a description of the four components.

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Coordinated efforts of performance management strategies can positively impact an agency in a number of ways. Performance management can be carried out at multiple levels, including the individual, program, organization, community, and system levels.

**Quality Improvement**

Quality improvement requires understanding the processes used in the provision of public health services and operations, then using a systematic approach to influence improvement to those processes. Quality is never an accident; it is always the result of high intention, intelligent directions, and skillful execution. It represents the deliberate choice of many alternatives.\(^{69}\)

Quality improvement can be described as activities conducted using variations on a four-step method:

(a) Identify (determine what to improve),
(b) Analyze (Understand the problem),
(c) Develop hypotheses (determine what changes(s) will improve the problem) and
(d) Test and implement.

The plan-do-study act cycle is a trial and learning technique.\(^{70}\) In the fourth step the solution is tested to see whether it yields an improvement; the results are then used to decide whether to implement, modify, or abandon, the proposed solutions. If the test solution does not achieve desired results, the process cycles back to the third step to reiteration. If the results are achieved, the solution is implemented on a larger scale and monitored over time for continuous improvement.\(^{71}\)

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\(^{69}\) Quote by Will A. Foster - MI Guide


SECTION 4-5: CONTEMPORARY INFLUENCES CHAPTER SUMMARY

There is an increased demand for results based accountability, cost effective services and shrinking budgets for public health, health care, and governmental services. Consequently, it is critical for local health agencies to integrate business methodology into their operations. Evidence-based practice, systems thinking, and performance improvement processes are fundamental to maintaining the public health infrastructure necessary to meet the needs of our local communities. 72

In summary, the practice of local public health nurses of this century will require working to create environmental conditions to assure the public’s health through collaborations with a variety of other professions, diverse organizations, and communities. The local public health nurses needs to be committed to optimizing the use of scarce resources and providing information to other decision-makers regarding the scientific evidence related to outcomes of interventions, programs, or policies. 73

SECTION 4-6: WHERE CAN YOU LEARN MORE?

The following web-based references are accessible resources for further information:

- Connecticut Department of Public Health web-link via: http://www.ct.gov/dph/site/default.asp
- Links to Local Health for directory information for all municipal health departments and health districts is accessible from the DPH homepage or direct link via http://www.ct.gov/dph/cwp/view.asp?a=3123&q=397740
- Train Connecticut for on-line registration and information regarding available training or direct link via https://ct.train.org/ Courses include workshop, on-line webinars, self-paced learning programs. Continuing education program areas include and not limited to:
  - Cultural Competence.
  - Epidemiology/Biostatistics.
  - Finance/Grants.
  - Health/Risk Communication.
  - Investigation/Inspection.
  - Legal Ethics.
  - Management/Leadership.
  - Policy/Planning.

Other national sources and recommended Web-based information sources that may be useful include:

- Centers for Disease Control and Prevention (CDC) at: http://www.cdc.gov/
- National Association of County and City Health Officials at: www.naccho.org/

• National Association of Local Boards of Health at: www.nalboh.org/
• National Public Health Performance Standards Program at URL: http://www.cdc.gov/nphpsp/index.html
• Performance improvement resource guides available at: www.phf.org/Tools-Resources.htm
• Public Health Accreditation Board at http://www.phaboard.org/
• Public Health Foundation at: http://www.phf.org/

Professional organizations that support public health nursing practice include:

• Association of Public Health Nurses at www.phnurse.org
• American Public Health Association, Public Health Nursing Section, at http://www.apha.org/membergroups/sections/aphasections/phn/
• Association of Community Health Nurse Educators at http://www.achne.org/i4a/pages/index.cfm?pageid=1
• Connecticut Association of Public Health Nurses at http://www.caphn.org/

Ask yourself?

1. What are determinants of health?
2. What is the evidence based public health practice?
3. What are the performance standards for local public health practice?
II. Practical Applications
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CHAPTER 5: ASSESSING COMMUNITY’S HEALTH STATUS AND IMPLICATIONS FOR LOCAL PUBLIC HEALTH NURSES

The services provided by public health nurses focus on preserving, protecting, and improving the health of communities through activities that improve the environment, encourage healthy lifestyles and behaviors, and assure access to care.74 Local public health nursing applications are introduced in the next chapters to provide context for carrying out these interventions. Each of the applications includes teaching points and context relevant to local public health nursing practice.

SECTION 5-1: COMMUNITY HEALTH ASSESSMENT

A community health assessment is necessary to identify the health needs of the people who reside within the local health agency’s jurisdiction, as well as local assets and the availability of potential resources. The health of a community is affected by dynamic relationship of: 1) socio-economic variables; 2) the ecological interactions of the environment, physical, biology, genetics, behavior and 3) cultural ramifications of the residents. The community health assessment provides a baseline and snap-shot view of the prevalence of disease and populations’ health needs of the jurisdiction served.

The local public health nurse will need to periodically collect data pertinent to the health status of the populations and identify trends and deviations from expected health patterns in the population. Multiple sources of information will be needed, as well as consulting with different stakeholders, which include community members, other public health and health care professionals, for interpretation of health needs. Principles of epidemiology and demography are fundamental to structuring the data collection and analysis, which is fundamental to public health.

Context

Communities can vary by composition, location, function, association, size and purpose. Communities by definition include:

- A group of individuals who share certain characteristics such as shared, values, social norms, and ways of communicating.
- May be delineated by physical, political or cultural boundaries; demographic characteristics, or functional capacity (e.g., disabilities, primary language, sensory, age, religion, etc.).

A number of factors need to be considered when assessing a community and planning how to address health problems. Essential dimensions of a community to consider include:

- **Structural dimensions**, which are the traditional political and geographic boundaries.

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• **Characteristic dimensions** include considerations of the socio-economics, demographics, biological and cultural ramifications.

• **Functional dimensions** typically are related to a specific identification of a problem. Two examples to ponder:

  o Some dimensions of a problem related to a community are geographically limited such as in the scenario of a Norovirus outbreak in a school, hospital, or a long term care facility. This type of a problem can be contained and resolved locally.

  o Other dimensions of a problem related to a community have global implications. Consider acid rain or the Pandemic Influenza outbreak, which would necessitate the efforts and services of a number of agencies and political jurisdictions working together (i.e., local, state, federal and between countries) for its’ resolution.  

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**Data Sources and Methodology**

A community health assessment involves periodic and systematic collection of data, analysis, and sharing of information about health conditions and resources available to the community. There are two data sources:

• **Primary data** is obtained directly from the subjects in the community. This may be done through a frequency counts (e.g., number of complaint investigations, tracking number of students enrolled in the public and private schools within your local health jurisdiction, number of individuals who inquire about a service). Other common methods used to collect information include systematic surveys, focus groups, wind shield survey, and key informant interviews.

• **Secondary data** is biostatistics collected routinely for other purposes, such as the U.S. census data, morbidity and mortality weekly reports, infant births and mortality rates, health statistics, etc.

**DATA COLLECTION** for community assessment and epidemiological studies need to be organized and presented in a meaningful manner. Although frequency counts are the simplest and very commonly used statistical procedure; this number is of little value unless presented in proportion (or rates) to identify perspective in relationship to the population under consideration and norms for the community.

**ASSESSMENT ACTIVITIES** include monitoring, analyzing, tracking and evaluating the health status, risk indicators and, when necessary, health emergencies which affect or may be a threat to the community. Based on analysis of statistical data, trends in illness, injury, death, and potential factors that may cause the events are identified.

For an example, you are working with an elementary school and note there is an increase in student absences. How serious is this situation? Is this an indicator of an outbreak in the school? To make an informed decision about the extent of the problem, it is necessary to have additional information such as:

- What is the normal daily student attendance rate?
- What is the routine number of students absent daily and each week?

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What are the symptoms being reported related to the students’ absence?
What is the severity of symptoms being reported?
Are there any common characteristics of the students’ who are absent (e.g., same classroom, assigned to the same school bus, same complaint such as gastro-intestinal upset)?
Are there any patterns of frequency of the students’ attendance from week to week and month to month?
How does the rate increase of student absences correspond to the trends and the proportion of the student body?
Are school faculty and administrative staff attendance affected?

Appendix 6 provides a worksheet of Community Health Assessment Considerations and Appendix 7 provides Examples of Health Status Indicators.

Local Public Health Nursing Teaching Points

- Complete a community health assessment in collaboration with community members and leaders to gain buy-in and varied perspectives.
- Analyze data using appropriate scientific and epidemiology principles. Essential considerations include: reliable and valid data sources, consistency of definitions, systematic and organized processes, determining the baseline to be able to identify changes over time.
- Interpretation and dissemination of the community health assessment needs to be in a way decision-makers at all levels can readily identify and clearly understand the potential health implications.
- Identify community health priorities in collaboration with community members and leaders.
- Consider what potential evidence-based interventions are available to address health issues.

SECTION 5-2: SURVEILLANCE AND MONITORING ACTIVITIES

Surveillance and monitoring health trends are essential features of epidemiology, which is the study of the occurrence of disease and other health-related characteristics in human populations. The role of the local public health nurse may include monitoring laboratory reports, data collection and analysis, follow-up interventions, case management, reporting and consultation.

Context

Surveillance focuses on significant health threats such as contagious disease, as well as other health events such as chronic diseases, injury, and violence. Although frequently used interchangeably, surveillance and monitoring activities have distinguishing features:

**Surveillance**: is continuous and on-going assessment of population, health status
**Monitoring**: is intermittent or episodic and looks at specific groups or individuals.
Surveillance activities include observations concerning the relationship of disease and potential links with basic community characteristics (e.g., age, sex, ethnicity, race, cultural practices, behaviors, occupation environmental risks, and socio-economic, determinants of health). For example, consider the number of STIs confirmed or rates of teenage pregnancies, and if these rates have changed in the past year, 10 years, etc. The significance of the data becomes clearer when contrasted with corresponding data from similar communities or in contrast to the overall state rates. Changes can be observed or anticipated by monitoring trends over time, place and persons, so appropriate action, including investigative or control measures (e.g., vaccination or pharmacological intervention) can be taken.76

Data Sources and Methodology

Sources of data may relate directly to disease or to factors influencing the communities’ health and include:

- Mortality and morbidity reports based on death certificates, hospital records, general practice sentinels, or notifications, which are maintained by the Connecticut Department of Public Health;
- Laboratory diagnoses;
- Outbreak reports;
- Vaccine utilization, uptake and side effects;
- Records of sickness and absences;
- Disease determinants such as biological changes in agent, vectors, or reservoirs;
- Susceptibility to disease, as by skin testing or serological surveillance e.g., serum banks.77

Surveillance systems are conventionally classified as either passive or active and may be either on-going, sentinel, or time limited. It is useful for the local public health nurse to gain an understanding of the distinguishing features of the various surveillance systems. Table 3 provides a summary of the classification of surveillance systems with corresponding examples.

Table 3: Surveillance System’s Classification with Corresponding Examples

<table>
<thead>
<tr>
<th>Classification of Surveillance Systems with Corresponding Examples</th>
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<tbody>
<tr>
<td><strong>Passive Systems</strong> are where health jurisdictions (federal, state or local) receive reports of disease or health events from physicians, laboratories, hospitals or other individuals or institutions mandated by state law.</td>
</tr>
<tr>
<td>As mandated by CGS §19a-2a and Public Health Code Section §19a-36-A2 the Connecticut’s Annual Reportable Diseases</td>
</tr>
<tr>
<td><strong>Active Systems</strong> involve the health jurisdiction regularly contacting reporting sources to elicit reports, including negative reports (i.e., no cases). Active systems collect more complete data, but are labor-intensive and more expensive to implement. These are utilized in unusual or unpredictable circumstances, such as evidence of a new or rarely seen pathogen, as the H1N1 influenza virus.</td>
</tr>
<tr>
<td>Category 1 – Reportable Infectious Disease, which require immediate response and reporting</td>
</tr>
</tbody>
</table>

**Ongoing System** collection of data over time on selected diseases or health events that impact the health of the population. The data from this system is particularly useful to identify chronic disease trends, such as cancers, diabetes, heart disease, or viral hepatitis, and common health behaviors or other risk factors that may contribute to the prevalence of the disease.

**The 2009 Connecticut Health Disparities Report** provides a comparison and trends of chronic disease based on ethnic, cultural and socio-economic differences per population.

**Sentinel surveillance** systems are special cases of surveillance that are chosen to represent the relevant experience of particular groups. A sentinel health event is a condition that can be used to assess the stability or change in health levels of a population, usually by monitoring mortality statistics. A sentinel health event is a “case of unnecessary disease, unnecessary disability, or untimely death whose occurrence is a warning signal that the quality of preventive and/or medical care may need to be improved.”

This approach is useful in dealing with sensitive issues such as HIV/AIDS or to track key health indicators in the general or special populations such as a diagnosis of *tuberculosis disease in a child*.

**Time - Limited System** collection of data on specific problems or concerns for a specific time period. This may identify all cases in order to assess the level of risk or threat or, when resources are limited to estimate the size through sampling. Most active surveillance systems are time limited.

State instituted “rash” surveillance system such as implemented for the recent rubella outbreak among a migrant Hispanic population or meningitis outbreak at a college campus.


### Local Public Health Nursing Teaching Points

- Implementing surveillance does not need a large and complex system if the problem is not large or complex. Consider the appropriateness of surveillance warranted by the specific circumstances and agency resources. For example, what is the significance of the problem or potential for harm as a threat to the population and community?

- The public health nurse may assume multiple roles within the surveillance process such as leader, contributor, collaborator, data collector, analysis or interpretation, or user of the information.

- The public health nurse should make sure his or her knowledge about the problem is up to date and complete. An understanding of the problem’s natural course of history and normal presence in the community are especially important. For example, consider implications for intervening related to community – acquired methicillin resistant staphylococcus aureus (CA-MRSA), which was thought to be primarily a health care acquired infection.

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Identify community health problems in collaboration with community members and leaders. Implementing and maintaining surveillance is a waste of resources if it is not used to guide interventions or policy development. Adjustments to plans may be small, such as increasing the frequency of collecting school attendance information from public and private schools to better identify changes in trends related to influenza. In contrast it may be large, where funds are being directed to pay for transportation for indigent populations to access treatment.

Establishing clear criteria for what constitutes a “case” is crucial. Work with public health epidemiologist to define: 1) who is at risk, 2) what is thought to cause the disease or risk, and 3) environmental conditions which allow or promote the disease or risk. Regardless of the disease or event, using this agent-host-environment model to organize the information collected can help identify connections or patterns.

Analyze data using appropriate scientific and epidemiology principles. Essential considerations include: reliable and valid data sources, consistency of definitions, systematic and organized processes, determining the baseline to identify changes over time are all essential considerations.

The level of analysis required varies from condition to condition and may change over time. For instance, consider the growing incidence of childhood obesity and the implications for co-morbidities such as diabetes and asthma.

Interpretation and dissemination of the data needs to be in a way decision-makers at all levels can readily identify and clearly understand the potential health implications.
CHAPTER 6: ACUTE COMMUNICABLE DISEASES AND IMPLICATIONS FOR LOCAL PUBLIC HEALTH NURSES

For numerous communicable diseases, there are federal and state laws in place that consider both the infected individual and the population as a whole to protect against disease transmission. The local public health nurse may have to: investigate, collaborate with public health and health care professionals, coordinate access to care, provide health education, and provide reports regarding the status of communicable diseases for the jurisdiction served. Considerations and measures specific to preventing the spread and assuring treatment of acute communicable disease include:

- Maintaining protocols for investigation process.
- Demonstrating expertise and capacity to conduct investigation.
- Establishing partnerships and working collaboratively with government and community partners on reportable/disease outbreak or environmental public health investigations.
- Assuring timely reporting of modifiable diseases, lab test results, and investigation results.
- Implementing protocols for mitigation, including disease-specific procedures for mitigating an outbreak and conducting follow-up documentation and reporting.
- Assuring that investigation protocols include criteria to guide decisions for determining when an outbreak or environmental public health event triggers the all hazards emergency response plan.
- Developing strategies to protect the public from preventable conditions and environmental public health hazards.

SECTION 6-1: CONNECTICUT REPORTABLE INFECTIOUS DISEASE

The DPH and local health agencies each play significant and complementary roles in the control and prevention of infectious diseases. Rapid responses to disease reports are enhanced by knowledge of current investigative and follow-up resources.

Context

The Connecticut Reportable Infectious Disease Reference Manual provides local health agency staff ready access to information on infectious disease agents, reporting requirements, and control measures.

- **List of Reportable Diseases**: Connecticut’s Public Health Code mandates that the Commissioner of the DPH issue a list of reportable diseases and reportable laboratory findings on an annual basis (CGS §19a-2a and §19a-36-A2). An advisory committee of public health officials, clinicians, and laboratorians contribute to the process. Information regarding the reportable disease and requirements is available online via [http://www.ct.gov/dph/cwp/view.asp?a=3136&q=453590](http://www.ct.gov/dph/cwp/view.asp?a=3136&q=453590). For public health emergencies, a State epidemiologist can be reached nights and weekends through the DPH emergency number 860-509-8000.

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• **Reporting and Confidentiality Provisions:** CGS §19a-215c grants authority to the DPH and the local director of health or his/her authorized representative to contact first the reporting physician (if able to be located) and then the person with a reportable condition for the purposes of disease control. All information collected, as part of this follow-up investigation is considered confidential, pursuant to CGS §19a-25. Information regarding reporting requirements and forms is accessible on-line via [http://www.ct.gov/dph/cwp/view.asp?a=3136&q=453876](http://www.ct.gov/dph/cwp/view.asp?a=3136&q=453876).

**Intervention**

Municipal health departments or health districts have primary responsibility for obtaining surveillance data, including completing state and/or CDC case report forms, when indicated, and assuring that appropriate control measures are being taken. The role of the local health agency is to take the necessary action(s) to investigate and assure appropriate interventions are implemented to control the spread of communicable diseases. Some common diseases requiring local health response to consider include:

- **Chickenpox/Measles/Mumps/Pertussis/Polio/Rubella/Diphtheria** – The DPH Immunization Program staff assures that appropriate diagnostic work has been done and works with the municipal health department or health district’s staff to assure that contacts to each case have been identified and that appropriate recommendations for vaccination, exclusion, etc., have been made.

- **Hemophilus Influenzae Type B Disease/Meningococcal Disease** – The DPH Epidemiology Program staff assures that appropriate diagnostic work has been done to confirm the diagnosis and works with municipal health department or health district’s staff to assure that close contacts have been identified and referred to their physicians for prophylactic treatment.

- **Seasonal Influenza Vaccination** – To prevent disease, disability and death from vaccine-preventable disease such as seasonal influenza, the DPH Immunizations Program conducts surveillance, monitors immunization levels for at risk populations (e.g., infants, children, adults, elderly and healthcare workers), provides vaccines for all children and selected adults, and provides support to local health agencies for immunization coordination and outreach. A number of the municipal health departments and health districts conduct influenza vaccination clinics.

- **Sexually Transmitted Diseases** – or more currently referred to as Sexually Transmitted Infections [STI], which has a broader range of meaning; persons can be infected or may potentially infect others without having a disease (e.g., Human papillomavirus [HPV]). The mission of the Sexually Transmitted Diseases Control Program is to reduce the occurrence of STIs through disease surveillance, case and outbreak investigation, screening, preventive therapy, outreach, diagnosis, case management, education and immunization (when possible). The DPH mandates reporting of five (5) STIs; syphilis, gonorrhea, chlamydia, neonatal herpes, and chancroid. Surveillance activities are conducted on the three (3) most common STDs; syphilis, gonorrhea, and chlamydia, all of which can be cured with proper treatment. The local health agency may be engaged in case follow-up to assure the affected individual and his/her intimate partner(s) receive counseling, are referred to medical treatment, and care coordination.

- **Viral Hepatitis Prevention** – The DPH Viral Hepatitis Unit conducts routine surveillance for hepatitis B and C and a variety of prevention initiatives including: case management, provision of vaccine, special vaccination initiatives in selected settings, promotion of screening, counseling and education, and
statewide planning. The unit may work with the municipal health department or health district to implement these initiatives. Appendix 8 provides a sample protocol from a local health agency and sample communication with physician/medical practitioner for follow-up surveillance, education and counseling.

SECTION 6-2: INFECTIOUS DISEASES, FOOD SERVICES AND BACTERIAL FOOD POISONINGS

Foodborne illnesses occur when foods are contaminated by viruses, bacteria, toxins, chemicals or parasites. Contamination of food may occur naturally (i.e., intrinsic contamination) or may be the result of poor food handling practices, storage, or preparation (i.e., extrinsic contamination). The local public health nurse may be engaged in the follow-up epidemiological survey (i.e., interviews) related to a potential foodborne outbreak and work with licensed food inspectors as part of the investigation team.

Context

In Connecticut, the DPH regulates, provides training and education, technical consultation, special investigations and food safety promotion for commercial retail food service establishments. The local health agency is responsible for licensing and inspecting food services facilities to include temporary and seasonal events. It is the responsibility of the local director of health or his/her authorized designee to investigate all suspected outbreaks of foodborne illness.

Foodborne outbreak investigations provide an opportunity to determine the epidemiology of foodborne illness and identify the etiologic agent. Local health agencies should work with the DPH Epidemiology Program Staff to assure that an appropriate epidemiologic investigation is completed. Foodborne outbreak investigations can also result in the identification of specific contributing factors that lead to control of the immediate situation and development of practical and effective methods of preventing future outbreaks. The Food Protection Program will work with the municipal health departments or health district to assess food handling practices and implement control measures.

Investigation Considerations

An outbreak investigation of a suspected foodborne disease requires a systematic and deliberate process engaging diverse public health staff at various levels to include the local health agency, DPH, and may involve collaborations with federal agencies. Epidemiologists, licensed food inspectors, laboratorians, public health nurses, as well as others, may be engaged in various components of the investigation. An investigation will include considerations regarding preparation, detection, investigation, control and follow-up.

Although diarrheal illnesses generally are self-limited, the threat of potential outbreak renders such illnesses an important public health concern and may be indicative of a foodborne outbreak. A case of diarrheal disease used in this context refers to enteric diseases, (those affecting the alimentary canal and bacterial food poisonings [intoxications]). Depending on the site of infection/intoxication, the symptoms are predominantly those of gastroenteritis (i.e., nausea, vomiting, abdominal cramps) or enterocolitis (i.e., diarrhea, inflammation, ulcerations).
A case of diarrheal disease is one that has been confirmed by culture, by isolation, serologic tests, electron microscopy, or viral antigen assays. In an outbreak situation, this definition should be expanded to include: 1) those with compatible symptoms who lack laboratory confirmation of infection, and 2) household contacts with a compatible clinical picture, a temporal relation to the index case(s), and a positive lab culture.

**Local Public Health Nursing Teaching Points**

- The DPH should be notified promptly of a suspected outbreak. DPH Food Protection Program and Infectious Diseases Section are available for consultation, as needed.

- Specific instructions and additional guidance is provided in the:

**SECTION 6-3: OUTBREAK INVESTIGATION IN LONG TERM CARE FACILITIES**

Infectious outbreaks in long-term care facilities (LTCFs) and nursing homes (terms with considerable overlap) are likely to have a significant impact on spread of infection and mortality rates of the residents. It is estimated that several thousand outbreaks occur at LTCFs in the U.S. each year. Respiratory and gastrointestinal (GI) tract infections are the most common causes of outbreaks in LTCFs. Multiple reviews of literature reveal that the largest number of reported outbreaks by a single pathogen is caused by influenza viruses, followed by noroviruses, Group A Streptococci (GAS) and Salmonella sp.81

An outbreak is generally defined as a disease incidence exceeding the expected rate. Outbreaks impact both residents and healthcare workers. The local public health nurse may be engaged in the follow-up epidemiological survey (i.e., interviews) related to the infectious outbreak and work with the environmental sanitarians and licensed food inspectors as part of the investigation team. In addition, the local public health nurse may be engaged as a consultant for infection control staff of the facility, an educator, and facilitator for the implementation of containment measures.

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Context

LTCFs are defined as institutions that provide chronic or rehabilitative health care to people who are unable to manage independently in the community. The term nursing home is defined as a facility licensed with an organized professional staff that provides continuous nursing care and other services for persons with chronic conditions who are not in acute phase of illness. Elderly persons account for the overwhelming majority of LTCFs residents, the mean age being 80 years old, and are at high risk for acquired infections.

Reporting

Reporting refers not only to the initial outbreak notification, but also to routine updates of the outbreak status. Reporting communicable disease outbreaks in healthcare institutions serves many purposes. The immediate goal is to control further spread of the disease. Beyond that, information gained from outbreak investigations can help healthcare facilities and public health agencies identify and eliminate infection sources such as contaminated products, learn about emerging problems, identify carriers to mitigate their role in disease transmission, and implement new strategies for prevention within facilities.

The facility and the LHD should be in close contact regarding case numbers, control measures taken, and other pertinent information. When an outbreak is suspected, contact the Infection Control Practitioner (ICP) at the facility for a description of events, including:

- Census of facility, number of cases (resident and staff).
- Symptoms, onset dates, severity, duration and outcome(s) of illness.
- Location of cases within facility (i.e., concentrated on a floor, wing, or unit).

Interventions

• Upon receiving the initial report, the local health agency should verify that LTCF staff (Infection Control Practitioner) has notified the facility’s Medical Director as well as both the DPH Epidemiology and Emerging Infections Program (860-509-7994) and the Division of Health Systems Regulation (860-509-7400) of the outbreak. Notification of the outbreak to the Epidemiology and Emergency Infections Program ensures DPH’s awareness of communicable disease issues, and gives the local health agency access to consultation and assistance in managing the outbreak. DPH will notify the Food Protection Program (860-509-7297) if necessary (i.e., when a cluster pattern indicates food borne illness or high temperatures indicate bacterial infection; when a food worker is ill with diarrhea or vomiting; or when a bacterial pathogen has been isolated from a stool specimen).

• Reemphasize hand hygiene among residents, staff and visitors. The CDC has identified hand washing as the single most important means of preventing the spread of infection at all times. During the outbreak all staff, residents and visitors must be reminded to observe meticulous hand hygiene. The following points should be stressed:

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After soaping, all surfaces of the hands should be rubbed together vigorously for at least 15 seconds, then rinsed thoroughly. Hands should be dried completely, using a disposable paper towel.

- Hands should be washed before donning and after removing gloves.
- Waterless hand sanitizers should not be substituted for soap and water during a GI outbreak because they have been shown to be ineffective against spore-forming bacteria such as C. difficile, or viruses such as norovirus.

- **Provide in-service education to ALL staff on ALL shifts.** Education is mandatory for all shifts, even if a staff in-service program has been completed recently. In addition to all direct caregivers employed by the facility, staff includes volunteers, private duty, contracted or agency personnel who perform housekeeping, recreational, laundry, dietary, social service, and administrative activities. Provide information on the infecting organism and its transmission, contact precautions, and movement restrictions. Advise ill staff not to provide patient care in any setting.

- **Restrict visits from family, friends and volunteers as necessary.** Advise visitors of the need to adhere to contact precautions and strict hand hygiene. Emphasize that using hand sanitizers cannot be substituted for soap and water hand washing. Post signs to reinforce infection control measures. Signage should be eye-catching and posted at building entrances as well as outside resident rooms. At a minimum, signs should cover proper hand washing technique, and instructions on the use and disposal of gowns and gloves.

- The local health agency may be asked for facts sheets or other pertinent educational materials. Work with the facility to assure that adequate supplies of soap, hand towels, gowns and gloves are provided in residents’ rooms. In addition, work with the facility to assure that disposal receptacles for infection control supplies are properly maintained.

- **Containment Measures** that could be implemented/recommended based on numbers involved include:
  a. Droplet Precautions _____
  b. Ill residents to remain in rooms _____
  c. Visitors: hand hygiene ___wear masks_______
  d. Dining Room: hand hygiene____
  e. Housekeeping: wipe down high touch areas____
  f. Consistent staffing on units: discourage floating ___
  g. Staff to wear masks _____
  h. Prevent cross contamination: personal items to be labeled; replace when illness resolved; wash shower/bath chairs ____
  i. Unit(s) closed per Medical Director ___
  j. Facility closed to admissions per Medical Director___
  k. Quarantined per Medical Director (no visitors) ___

- **Evaluate the effectiveness of control measures and modify as needed.**
Local Public Health Nursing Teaching Points

Practical Considerations

- Emphasize hand hygiene.
- Consider universal glove use for all resident care.
- Respiratory etiquette protocol.

Recommended Hand Hygiene Technique:

- Hand rubs:
  - Apply to palm of one hand, rub hands together covering all surfaces until dry.
  - Volume: based on manufacturer.

- Hand-washing:
  - Wet hands with water, apply soap, rub hands together for at least 15 seconds.
  - Rinse and dry with disposable towel.
  - Use towel to turn off faucet.

Respiratory/Cough Etiquette:

- Cover the nose/mouth when coughing or sneezing.
- Use tissues to contain respiratory secretions.
- Perform hand hygiene after contact with respiratory secretions or contaminated objects/materials.
- Healthcare facilities should:
  - Provide tissues and no-touch waste receptacles.
  - Provide conveniently located dispensers of alcohol-based hand rub or sinks with adequate supplies.

SECTION 6-4: REPORTABLE INFECTIOUS DISEASE: TUBERCULOSIS AND IMPLICATIONS FOR LOCAL PUBLIC HEALTH NURSES

Tuberculosis is a category one infectious disease and reportable to the DPH, as mandated by CGS Section §19a-2a and §19a-36-A2 of the Public Health Code. The local health directors in conjunction with the local public health nurses are responsible for investigating, confirming, managing and containing the spread of tuberculosis in families, communities, and facilities.

Context

Tuberculosis disease is defined as when an infection in a person affected and symptoms, signs, or radiographic manifestations caused by Mycobacterium tuberculosis are apparent. The disease may be
Transmission and Treatment Considerations

Individuals who are evaluated, diagnosed, or treated for suspect TB require a plan for the continuation of treatment, which may require a daily medication regimen for 6 and up to 9 months. Confirmation of the disease is usually a positive tuberculin skin test (TST) or blood test result indicating TB infection. Some individuals may have an abnormal chest x-ray, or positive sputum smear or culture.

Latent TB infection (LTBI) is defined as *Mycobacterium tuberculosis* infection in a person who has a positive TST result, no physical findings of disease, and chest radiograph findings that are normal or reveal evidence of healed infection (e.g., granulomas or calcification in the lung, hilar lymph nodes, or both). LTBI also requires diligent surveillance. Specific groups with high LTBI and disease rates include first generation immigrants from regions with high prevalence of TB (e.g., Asia, Africa, and Latin America), homeless people, and residents of correction facilities.

The CDC released new treatment options recommendations for a shortened medication regimen of LTBI in December 2011. The new option uses a weekly regimen of 12-doses of isoniazid (INH) and rifapentine (RPT) given by directly observed therapy (DOT). This recommendation was made after extensive research showed this regimen to be as effective for preventing TB as the standard 9 month regimen using INH alone and is more likely to be completed. This new regimen with fewer doses is one of the biggest advances in LTBI treatment in 40 years.

A serious community health problem has emerged where the TB disease becomes resistant to the medications. Multi-Resistant TB (MDR TB) and Extensively Drug-Resistant TB (MDR TB) results in fewer medications left to treat the disease and medical care becomes subsequently more complicated. Resistance to TB drugs can occur when these drugs are misused or mismanaged, such as:

- When individuals do not complete their full course of treatment.
- When health-care providers prescribe the wrong treatment.
- Wrong dose, or wrong length of time for taking the drugs, or
- When the supply of drugs is not always available to the individual.

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Plan for Interventions

The DPH’s Tuberculosis Control Program has standards of care with resource information and criteria considerations for TB investigation and response. Biannual meetings are convened to provide updates to local health agencies and information is posted on the DPH’s website under the Tuberculosis Control Program. Reporting forms and affiliated documentation with the standards of care are accessible via online at [http://www.ct.gov/dph/cwp/view.asp?a=3119&q=454582](http://www.ct.gov/dph/cwp/view.asp?a=3119&q=454582) or [www.cdc.gov/mmwr/preview/mmwrhtml/rr52l1a1.htm#tab1](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr52l1a1.htm#tab1).

If the patient is a resident of the state, uninsured or unable to pay for tests and treatment there are programs available to assure medical services. Citizens of the state do not have to meet an income eligibility requirement. However, the local health agency has to complete an application to bill for services for reimbursement through the Department of Social Services.

The DPH’s Refugee and Immigrant Health Program, under the supervision of the Tuberculosis Control Program, is the public health component of Connecticut’s Refugee Assistance Program. Efforts focus on ensuring that refugee and immigrant health problems are addressed promptly.

Summary of Public Health Nursing Plan of Care

1. **Verify medical diagnosis**: There are multiple TB diagnostic test options, which include skin test, blood work, sputum collection, bronchial lavage, and/or chest x-ray. A summary of the tests with a description are provided as Appendix 9.

2. **Investigate**: The local public health nurse will need to collaborate with the laboratory and health care providers to determine the source of suspicion or symptoms, and initiate case management of the affected individuals. The case investigation should include educating the index case about his or her disease, identifying and screening contacts by risk, and ensuring appropriate TB related follow-up care. The nurse will need to **verify a diagnosis** with the client and contact source by collecting information to identify:

   - Source of referral such as personal health care provider, hospital, or correctional facility
   - Date of onset of symptom and current status of symptom
   - Tuberculin skin test results & BCG status
   - Chest x-ray results and date
   - Blood test and sputum smear results and date
   - Symptomatic or asymptomatic
   - Medications e.g., what medications are client on, if they are on TB medications do they need direct observational therapy or state funded free medication.
   - Assess living situation: Do living conditions facilitate health and healing?
   - Assess “risk factors for tuberculosis infection:

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- Born in a high risk country of the world and do not have a record of a tuberculin skin test performed in the U.S.
- Traveled to a high risk country, stayed for at least a week with substantial contact with indigenous population since the previously required examination.
- Extensive contact with persons who have recently come into the US since the previously required examination.
- Contact with person(s) suspected to have tuberculosis.
- Contact with anyone who has been in a homeless shelter, jail or prison, uses illegal drugs or has HIV infection.89

In addition, the investigation will include collecting information regarding the individual’s medical history and his/her social networks to identify potential high risk contacts that will need further follow-up screening examines. The investigator needs to collect information regarding:

- Analyze actual/potential for spread of disease:
  - Period of communicability.
  - Incubation period.
  - Mode of transmission.
- Determine probability of adherence.
- Determine the impact of the diagnosis on cultural beliefs and psycho/social impact.
- Document all consultations, collaborations, interventions, and client encounters in the medical record.
- Provide instruction on appropriate specimen collection, if applicable.
- Explain confidentiality control90.
- Screen the individual for eligibility medically and financially to determine if they qualify for the state free drug program.
- Close contacts such as family members, work or other social friends, need to be identified, name and location.
- Health care provider name and location.

3. Treatment: The role of the local health agency regarding medication administration and follow-up is crucial to treating and controlling TB. Medication regimes vary for active or latent TB, those with HIV and those who have been assessed with multiple drug resistant TB. Standard time frame for medication is 6 months, if client follows the 2 month “initial” phase and the organism is susceptible to the drugs the next 4 months are then considered the “continuation phase. There are times when conditions warrant therapy for 3 additional months such as, pulmonary cavity lesions which prolongs treatment for a total of 9 months.

The drug therapy protocol may be monitored by the local public health nurse or primary provider’s office or a specially trained DPH outreach worker. A record of visits for health maintenance and disease control or if the client is under direct observed medication therapy is maintained using the he TB-32 Tuberculosis Therapy and The Follow-up Care Report Form, which should be submitted to the local...
health agency and the State TB Control Program. The medical provider’s offices also use this form when seeing TB patients for monthly follow-up care appointments. See ct.gov/dph website for instructions guide for Therapy/ Follow-up report forms, select Disease and Prevention, Tuberculosis Forms. Information regarding the free TB drug program can be obtained from State of Connecticut TB Control Program.

Follow-up medical visits and direct observation therapy (DOT) planning information includes:

- Treatment regime, amount of medication completed and the duration.
- Name of person or agency providing DOT.
- Obstacles to adherence.
- Notification to the State TB Control Program by phone if client is non-adherent with medications, missed clinic appointments and refusing care.
- Patient contact information.
- Name and contact of provider monthly clinical evaluation by provider.
- Monthly lab test by provider to indicate medication is working.
- See Tuberculosis (TB) Therapy and Follow-up Care Report form (TB -32) and instructions.

4. **Education**: Educating the affected or potentially at risk population while partnering with others are priority roles of the local health agency. The local health agency and DPH need to consult and collaborate as needed with others.

5. **Evaluation**: Evaluating the process of diagnosis, investigation, planning, and treatment/intervention will acknowledge the successes and areas of improvement surrounding TB case management for both the Local Health Department team and the State TB Control Program. Considerations for evaluating the effectiveness of case management of an index case includes answering the following:

- Were the health intervention instructions for the client and contacts effective? Documentation is needed on the clients understanding of preventing and transmitting TB and how this communicable disease process affects not only individuals but whole populations.
- Were reporting and investigation forms completed and submitted in appropriate time frame?
- Were the client and contacts adherent or non-adherent? This information is documented on the state reporting forms.
- Was medication/DOT completed and recorded? If client was non-adherent were steps taken to alert the State Program in the correct timeframe?
- Were follow-up labs obtained and submitted during the medication therapy phase to assure medication effectiveness?
- If client was in a facility was there compliance with regulations?
- Has a client satisfaction survey been done by the client and caregiver?

**PUBLIC HEALTH NURSING TEACHING POINTS**

- All providers of care for patients with HIV or viral hepatitis should ensure that high-risk persons (especially children under 4 years old and persons with HIV infection or other immunocompromised conditions) who are exposed to patients having infectious TB are evaluated and managed consistent with national and state recommendations.
• Persons living in crowded conditions in poverty (e.g., homelessness) and persons who have HIV infection (e.g., injection drug users) are more frequently affected by TB.\textsuperscript{91}

• HIV counseling and testing is recommended for all TB patients as part of their routine management. HIV testing should also be done for contacts identified with LTBI.

• Persons who have significant contact with an infectious patient should have a TST or IGRA, possibly a chest radiograph and any other tests appropriate to complete and evaluation for active TB.

• Contacts with initially negative TST or IGRA result should have the test repeated 8-10 weeks after exposure has ended. If the test result converts to positive, they should be managed as any other contact with latent TB infection.\textsuperscript{92}

• The local health director under the TB Control Law (CGS §19a-265) must review all outpatient treatment and hospital discharge plans for anyone with a diagnosis of TB. Ideally, the hospital discharge planning process for a patient under treatment for TB should include collaboration between the hospital’s Infectious Disease Nurse and the local public health nurse or other assigned representative for the local health agency.

• The Tuberculosis Control Screening Guidelines for Connecticut Schools recommends that a student has three health assessments during his/her school experience: before entry to school, during grade 6 or 7 and during grade 10 or 11.\textsuperscript{93}

• Enrollment requirements for students coming to the U. S. for college and post-secondary private residential schools require some form of health screening for TB and most have onsite services with at least tuberculin screening as part of the enrollment process.\textsuperscript{94}

• If a physician orders drug therapy for a student, state reporting and follow-up is still required. In addition, each college and private residential school should have a tracking system in place for students with tuberculosis infections and treatment provided.

• Annually, all local public health nurses working with TB patients should be fit test for facial masks (e.g., N95) and review OHSA safety guidance to reduce exposure risks.

\textsuperscript{91} Connecticut Department of Public Health (2009, October). “Tuberculosis Control Program.

\textsuperscript{92} State of Connecticut Department of Public Health (2008, July). “Standards of Care for Patients with Suspected and Confirmed Drug-Susceptible Tuberculosis in CT: Reporting, Diagnosis, and Treatment,”


\textsuperscript{94} Connecticut Department of Public Health (2011, June). “Prevention of Tuberculosis in Persons Enrolling in Colleges and Universities in Connecticut,”
CHAPTER 7: CHRONIC DISEASES AND CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

Chronic diseases are defined as any disease lasting more than three months, not cured by vaccines or medications, progressive, and are a leading cause of death. Major contributory factors for chronic diseases include health behaviors, the environment, social-economic status, and family health history. Areas that can be positively influenced and improve health include engaging in physical activity, healthier diets by reducing consumption of fats and sodium, limiting alcohol consumption, smoking cessation and stopping tobacco use, as well as access to health screening services.

For the purposes of this guide, we have limited the focus for this chapter for chronic disease with clear public health implications and the potential to improve health outcomes. The chronic diseases that were included for this section include:

- Asthma Control and Treatment.
- Cardiovascular Disease Screening and Prevention.
- Comprehensive Cancer Education.
- Diabetes Screening and Prevention.

SECTION 7-1: ASTHMA CONTROL AND TREATMENT

Asthma is the single most avoidable cause of hospitalization, yet it is a persistently common admitting diagnosis in pediatrics. The cause of asthma is largely unknown and there is no known cure. However, with an appropriate treatment and avoidance of identified asthma triggers, persons diagnosed with asthma can achieve optimal symptom control.

The local public health nurses’ role regarding health promotion and targeting interventions to control asthma will vary. There may be opportunities to engage community members (e.g., day care providers, health care practitioners, residents) at forums as a health educator, through collaborations with schools or employers to develop programs to reduce asthma triggers, assist in health screenings and collaborate with environmental sanitarians in health risk assessments, or as a case coordinator to link affected individuals with health care providers and pharmacological therapies.

Context

Asthma is a chronic respiratory disease characterized by periods of inflammation of the respiratory tract and constriction of airway bronchiolar smooth muscle as a result of airway hyper-responsiveness to a variety of triggers. Triggers may include exercise, infection, allergens (i.e., pollen, dust, mites, pet dander), occupational exposures (i.e., chemicals), and airborne irritants (e.g., tobacco smoke, auto fumes, mold). In an asthma attack, mucus production increases and accumulates causing obstruction to airflow and

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decreasing ventilation of the alveoli. Symptoms vary in severity and include wheezing, coughing, chest tightness, and shortness of breath.

Asthma was accountable for 14 million physician office visits, 1.4 million hospital outpatient discharges, 2 million emergency department visits, 450,000 asthma hospitalizations and 3,500 deaths within the five New England States in 2007. The prevalence of asthma in Connecticut is higher than the overall prevalence in the United States, especially among children ages 0 to 17 (11% opposed to 9% nationally as of 2006).97

Local Public Health Nursing Interventions

Assessment: To effectively reduce the number of emergency visits and hospitalizations and improve the quality of life of the affected adults and children, public health strategies focus on achieving well-controlled asthma symptoms and reducing environmental triggers. Interventions include health education, fostering improved collaborations and access to care for affected individuals, families, and health care providers. Factors identified to having a negative impact on asthma control include:

• The lack of health care access and use,
• Smoking status and exposure to second hand smoke,
• Poor adherence to medical advice and treatments such as critical errors in inhaler use, frequency of oral corticosteroids used, and
• The lack of regular specialist care.
• Chronic exposure to environmental irritants (e.g., mold, second hand smoke, dust mites).

Other factors associated with poor asthma control include having co-morbidities such as Chronic Obstructive Pulmonary Disease (COPD), gastroesophageal reflux, or socio-economic characteristics such as low income, condition of housing, and increased body mass index. (e.g., overweight or obese categories).

Plan of Care: According to the National Expert Panel Report (2007), Guidelines for the Diagnosis and Management of Asthma, it is important to establish with the patient the goals of therapy, explain underlining considerations, and provide a written copy of an individualized action plan.98 Action plans must contain information regarding pharmaceutical prescriptions and which medication (short-acting) that the patient should take in case of asthma exacerbations, parameters to identify when symptoms are worsening as well as controller (long-acting) medications.

Follow-up Care: Further, National Expert Panel recommended that persons diagnosed with asthma attend periodic assessments with their health care provider every month to every six months depending on the severity and control of symptoms. In addition, persons with asthma should be guided on how to self-monitor their asthma symptoms at home including having a daily diary to record symptoms or peak flow readings, use of medication and activities that are difficult to perform.

Evaluation Criteria: Asthma control can be achieved by the following:

• Reducing Impairment as evidenced by:
  o Prevent chronic and troublesome symptoms (i.e., coughing or breathlessness in daytime, in the
    night, or after exertion).
  o Require infrequent use (less than 2 days/week) of inhaled SABA for quick relief of symptoms.
  o Maintain near normal or normal pulmonary function.
  o Maintain activity levels, including exercise and other physical activities, and attendance at
    work/school.
  o Meet patients and families expectations of satisfaction with asthma care.

• Reducing risk as evidenced by:
  o Prevent recurrent exacerbations of asthma and minimize the need for emergency department visits
    or hospitalizations to less than 1 admission a year.
  o Prevent progressive loss of lung function; for children prevent reduced lung growth.
  o Provide optimal pharmacotherapy with minimal or no adverse effects.
  o Minimize environmental exposure risks by controlling dust and mites, avoiding areas with high
    concentrations of auto fumes and exhaust.

Local Public Health Nursing Teaching Points

• Asthma is a chronic and progressive respiratory disease with no known cure and unknown etiology.

• Optimal symptom control can be achieved with appropriate treatment and avoidance of identified
  asthma triggers for individuals diagnosed with asthma.

• Engaging the affected individual, his/her family and health care provider in developing a treatment plan
  of action is crucial.

• Educating the affected individual and his/her family regarding the proper use of medications and sign
  and symptoms of exacerbations is an important part of asthma control.

Resources

DPH Asthma Program has resources and tools that some of the local health agencies utilize, which include:

• The new Asthma Action Plan is a tool for individuals to develop in collaboration with his/her health
  care provider to control asthma, is accessible on the DPH Asthma webpage at

• Putting on Airs: This program assesses home environmental risk and is designed to improve
  environmental conditions for asthmatic children to reduce the frequency of asthma-related adverse
  events. A registered nurse or health care professional from the local health district, who is
  experienced in asthma management, conducts asthma education in the home. A registered
  sanitarian conducts an environmental assessment of the home for asthma triggers.
• **Pediatric Easy Breathing:** The CT Children’s Medical Center (CCMC) Asthma Center began the Pediatric *Easy Breathing* Program, a copyrighted asthma clinical management program based on National Asthma Education Prevention Program (NAEPP) Guidelines. It is a professional education program that trains pediatric providers to determine asthma severity, utilize treatment protocol guidelines for determining proper therapy, and to develop individual treatment plans.

• **Easy Breathing for Adults:** The *Easy Breathing* for Adults Program is a professional education program that trains internal medicine residents in evidenced-based as well as systems-based medicine. The program promotes documented adherence by physicians to the National Institutes of Health’s, National Asthma Education and Prevention Program’s (NAEPP) diagnosis and treatment guidelines.

**SECTION 7-2: COMMUNITY BASED CANCER SCREENING AND EDUCATION**

“Cancer is the second leading cause of death in Connecticut and the United States. Connecticut resident cancer mortality includes deaths due to lung cancer (26.4%), colorectal cancer (10.3%), breast cancer (7.7%), pancreatic cancer (5.9%), prostate cancer (5.6%), and other sites (44.1%).”\(^9^9\) The chance of developing cancer increases with age for all races, with almost 60% of cancers occurring in people 65 years of age and older. Early detection and modifications to personal habits can improve chances of survival and quality of life for some types of cancer. However, screening rates tend to differ by income level and health insurance status, with low-income populations often not seeking or obtaining care until their cancers are more advanced.\(^1^0^0\)

The local public health nurse may have opportunities to work with communities and high risk populations, as well as collaborate with health care providers, to promote cancer screening. The roles of the local public health may vary from being a community resource to educate the community regarding the recommended screening considerations for different types of cancers, health educator regarding cancer risk factors, advocate and outreach coordinator for underserved populations.

**Context**

Behavior characteristics and interventions associated with cancer screening have been the focus of intensive research primarily in the form of studies to improve screening based in both clinical and community settings. In more than two decades of research, it has been demonstrated that cancer screening rates can be improved through a variety of community-based and clinic-based strategies. For example, individuals who lack access to medical care can be found in community settings, and not in clinical settings. Most cancer screening occurs in clinical settings; however, efforts to encourage screening can occur almost anywhere in communities, including stores, worksites, hair salons and barber shops, and churches. The


potential outreach—in terms of the number and diversity of participants—is greater in communities compared with clinics.

Characteristics of the setting influence the choice of possible interventions, which may range from one-on-one education to the use of mass media. Interventions developed and tested in various community settings with diverse populations can be classified by using the categories developed for the U.S. Guide to Community Preventive Services.

**Local Public Health Nursing Teaching Points**

Some Lessons Learned from Community-Based Cancer Screening Intervention Research, which the local public health nurse needs to consider include:

- Virtually all major types of community-based cancer screening interventions have been found to be effective in some studies. However, no interventions work for all people, screening tests, or in all settings.

- Old notions of ‘hard-to-reach’ populations should be discarded. Effective interventions can overcome barriers to screening for very diverse race/ethnic and socioeconomic groups who are affected by disparities.

- Culture and acculturation are important target population distinctions. Research consistently shows that screening behavior differs by income and level of acculturation; screening may also vary by ethnicity.

- Interventions should evolve as screening diffuses across the population.

- Each type of setting presents advantages and disadvantages in terms of the populations who can be reached and the screening objectives that can be achieved.

- Interventions to reach specific subgroups in well-defined settings (e.g., churches) have been effective in changing screening behavior.

- Screening for both breast and cervical cancer can be effectively promoted through community-based interventions. More research is needed to understand how interventions must be adapted for specific cancer tests.

- Assuring that there is access to screening and appropriate follow-up should precede interventions to promote increased use of screening.

- Compared with all other interventions, those that reduce or eliminate access barriers are most effective in increasing use of cancer screening.

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• Mass media interventions, in combination with other strategies, have been shown to increase breast and cervical cancer screening in several studies. Evidence is insufficient, however, to indicate which combinations are strongest and whether these interventions compare favorably to other multi-component interventions. These resource-intensive campaigns have not been assessed for cost-effectiveness.

• The prevalence of small (non-tailored) media in community-based cancer screening interventions indicates the importance of this category of strategies. However, little is known to inform best practices, and contributions to overall results have not been measured.

• Most community interventions to promote cancer screening include person-to-person outreach and/or education in some form. Evidence-informed principles are needed to understand better the contribution and advantages of these strategies and their variations.

• Multi-component interventions are effective in increasing initial and repeat cervical and breast cancer screening across a wide variety of settings and target populations. Multi-component interventions leave unanswered important questions, however, concerning the contribution of individual components and the effect of variations in intervention combinations. Cost-effectiveness analyses of entire interventions and their components are also needed.

**Resources**

• *The Guide to Community Preventive Services* (the Community Guide) provides a wealth of evidence-based intervention strategies to improve cancer screening. The challenge for health promotion practitioners using the Community Guide is to (1) transform these intervention strategies into specific intervention programs and (2) implement these programs in settings that may or may not match the settings in which the interventions were originally tested.

• Several resources are available to help find and adapt specific intervention programs, such as the:
  - Additional information can be found at the US Preventive Health Services website at [http://www.uspreventiveservicestaskforce.org/index.html](http://www.uspreventiveservicestaskforce.org/index.html).

• The *Connecticut Cancer Partnership* “is responsible for coordinating a statewide comprehensive approach to cancer prevention and control through the development and implementation of the Connecticut Comprehensive Cancer Control Plan, 2009-2013. The efforts of the Partnership have resulted in significant contributions in reducing cancer risks, detecting cancer earlier, improving access to treatment, and enhancing survivorship and end of life care for cancer patients and their families in Connecticut.” The Connecticut Comprehensive Cancer Control Plan 2009 and additional information is accessible at [http://www.ct.gov/dph/cwp/view.asp?a=3124&Q=413640&PM=1](http://www.ct.gov/dph/cwp/view.asp?a=3124&Q=413640&PM=1).
SECTION 7-3: CARDIOVASCULAR DISEASE SCREENING AND PREVENTION: CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

Cardiovascular disease involves the body’s vascular system, which includes the heart and blood vessels, responsible for transporting oxygen and nutrients to the body’s organs and cells. The major cardiovascular diseases include heart disease and cerebrovascular disease (or stroke), which are associated with premature death, chronic and progressive disease, and increased risk for adverse health outcomes to include disabilities. Contributing factors to cardiovascular disease include aging, health behaviors and lifestyles, family health history, ethnicity, co-morbidities (e.g., diabetes), and socio-demographics.

The local public health nurses’ role will vary and focuses on health promotion, disease prevention, and effective chronic disease management. The local public health nurse may be a community resource, consultant, educator, advocate, counselor, provide health screenings, and at times, a care coordinator for at risk population to access health services. Interventions will focus on working with communities to influence changes in the key modifiable risk factors for cardiovascular disease, which include: cigarette smoking, overweight and obesity, high blood pressure, high cholesterol, and lack of physical activity.

Context

Heart disease and cerebrovascular disease are the first and third leading causes of death, respectively, in Connecticut and the U.S. Heart disease encompasses several subcategories with varying etiologies to include ischemic heart disease, hypertensive heart and kidney disease, pulmonary circulatory disease, rheumatic fever and rheumatic heart disease, and other forms of cardiomyopathy. Stroke is the most severe clinical manifestation of cerebrovascular disease and includes two major types, ischemic stroke and hemorrhagic stroke.

BLOOD PRESSURE: Hypertension, elevated blood pressure, can lead to cardiovascular disease and is referred to as the “silent killer” because physical symptoms are often absent, while it causes major organ damage if not treated. The number of people who have high blood pressure increases with age in both men and women. Ninety percent of people at age 55, who do not have high blood pressure, will eventually develop it.

Contributing factors to hypertension include genetics, inherited nervous system abnormalities, atherosclerosis, co-morbidities such as diabetes, high sodium intake, obesity and it can be related to pharmaceutical interventions. However, for many people with hypertension, a single specific cause is unknown, which is referred to as essential or primary hypertension. In contrast, for some people, hypertension is the result of another medical problem or medication. This is called secondary hypertension. This type has recognizable causes that may be reversible.

Blood pressure screening criteria recognizes normal ranges, pre-hypertension, elevated stages 1 and 2, as follows:

<table>
<thead>
<tr>
<th>Screening Results/Criteria 105</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY</td>
</tr>
<tr>
<td>Normal</td>
</tr>
<tr>
<td>Pre-hypertension</td>
</tr>
<tr>
<td>Stage 1</td>
</tr>
<tr>
<td>Stage 2</td>
</tr>
</tbody>
</table>

Blood pressure screening is part of a health assessment and is not a diagnostic tool. As noted, there are numerous considerations and more definitive diagnostic evaluation necessary for a definitive diagnosis of hypertension, cardiovascular disease or cerebrovascular disease. Expert blood pressure screening considerations for follow-up assessment and recommendations for referral for medical evaluation include: 106

- **Normal Range**
  Recheck in 6 months to 1 year unless medical history indicates more frequent need

- **Pre-hypertension**
  Home monitoring and/or recheck in 1-2 months

- **Stage 1**
  Advise medical evaluation within 1-2 months

- **Stage 2**
  Advise medical evaluation soon, ideally within 1 week

**CHOLESTROL**: Cholesterol is a waxy fat-like substance that is necessary for cell function. It is used in hormone and cell wall production, to maintain membranes, and produce Vitamin D and bile acids that

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digest fat. Cholesterol is produced naturally in the liver; however, cholesterol is also consumed from food, such as from animal products, meat, dairy, and eggs. Cholesterol is transported in the blood-stream by lipoproteins, low-density lipoproteins (LDL) and high-density lipoproteins (HDL). The two types of cholesterol along with triglycerides make up the total cholesterol count.

- **LDL**, or the “bad” cholesterol circulates in the blood. Elevated LDL has no signs or symptoms. This insidious compound slowly builds up in the walls of arteries. The hard, thickened plaque buildup makes arteries less flexible and eventually narrows the artery resulting in a heart attack or stroke. This gradual buildup of plaque, called atherosclerosis, is a disease of the medium and larger sized arteries, such as those that supply the heart, brain, aorta, and lower extremities.

- **HDL**, or “good” cholesterol carries cholesterol away from the arteries back to the liver, where it is eliminated from the body. HDL has a protective affect against plaque buildup, but levels of HDL <40 mg/dl are thought to increase the risk of heart attack.

- Triglycerides are a form of fat made by the body. The body converts any calories it does not use immediately into triglycerides, which are stored in the fat cells. In between meals, hormones are released that convert these triglycerides into energy. Excessive caloric intake increases triglyceride levels in the blood. Hypercholesterolemia is usually asymptomatic.  

High cholesterol is a major risk factor for heart disease, the leading cause of death in the United States. Health education and screening are important and the National Cholesterol Education Program recommends that all adults have their total cholesterol checked once every 5 years.

Cholesterol screening criterion follows:  

<table>
<thead>
<tr>
<th>Total Cholesterol:</th>
<th>LDL Cholesterol:</th>
<th>HDL Cholesterol:</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;200 mg/dl desirable</td>
<td>&lt;100 mg/dl optimal</td>
<td>≥60mg/dl - Ideal</td>
</tr>
<tr>
<td>200-239 mg/dl Borderline High</td>
<td>100-129 mg/dl near optimal (initiate lifestyle changes)</td>
<td>&lt;40 – Low</td>
</tr>
<tr>
<td>≥240 mg/dl High</td>
<td>130 -159 Borderline 160-189 high 190 very high</td>
<td></td>
</tr>
</tbody>
</table>

Major risk factors for elevated cholesterol and LDL include: smoking, sedentary lifestyle, high fat diet, hypertension, low HDL, family history, age (men ≥ 45 years), post-menopausal women (≥ 55 years), and diabetes.

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Local Public Health Nursing Teaching Points

- Follow-up is the responsibility of the person being screened.

- Discuss and determine the presence of major risk factors that can be modified for cardiovascular disease such as: cigarette smoking, sedentary lifestyle, high fat diet

- Use jargon-free language when discussing risks of cardiovascular disease, lifestyle modifications and treatments with patients.

- Reliability of blood pressure screening is dependent on proper equipment and correct sizing of cuff on arm (e.g., pediatric verses adult verses large adult cuff)

- Provide education about high blood pressure: lack of symptoms or warning signs, complications, cardiovascular disease risk.

- Teach proper techniques to monitor own blood pressure if person chooses to purchase a monitoring device offered on the market. Provide B/P cards to record pressure over time and to inform their PCP.

- Offer information on the relationship of total blood cholesterol, HDL, LDL and other risk factors for cardiovascular disease.

- Provide referrals when appropriate: medical, nutritional counseling, exercise consultant, mental health practitioner, community-based organizations, local public health agencies.

- Reinforce healthy lifestyle modifications, instruct and educate persons about co-morbidities related to hypercholesterolemia and hypertension.

- Encourage everyone age 20 and older get their cholesterol checked at least once every 5 years.

Resources

The DPH Heart Disease and Stroke Prevention Program works to improve cardiovascular health through public health strategies and policies that promote:

- Healthy lifestyles and behaviors.
- Healthy environments and communities.

Fact sheet, brochures, and DPH program links are available on the DPH Heart Disease and Stroke Prevention webpage at http://www.ct.gov/dph/cwp/view.asp?a=3135&q=387022
SECTION 7-4: DIABETES SCREENING AND IMPLICATIONS FOR LOCAL FOR PUBLIC HEALTH NURSES

Diabetes mellitus is characterized by high levels of blood glucose, which result from deficient insulin production and/or insulin action. Diabetes is associated with serious complications, premature death, and people with diabetes are at increased risk for many adverse health outcomes, including heart disease and stroke. The role of local public health nurse working with different communities to modify health behaviors and assure access to care. The focus of the local public health nurse interventions is to reduce the risk of diabetes, effective chronic disease management, and may vary from consultation, health education, outreach, health screening, and referrals.

Context

Diabetes is the seventh leading cause of death in Connecticut, yet most people with diabetes die from related complications rather than directly from the disease itself. Diabetes prevalence rates vary by age, race or ethnicity, and household income levels. Prevalence increased by age with Connecticut adults aged 50 and over having the highest rates and adults aged 18-29 having the lowest rates of diabetes. Before people develop diabetes, blood glucose levels are higher than normal but not yet high enough to make a diagnosis of diabetes. Taking action even at this stage could prevent diabetes from developing. People with pre-diabetes are at 50% increased risk for developing cardiovascular disease.

There are two major types of diabetes. Type I diabetes, previously known as juvenile diabetes, is the result of the body’s failure to produce insulin and is typically diagnosed in children or young adults. Insulin is a hormone produced by the pancreas that helps “unlock” the cells to allow glucose to enter. Glucose is an essential fuel for the cells of the body. Type II diabetes is the most common form of the disease and results from insulin resistance combined with relative deficiency of insulin being produced by the pancreas. Insulin resistance is a condition where the body fails to properly use insulin.

Two other types of diabetic conditions are worth mentioning:

- Gestational diabetes and pre-diabetes. Gestational diabetes occurs in pregnant women who have high blood sugar levels during pregnancy. About 4% of all pregnant women are affected by this. The cause is unknown. Gestational diabetes and type II diabetes are both involved with insulin resistance.
- Pre-diabetes is a condition where blood sugar values are higher than normal, but not high enough to be classified as diabetes. Approximately 54 million adults have pre-diabetes, and are likely to become diabetics within a 10 year timeframe. Research has shown that management of pre-diabetes could delay or prevent type II diabetes.

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111 Mayo Clinic accessed @ http://www.mayoclinic.com/health/prediabetes/DS00624
112 Mayo Clinic accessed @ http://www.mayoclinic.com/health/prediabetes/DS00624
Diabetes Symptoms and Diagnostic Screening Criteria

- Elevated blood sugars:
  Normal: Fasting level 70 mg/dl – 100 mg/dl
  Impaired: Fasting ≥ 100 mg/dl but <126 mg/dl
  Diabetes: Fasting ≥ 126 mg/dl

- Physical symptoms linked with diabetes may include: polyuria, polydipsia, polyphagia, increased fatigue, weight loss, blurred vision, growth impairment.

- Casual plasma glucose ≥ 200 mg/dl. Casual is any time of day without regard to time since last meal. OR plasma glucose ≥ 200 mg/dl during an oral glucose tolerance test. Testing should be repeated on a different day to confirm the diagnosis.

- ADA recommends that all individuals age 45 and older be tested to diabetes and retested every 3 years. Hemoglobin A1c is not recommended for diagnosis of diabetes, it is accepted for routine use in measurement for glycemic control and diabetes management.

Follow-up Guidance: Testing for Pre-diabetes and diabetes in asymptomatic patients should be considered in adults of any age who are overweight or obese (BMI≥25 kg/m²) or with one or more risk factors. Experts recommend to begin screening at age 45 in those without risk factors.

Body Mass Index (BMI) and Limitations of Use: Body mass index (BMI) is a measure of weight adjusted for height, calculated as weight in kilograms divided by the square of height in meters (kg/m²). Studies have shown that higher BMI levels correlate with body fat and with future health risks and conditions. Although not a diagnostic measure, BMI is a screening tool to identify possible weight problems and an effective method for population assessment.113

For example, Table 4 compares BMI values with the corresponding weight for average size man and women.

### Table 4: Comparison of BMI Value for Average Height and Weight for Adult

<table>
<thead>
<tr>
<th>BMI Values</th>
<th>Corresponding Weight (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(kg/m²)</td>
</tr>
<tr>
<td>Underweight</td>
<td>&lt; 18.5</td>
</tr>
<tr>
<td>Healthy Weight</td>
<td>18.5 – 24.0</td>
</tr>
<tr>
<td>Overweight</td>
<td>25.0-29.9</td>
</tr>
<tr>
<td>Obese</td>
<td>30 and above</td>
</tr>
</tbody>
</table>

However, CDC identifies clinical limitations of BMI that should also be considered. “BMI is a surrogate measure of body fatness because it is a measure of excess weight rather than excess body fat. Factors such as age, sex, ethnicity, and muscle mass can influence the relationship between BMI and body fat. Also, BMI does not distinguish between excess fat, muscle, or bone mass, nor does it provide any indication of the distribution of fat among individuals.

The following are some examples of how certain variables can influence the interpretation of BMI:

- On average, older adults tend to have more body fat than younger adults for an equivalent BMI.
- On average, women have greater amounts of total body fat than men with an equivalent BMI.
- Muscular individuals, or highly trained athletes, may have a high BMI because of increased muscle mass.

The concerns associated with using BMI for adults also apply to children and adolescents. Other factors, including height and level of sexual maturation, influence the relationship between BMI and body fat among children as well. 114

In addition, “the accuracy of BMI varies substantially according to the individual child’s degree of body fatness. Among obese children (or a BMI-for-age greater than or equal to the 95th percentile), BMI is a good indicator of excess body fat. However, among overweight children (or a BMI-for-age between the 85th and 94th percentiles), elevated BMI levels can be a result of increased levels of either fat or fat-free mass. Similarly, among relatively thin children, differences in BMI are often due to differences in fat-free mass.”

Further information is needed to better understand the correlation of BMI, body fatness, fat distribution, and various diseases, as well as to clarify the health risks associated with the 85th and 94th percentiles in children. Health care providers should recognize that other factors such as fat distribution, genetics, and fitness level, contribute to an individual’s assessment of disease risk

Local Public Health Nursing Teaching Points

- Follow-up is the responsibility of the person being screened.
- Provide instruction regarding the classic red flags of type 2 diabetes: increased thirst, frequent urination, extreme hunger, unexplained weight loss, fatigue, blurred vision, slow-healing sores or frequent infections. Individuals manifesting these symptoms should be referred to a physician immediately.
- Pre-diabetics: Encourage losing a modest amount of weight through diet and exercise. Aim for a 10-15 pound weight loss and moderate exercise, such as walking, 30 min. per day. Recheck blood glucose values every 1-2 years.
- Educate on the consequences of high glucose values. High glucose levels can damage internal layer of cells in capillaries, causing them to leak and scar. This is most often seen in the eyes, kidneys and other tissues fed by capillaries.

• Inform individuals about the modifiable risk factors such as being overweight, high blood pressure, high cholesterol, physical inactivity, smoking, high glucose levels.

• Encourage eating a variety of foods. Fad diets and restriction of certain food groups may limit essential nutrients. Encourage portion control as part of an overall healthy eating plan. Encourage a reduction in dietary fat, and incorporation of healthy carbohydrates from fruits, vegetables, whole grains, nuts, seeds and legumes.

• Review the client’s age, socioeconomic status, cultural issues and other health conditions. Consider a referral to social services to assist clients with financial and/or economic issues.
CHAPTER 8: PREVENTIVE HEALTH INTERVENTIONS AND CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

SECTION 8-1: DENTAL SCREENING AND CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

Oral health is an essential part of staying healthy. Oral health means more than healthy teeth and the absence of disease. It involves the ability of individuals to carry out essential functions. Poor dental hygiene leads to poor nutritional intake, increased disease susceptibility, interrupted communication patterns, and poor self-actualization. Populations at high risk include infants and preschoolers, children, the elderly, and those with chronic disease such as cancers or HIV.

Municipal health departments and health districts differ greatly in their focus and involvement with oral health programs and issues. Besides private dental offices, many communities offer dental screening for children in the school setting with professional dental hygienists. The local public health nurse’s roles may include advocacy, collaboration, consultation, referrals, and health education.

The DPH through the Office of Oral Health offers several grant-funded programs to help communities improve access to oral health care and education about the importance of good oral health. The following state programs include with information is available on the DPH’s Office of Oral Health at http://www.ct.gov/dph/cwp/view.asp?a=3125&q=388844&dphNav_GID=1964:

- Home by One
- Every Smile Counts
- Water Fluoridation Plan
- Basic Screening Survey for Older Adults
- Dental Donated Services

Context

Oral diseases ranging from dental caries (cavities) to oral cancers cause pain and disability for millions of Americans. The impact of these diseases does not stop at the mouth and teeth. A growing body of evidence has linked oral health, particularly periodontal (gum) disease to several chronic diseases, including diabetes, heart disease, and stroke.115 In pregnant women, poor oral health has also been associated with premature births and low birth weights.116 These conditions may be prevented in part with regular visits to the dentist.

The ability to access oral health care is associated with gender, age, education level, income, race and ethnicity, access to medical insurance, and geographic location. Efforts are needed to overcome barriers to access for oral health care caused by geographic isolation, poverty, insufficient education, and lack of communication skills.

Local Public Health Nursing Teaching Points

- A screening does not replace an exam by a dentist. Children should have a complete examination by a dentist at least once a year. Babies need to be seen by a dentist before they cut their first teeth (i.e., before age one).

- Provide information pertaining to baby bottle tooth decay (Fact sheets and resource information is accessible at the DPH Office of Oral Health website available at http://www.ct.gov/dph/cwp/view.asp?a=3125&q=388844&dphNav_GID=1964.)

- Inform, educate about fluoride intake: systemic and topical.

- Instruct on types of food that will influence an increase in dental caries: frequency of snacking, intake of sweetened beverages, overall diet quality, use of vitamin and/or mineral supplements, and types of foods consumed between meals.

- Educate on good oral health regarding gastric reflux or frequent vomiting, chronic medical conditions and their effects on oral health. (e.g., diabetes, heart disease, HIV infection, eating disorders).

- Instruct and inform foods that are high in cariogenicity and those that are not.

- Strengthen understanding of oral health and disease by advocacy for the public, networking with practitioners, and working with policymakers.

SECTION 8-2: FALL PREVENTION AND CONSIDERATIONS FOR PUBLIC HEALTH NURSING PRACTICE

Section Pending
SECTION 8-3: IMMUNIZATIONS AND CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

Immunization (or vaccination) are administered at a particular ages over the life cycle, either orally, subcutaneously, or intramuscularly. The local public health nurses may need to screen, collect specific information about situations, administer, educate, and link individuals with services.

Context

There are well defined set of laws and regulations stipulated by the state of Connecticut regarding inoculating school aged children, requirements for college admission, and recommendations for adult immunizations. Although, exemptions vary from state to state, all school immunization laws grant exemptions to children for medical reasons, according to the National Conference of State Legislatures (NCSL). Further, the requirements are periodically updated and the laws can be found at the Department of Public Health website:


Local Public Health Nursing Teaching Points

- It is the responsibility of parents and or caregivers to keep all immunization appointments and records.
- The local public health nurses may educate the parent or caregiver on the laws, regulations, and policies of immunization, and enforce as indicated, so they can gain an understanding of the benefits, risks, purpose of each vaccine.
- Remind parents or legal guardians to discuss with their primary doctors (i.e. pediatrician) any adverse reactions from this vaccine or any previous vaccination.
- Reinforce the importance of keeping a record of all required vaccinations and to provide this record at the time of receiving present immunization and provide information such as when he or she changes daycare or enters the school system.

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117 Medline Dictionary.
• Children with a diagnosis of bronchial asthma should be carefully monitored for shortness of breath or wheezing.

• Keep updated regarding immunization schedules and requirements.

Resources

• Connecticut General Statutes §19a-77 thru 19-87e, 46b-120 and 17a-101

• DPH Immunizations Program

SECTION 8-4: TIPS FOR STARTING A VACCINATION CLINIC

Context

When planning a vaccination clinic it is important assess the needs of the population at hand for interest, commitment, type of vaccination needed, urgency of the vaccination, and sustainability. Consider the cost-versus-benefit ratio and how many vaccinations would be needed to cover all costs. Once you have a basic idea of how and whom you’d like to vaccinate, seek out expertise to guide your future steps, such as: others in your community or facility with experience and expertise; other local or state department personnel; and the state immunization managers (can be found at: www.immunize.org/coordinators).

Interventions

Find the Space - Secure a space to accommodate the flow of clients. Standard precautions should be in place. An area that can be considered private should be available if clothing needs to be removed to access immunization site. Consider:

• Where you will store vaccines and supplies, and where you will draw up or mix vaccines. Other considerations: space for refrigerator and freezer units; space for storing supplies: needles, alcohol wipes, trays, sharps and hazardous waste receptacles, etc.; physical workspace for preparing vaccines.

• Where you will administer the vaccines: Need good lighting, a sink for hand washing, nearby telephone access, supplies, sharps container, space for informational forms, VISs, and patient record cards; a place for patients to sit during and after vaccination.

Medical Director - Any free-standing or mobile clinic must have a medical director or medical advisor licensed to practice medicine in the state of Connecticut. Most vaccine manufacturers require that vaccine may be ordered under the medical license of the advisor/director. Additional considerations include:
• Standing orders permit an approved licensed person to administer vaccines when a physician is not present. Many studies have shown that standing orders are one of the best ways to increase immunization rates. Immunizations Action Coalition has sample standing orders for all routine childhood and adult vaccines available online at [http://www.immunize.org/standing-orders/](http://www.immunize.org/standing-orders/).

• Also have standing orders for the management of vaccine reactions.

**Determine the Personnel** - A licensed medical professional, such as an RN, must be onsite at all times that can assess any adverse reaction to a vaccination. Special situations that may arise are hypersensitivity or allergic reactions, such as hives, angioedema or anaphylaxis, syncopal or vasovagal responses, latex allergy, or bleeding disorders. Considerations include:

• Seek well-trained individuals who work in a different area of your organization who can help train new vaccinators. Your local or state health department may be able to provide such training or refer you to other such sources. DVD training films can help supplement and reinforce personal training.

• Schools are important and popular choices as sites for seasonal influenza vaccination clinics and similar activities in public health emergency events. School facilities are the largest gathering space in some communities and therefore frequently used for vaccination clinics and other emergency response activities. Vaccination clinics are frequently used as preparedness drills and other activities. Opportunities exist for training professional and volunteer health personnel as part of immunization clinics.

• Note: an excellent DVD from California Dept. of Health Services was updated in 2010 by the California Department of Public Health, and focuses on the skills and techniques needed for vaccine administration.

**Gather the Supplies** - All equipment necessary for administration, documentation, and disposal must be considered. Issues to consider include:

• Vaccine may be purchased privately, or in some cases through a state contract allowing for reduced pricing. The federal Vaccines for Children (VFC) program provides vaccines at no cost for children and adolescents younger than age 19 years, who are either Medicaid-eligible, uninsured, or American Indian or Alaska Native. Vaccine for children (VFC vaccine) may be secured through the CT Vaccine Program (CVP).

• The DPH also may have low-cost or free vaccines for certain high-risk adult patients.

**Documentation** - Federal regulations require Vaccine Information Statements (VIS) be given to all persons receiving a vaccination. Camera ready copies are available on the CDC website at [http://www.cdc.gov/vaccines/pubs/vis](http://www.cdc.gov/vaccines/pubs/vis)

**Determine Method of Payment** - Secure method of payment, either by cash, check, credit card, or insurance claims and reimbursement.
Arrange for Waste Removal - All used syringes should be placed in puncture proof containers. Empty or expired vaccine vials are considered medical waste. Follow disposal methods according to state and local regulations. Contracts may be set up with local vendors specializing in sharps collection and disposal.

Assure that your clinic has complete vaccine storage and handling guidelines - Develop written guidelines for routine as well as emergency storage and handling of vaccines. Make sure all staff members are trained in your agency’s vaccine policies and procedures.

Plan for Special Situations - Special situations that may arise are hypersensitivity or allergic reactions, such as hives, angioedema or anaphylaxis, syncopal or vasovagal responses, latex allergy, or bleeding disorders. All vaccine adverse event reactions (VAERS) must be reported (http://vaers.hhs.gov/index).

Local Public Health Nursing Teaching Points

- **CT Vaccine Program** - The Connecticut Vaccine Program (CVP) is Connecticut’s expanded pediatric vaccination program. The program is state and federally funded and provides vaccines at no cost to children under the age of 18 years. The CVP was developed in response to the enactment of Public Act 12–1, which requires healthcare providers who administer pediatric vaccines to obtain the vaccines through the DPH in most cases. The CVP was expanded to include three additional vaccines - pneumococcal conjugate, influenza, and hepatitis A - covering fourteen of the sixteen vaccines currently recommended by the Centers for Disease Control and Prevention (CDC) at http://www.ct.gov/dph/cwp/view.asp?a=3136&q=511138.

- **CDC Recommendations for Vaccine Storage** - Click the link below to see how CDC recommends clinics store vaccine materials: [CDC Vaccine Storage Recommendations](http://www.cdc.gov/vaccines) PDF

- **Documentation** must be available and accessible for ten years following administration of the vaccine.
CHAPTER 9: COMMUNITY OUTREACH ACTIVITIES AND IMPLICATIONS FOR LOCAL PUBLIC HEALTH NURSES

SECTION 9-1: COMMUNITY OUTREACH OVERVIEW/INTRODUCTION

Community outreach is the practice of conducting local public awareness activities through focused community interactions. Activities are purposively designed to educate the public about a particular issue such as heart health, cancer awareness and risk factors, or immunizations, using respected and locally relevant channels of communication. Activities may include educating the community or subgroups to the availability of health services for populations who might not otherwise have access to those services. For example, the Connecticut Breast and Cervical Cancer Early Detection Program is a comprehensive health screening for medically underserved women through designated health care providers and includes access for treatment when breast or cervical cancer is diagnosed.

The local public health nurse may be a facilitator, educator or community resource, coordinating and collaborating in outreach activities. Activities may include working with community leaders, faith based institutions, civic groups, community centers, schools, media, etc. The activities may be directed at a whole community, at risk subgroups within those communities, and/or systems that impact the community’s health.

Steps to conducting outreach activities are provided as Appendix 11. Effective outreach strategies include key elements:

- Include some type of personal involvement.
- Implement multiple outreach strategies, for example, media, community campaigns, informal networks, social media (e.g., Twitter, Facebook).
- Utilized trained volunteers drawn from the at risk populations.
- Incorporate principles of social marketing.
- Build on existing formal networks; for example, social groups, friends, and extended families.

Local Public Health Nursing Teaching Points

- Know your audience; effectiveness of efforts depends on the extent to which outreach activities are acceptable and appropriate to the at risk population(s).
- Accurately interpret available community assessment data to determine population health problems, risk, service needs and promoters and barriers to service access.
- Include/involve key stakeholders, to include members of the at risk population, in planning outreach activities.

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• Become knowledgeable regarding the different cultural and ethnic groups served in your community. Outreach can be more effective when information is presented/delivered in the language of persons in the community.

• Identify potential barriers (e.g., physical environment accessibility, natural daily rhythms, socio-economic factors, health beliefs of target population) early in the planning phase.

• Build on the networks already in place such as churches, clubs, organizations, hangouts (barber shops, libraries, and neighborhood gathering sites).

Examples of Successful Outreach Efforts

• Blozis, K., Moon, S., & Cooper, M. used a survey to determine what workers wanted in work based health promotion program. Participation increased when the results of the survey were reviewed and implemented. (Assessed what community wants were).119

• Cheng et al sent e-mail invitations and used telephone invitations for women to have cervical cancer screening. The use of a mobile clinic located in a school in the community where a woman resided had increased participation in the screening services than the hospital based clinic that was a further distance.120

• McElmurry, Park and Buseh describe an attempt to reach a Latino group by using public health nurses and trained community health associates (CHA). The CHAs were familiar with cultures of the community, thus enhancing the outreach effort. Public health nurses and CHAs worked well together offering many health promotion activities: pregnancy care, infant care, WIC referrals, risk assessments and more.121

• May, McLaughlin and Penner explain a pregnancy outreach program to decrease low birth weights. Social marketing was used in conjunction with using trained volunteer community individuals. Door to door information was received better than mailed information. When encouraged to bring a friend for support, there were better responses. Volunteers need frequent reminders of the value of their work.122

• Sanabria describes an effort carried out solely by the community to teach Latinos about AIDS. An alternative health clinic along with prevention flyers, in which the community members translated into Spanish. The flyers were distributed by older teens and young twenty year olds to schools, fast food restaurants, and Laundromats. It was not for several years that the health department became involved in this effort.123


Taylor provided a school mobile health center in a school district with many immigrant children whose families were unaware of lead poisoning and how to avoid it. The immigrant families were at greater risk due to the language barrier.\textsuperscript{124}

SECTION 9-2: HEALTH FAIRS AND IMPLICATONS FOR LOCAL PUBLIC HEALTH NURSES

Health fairs focus on health education and screening activities. The main strategies of health fairs are to promote and maintain health through education. Important components of a health fair are screenings, interactive displays, educational handouts, and age specific assessments. Objectives of a health fair are based on a needs-assessment of the community, general health promotion and if appropriate, specific problems in the community that have been identified.\textsuperscript{125}

Context

To be effective health education must be culturally sensitive both in its content areas and in its delivery.\textsuperscript{126} Personal belief systems within the context of one's cultural system are reflected in their views of health and illness, as well as belief in an individual's capacity to influence his/her health (i.e., intrinsic verses extrinsic).

Understanding health care information, or health literacy, are the skills needed to interact within the health care system as well as to be able to understand one's own health care needs. Health literacy is more than the ability to read. The Institute of Medicine (2004) define health literacy “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”\textsuperscript{127} Poor health literacy is "a stronger predictor of a person's health than age, income, employment status, education level, and race."\textsuperscript{128}

At risk populations for limited health literacy include:

- Elderly (age 65+) - Two thirds of U.S. adults age 60 and over have inadequate or marginal literacy skills, and 81% of patients age 60 and older at a public hospital could not read or understand basic materials such as prescription labels.\textsuperscript{129}
- Minority populations.
- Immigrant populations.
- Low income - Approximately half of Medicare/Medicaid recipients read below the fifth-grade level.

\textsuperscript{129} Williams, MV. \textit{JAMA}, December 6, 1995
According to the Institute of Medicine (2004), ninety million people in the United States, nearly half the population, have difficulty understanding and using health information. The relationship between literacy and health is complex. Literacy impacts health knowledge, health status, and access to health services. As a result, patients often take medicines on erratic schedules, miss follow-up appointments, and do not understand instructions like "take on an empty stomach".

Planning Considerations

Planning should incorporate considerations from the community leaders or sponsors of the event. The benefits, risks, and costs of health fair screening must be taken into consideration when deciding which type of screening will be offered. Because the responsibility of health lies with the individual, the largest benefits of a health fair would be to influence participants to take action on their health related habits.

Health screening activities may include:

- Health history, height, weight
- Body fat evaluation
- Blood pressure
- Blood sugar
- Nutrition evaluations
- CVD risk factor evaluation, and lipid profile screening
- Visual acuity, glaucoma evaluations
- Hearing evaluations
- Testicular and breast self-exam demonstrations
- Skin evaluation
- Stool evaluations for occult blood
- Specialized tests depending on the community assessment: pulmonary studies, electrocardiograms, genetic studies, child growth and development evaluations, blood lead levels, scoliosis evaluation, dental evaluations, pap smears, depression assessments in adolescents and elderly, feet assessments, home safety assessments

Exhibit considerations:

- Visually appealing and culturally appropriate displays are necessary to engage an audience.
- Information needs to be relevant, succinct and include empowering messages.
- A list of some national organizations that may be useful when planning health fairs if provided as Appendix 10.

Local Public Health Nursing Teaching Points

- Remind participants that the health fair does not take the place of private medical care or as a substitute for a medical exam.

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• Provide pamphlets that are relevant and culturally appropriate for the audience at each booth for specific information.

• Teach self-care practices (e.g., reading product labels to determine calories and other nutritional information, healthy food choices and cooking), when feasible.

• Screening tests identify risk factors or may identify health problems. It is not a diagnostic tool. Do not offer a diagnosis.

• Provide links between health fair activities and medical care service utilization.

• Help mobilize community resources to reinforce necessary behavior changes.

SECTION 9-3: SOCIAL MARKETING AND CONSIDERATION FOR LOCAL PUBLIC HEALTH NURSES

Context

Social marketing applies the concepts of commercial marketing principles to health and health service programs. Social marketing utilizes marketing research to communicate health messages to the public. The 4 P’s of marketing principles include:

• **Product** is the behavior that needs to be changed in exchange for some other benefit that is perceived to be better in order to compete with the current behavior. The product could be tangible or intangible.

• **Price** is the cost to changing the behavior. The cost could be financial or related to time, effort, lifestyle, or psychological costs. Perceived costs must be less than the perceived benefits in order to get people to act.

• **Place** is where the product or program will be accessible. A frequented place increases access and participation.

• **Promotion** is communicating to the audience about a behavior change. This can be done through advertising on TV, billboards, events, entertainment, or mail.

The process of change involves an exchange of cost versus benefits for the individual, family, organization and community. The desired change in behavior must outweigh the perceived costs for any change to occur and must be in terms of benefits that are important to the audience. Gaining and understanding the audience (e.g., age, socio-economic dynamics, cultural and ethnicity) are essential to developing a marketing plan. Intervention vary depending on the audience’s readiness to change, social and cultural acceptance of change, the perceived costs associated with the change, level of awareness of problem, motivational factors, and perceived self-interests.

TV, newspapers, radio and billboards are communication tools where public health messages can be distributed to large groups. According to Mediamark Research, Inc., approximately 49% of consumers

reported interest in billboard ads, about 43% reported interest in TV ads, and almost 36% expressed interest in ads at sport or entertainment events. Generational, ethnic and cultural considerations of the target audience(s) need to be considered.

In the last decade the CDC, as has the DPH and some of the local health agencies, have developed eHealth Marketing on social networks. MySpace, Twitter, and Facebook are common sites used to inform the public about health promotion message, local events, and to respond to public health emergencies. The information is attention getting: contains blogs, music, pictures and health information in innovative ways.132

Planning Considerations

There are several methods that are used to create an effective campaign.

- Single benefit method: directly links behavior to a single benefit.
- Characterization/personification: create a character personality that expresses the benefits of a behavior.
- Narrative methods: develop a story describing a problem and the outcome.
- Appeal to the emotions of your target audience; evoke a specific, acute emotion.
- Present in an area that will be noticed (newspaper, magazine, billboard).
- In TV and radio media: choose the appropriate channel/station to target a specific audience.133
- The advertisement should tell a story, not simply convey information. The effective ad will make a direct connection between the audience and the desired call to action.134
- Use of easy arguments. The audience reaches a conclusion based on the inferences without careful review of the information. The ad should show and not tell are best for audiences who are skeptical of change.
- Use symbolic language and images that relate to the senses. Concepts are more difficult to relate to, images express what people feel, see, hear, or taste.
- It takes people between eight to ten seconds to process and produce a lasting emotional response to a scene. Powerful messages can be conveyed through images.
- Music has attention impact. Use of music to convey an emotional response: happy, sad, memorable, will enhance the audiences’ attention to the message.135

Local Public Health Nursing Teaching Points

- Be mindful of the information that is posted on social networking sites. Many potential employers conduct online searches/background checks on potential employees. 29% use Facebook, 26% use...

Linkedin, and 21% use MySpace. 35% of employers reported they found content on social networking sites posted by potential employees that caused them not to hire the candidate.\footnote{Market Watch accessed on 20/30/09 @http://www.marketwatch.com/story/forty-five-percent-of-employers-use-social-networking-sites-to-research-job-candidates-careerbuilder-survey-finds-2009-08-19}

- Use resource to your advantage by conveying professionalism and underscoring positive images.
- Be selective on who you accept as friends. Others can see it.
- Consider using the “block contents” feature or set your profile to “private”
- Consider creating your own professional group to establish relationships with other leaders, recruiters, and potential referrals.
- Be aware of phishing. Scammers use social networking sites to target unsuspecting network users. It is very profitable.
- In any advertising campaign, provide quality content and information
- Follow ethical and professional integrity.

**Resources**

- CDC MySpace page @ http://www.myspace.com/cdc_ehealth
- NACCHO Marketing Toolkit available at http://www.naccho.org/toolbox/index.cfm?v=3. The toolkit is a free, online collection of local public health tools produced by members of the public health community. Tools within the Toolbox are materials and resources public health professionals and other external stakeholders can use to inform and improve their work in the promotion and advancement of public health objectives. Current examples of tools include, but are not limited to case examples, presentations, fact sheets, drills, evaluations, protocols, templates, reports, and training materials.

**SECTION -9-4: LINKING PEOPLE TO NEEDED PERSONAL HEALTH SERVICES AND ASSURING THE PROVISION OF HEALTH CARE WHEN OTHERWISE UNAVAILABLE**

Linking people to needed personal health services involves being knowledgeable about the availability of local resources (e.g., programs, immunizations), making referrals and follow-up to assist individuals, families, groups, organizations, and communities utilize necessary resources to prevent or resolve problems or concerns. The local public health nurse may develop or strive to sustain referral systems within a community, such as those with clinics, hospitals, social service agencies, food pantries, battered women shelters, schools, et. Some of the local services and programs are time limited or grant funded. Consequently, it is important to stay current on what services are available and eligibility criteria.
Context

Linking people to needed personal health services typically follows the implementation of another intervention such as outreach, health teaching, counseling, consultation, case investigation or case management. Assuring the provision of health care when otherwise unavailable may include developing resources that are needed, yet unavailable to the community. For instance the local public health nurse may coordinate traveling immunization clinics or conduct mobile health screening services for migrant workers. Another example may involve the local public health nurse in consultation with other public health professionals to complete a grant application to fund specific project or services.

The key to successful referral is follow-up; making a referral without evaluating its results is both ineffective and inefficient. When making a referral, the local public health nurse should anticipate potential barriers and include consideration to facilitate the process. Considerations include access to transportation, the need for interpreters, as well as financial requirements. Depending on the client’s capacity, the local public health nurse may need to assist the client with: scheduling appointments, coaching them through the interaction, providing a list or resources and phone numbers, and developing a list of questions to ask.

Local Public Health Nursing Teaching Points

• It is important to be knowledgeable regarding the available community resources and eligibility criteria for reduce cost health services.

• Some health services are provided intermittently (e.g., immunization clinics, oral health services).

• Community resource information and schedules are subject to change.

• Be mindful of the potential barriers to accessing health care services, such as: lack of insurance; limited health literacy; language barriers; potential child care and adult care issues; physical, cognitive, and mental disabilities.
CHAPTER 10: ENVIRONMENTAL HEALTH RISK AND IMPLICATIONS FOR LOCAL PUBLIC HEALTH NURSES

Environment health is one of the cornerstones of public health. It is the field of public health that is concerned with assessing and controlling the impact of the environment on people and the impact of people on the environment. It is both protective as well as proactive. The local public health nurse may be engaged to collaborate with environmental sanitarians or other public health professional for consultation, health educator, conducting health screenings, case investigations and follow-up interviews, and advocate for populations at high risk for exposure to environmental hazards.

The DPH Regulatory Services Branch has regulatory oversight of the State’s drinking water systems, child day care facilities, youth camps and environmental health disciplines and services. Programs include licensure, investigation, and enforcement action against suppliers/providers that are in violation of the law or otherwise pose a risk to public health and safety. This branch also operates prevention programs focusing on health promotion, health education, and risk assessment. Technical assistance to licensed providers is a priority.

SECTION 10-1: HEALTHY HOUSING AND INTERVENTION CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

Scientific evidence has well established that there is a direct link between housing conditions and the inhabitants’ health. A number of illnesses and injuries are caused or exacerbated by environmental hazards in the home. For example:

- Dust, mold, environmental tobacco smoke and pests trigger asthma;
- Radon and tobacco smoke cause lung cancer;
- Household lead-based paint hazards are the major source of lead poisoning in children;
- Carbon monoxide and chemicals in household products can lead to poisonings;
- Lack of safety railings or window guards can result in preventable falls.

The municipal health department or health district may be engaged in response to complaint investigations and the local public health nurse may be engaged to collaborate with the environmental sanitarians to investigate, and follow-up on cases.

Context

Traditionally, multiple local and state agencies are engaged after problems are evident in response to complaints. The housing and public health fields have typically operated separately, with housing departments enforcing codes that address safety and the structural integrity of a house, and health officials addressing sanitation issues and health hazards, such as lead paint and radon gas. In addition, Fire Departments often inspect for presence of working smoke alarms and carbon monoxide detectors. Resources to promote prevention of exposure to environmental hazards and a collective response have been hindered due varied policies and a limited understanding of the health implications and impact.
The DPH created the Healthy Homes Initiative (2008) with funding from CDC, with the mission to “develop statewide partnerships and implement comprehensive policies and coordinated program activities that foster a healthy and safe home environment, reduce housing related health disparities, and improve the public’s health”. Eight single-public health environmental hazard programs -Lead, Radon, Asbestos, Private Wells, Tobacco Control, Asthma, Indoor Environmental Quality, and Injury Prevention - came together with other stakeholders through a Healthy Homes Team to develop a more comprehensive statewide approach to preventing housing related diseases and injuries. Several of the key partners include the Departments of: Social Services, Economic and Community Development, Consumer Protection, Environmental Protection, Public Safety; the Connecticut Housing and Finance Authority; the Chief State’s Attorney’s Office; CT Association of Directors of Health; CT Poison Control Center; CT Environmental Health Association; the University of Connecticut Cooperative Extension System: Healthy Environments for Children program; New England Lead Coordinating committee; American Lung Association, the Asthma Regional Council of New England, and many more.137

**Interventions**

The Healthy Homes initiative employs evidence-based and integrated housing interventions in a coordinated manner. The target population for the initiative is the entire home-dwelling population of the state with particular focus on low-income households residing in urban centers with older housing stock. Resource information and fact sheets are available via the DPH website link for Healthy Homes via http://www.ct.gov/dph/cwp/view.asp?a=3140&q=443992

**Local Public Health Nursing Teaching Points**

- Poor housing conditions can result in dangerous and costly diseases and injuries that are all preventable.

- Many of the home-based health hazards have related underlying causes and interventions. For example, water infiltration that leads to excess moisture can contribute to mold growth, dust mites, chipping lead paint, rotting structures, and pest infestation.

- Increasing public awareness of environmental health hazards and what are appropriate remedial interventions are essential first steps to foster the healthy homes concepts. For instance, lead paint and asbestos require specially trained technicians for abatement of the issue.

**SECTION 10-2: LEAD POISONING SCREENING AND INTERVENTION CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES**

Lead poisoning is the most common environmental health concern among children. Connecticut changed the screening requirement in 2009, and requires all children aged 1 year old and 2 years old to be screened.
for lead. Any child who is 59 months old and who has not been screened for lead needs to have a lead screening performed.

The Requirements and Guidance for Childhood Lead Screening by Health Care Professionals in Connecticut was revised in January 2013. Under the new guidelines, municipal health department and health district need to carry out the following amended responsibilities:

1. Generate re-test reminder letters in the surveillance system for blood lead levels (BLL) of 5µg/dL or more;
2. Send families the standardized educational packets for venous BLLs of 5µg/dL or more;
3. Send families the standardized educational packets for initial blood lead screening (capillary) test results of 10µg/dL or more.

Lead inspection triggers, and epidemiological investigation triggers remain unchanged. The DPH website provides guidance and tools with regard to lead poisoning prevention, screening requirements and treatment recommendations, which are accessible at http://www.ct.gov/dph/cwp/view.asp?a=3140&q=387550&dphNav_GID=1828.

Municipal health departments and health districts may approach elevated lead levels differently. Some health departments may have the environment sanitarians follow up and perform all the actions with regard to reported cases of lead poisoning, while others have the environmental sanitarians and the local public health nurse work together to complete the assessment and provide the education needed to lower the BLL in the child. In this case the environmental sanitarians performs the lead assessment of the residence and the local public health nurses performs the epidemiological investigation with the family and gathers the information needed about the child(ren). In these cases when a child has an elevated BLL, the local public health nurse follows-up with the family to assure further blood lead levels are drawn at appropriate times and coordinates a plan of care with health care provider when necessary.

Context

There are specific regulations which govern activities relating to lead poisoning prevention, inspection and abatement. Toxic lead exposures are reportable to the state. Lead is considered a heavy metal. It is found throughout the environment. Although the use of lead in products such as paint and gasoline were banned in 1978, it may still be present in a variety of products and areas such as:

- Homes built prior to 1978 may still contain lead based paint and can be a health hazard to residents and children in particular. Lead based paint is a health hazard when it is released through sanding or when flaking and chipping. Opening doors and window may release dust into the room.
- Lead can be found in various other products such as herbal medicines, jewelry, toys and some food products from other countries where there may not be restrictions on its use (www.emedicine.com).
- Lead can also be present in soil and water.
- Plumbing in older homes may contain lead.

According to the CDC, children are most often exposed to lead poisoning from lead based paint and paint dust. When ingested, lead is a potentially deadly poison, which causes serious organ damage and it can affect nearly every system in the body. The effects of lead toxicity in children can be especially severe and
result in a diminished learning capacity. Because lead poisoning often occurs with no obvious symptoms, it frequently goes unrecognized.\textsuperscript{138}

**Interventions**

The local public health nurse is not trained to perform lead inspections but may participate as part of the multidisciplinary team to identify members of the local community who are at risk or have been exposed to lead hazards and assure that education, referrals and follow up care is provided.

- According to current state law, any blood lead level > 10 ug/dL must be reported to the Commissioner of Public Health and the Director of the local public health department within 48 hours (CGS §19a-110).
- Education on prevention must be provided to the family.
- An epidemiological investigation must be completed for all blood lead levels > 20ug/dL (CGS. §19a-111) and to levels between 15-19 ug/dL with 3 months apart for two consecutive blood tests.
- A lead abatement plan is determined when the source of contamination is identified.
- The family involved may be relocated to safe housing if deemed necessary and will be determined by the local health director based upon the outcome of the inspection process and is a responsibility of the town to include the local health agency for that jurisdiction where the child resides.

The local public health nurse should assess members of the population who are at risk for lead poisoning. Connecticut requires screening for exposure to lead in all children 9-35 months. According to the DPH Health Disparities Report “effective January 1, 2009, primary care providers in Connecticut will be required to conduct annual lead screening of every child age 9–35 months, and to conduct lead screening of any child 36–72 months who has not previously been screened (DPH, 2009).”

The local public health nurse may receive screening test results and he/she should follow up to assure that appropriate referrals are made to a primary health provider for treatment. The role of the local public health nurse includes case management activities such as monitoring to ensure timeliness of screening and follow up laboratory tests, timely relocation and education of families, and the overall effectiveness of interventions.

**Local Public Health Nursing Teaching Points**

Risk for Exposure:

- Children are most likely to suffer serious health effects from lead poisoning including diminished capacity for learning.
- Connecticut Law requires that all children residing in the state be screened for exposure to lead:
  - Between 9 months and 36 months of age, each year for elevated blood lead levels.
  - Most health care providers test at 12 months and 24 months of age.
  - Between 25-72 months of age, if the child has not previously been tested, regardless of risk < 72 months of age, with developmental delays (especially if associated with pica).

\textsuperscript{138} National Center for Environmental Health (2013, April). Lead. Centers of Disease Control and Prevention webpage at http://www.cdc.gov/nceh/lead/
• Small children may be attracted to the sweet taste of lead paint chips.
• Pets may act as a vector bringing in lead dust on their fur.
• Season variations of BLLs exist and may be more apparent in colder climates. Greater exposure in the summer months may necessitate more frequent follow-up.

Symptoms:

• In children, may include the following or may be asymptomatic:
  • Persistent tiredness or hyperactivity.
  • Irritability.
  • Loss of appetite.
  • Weight loss.
  • Reduced attention span.
  • Difficulty sleeping.
  • PICCA.

Interventions:

• Education must be provided to families at risk and to the public to improve awareness of the problem, sources of lead poisoning and prevention is critical to prevention.
• Improving nutrition helps to prevent lead poisoning in children; foods with calcium, iron & vitamin C are most helpful.
• Funding may be available through HUD, Health Homes, Lead Abatement Management Program, or other organizations to assist with housing and lead abatement.
• The following fact sheet provides guidance for families on actions to be taken based upon blood lead levels in children: http://www.ct.gov/dph/lib/dph/environmental_health/lead/pdf/screening_requirements-2013_4-16-13.pdf.

SECTION 10-3: HEAD LICE AND CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

Although head lice are pesky, they carry no disease and can be effectively treated with over the counter or prescription medications and a nit comb. The local public health nurse may be contacted for consultation, assist the school nurse or day care center with screening and diagnosis of head lice, and may be engaged as an educator, counselor, or advocate.

Context

Head lice infest the head and neck and attach their eggs to the base of the hair shaft. Lice move by crawling; they cannot hop or fly. Head lice infestation, or pediculosis, is spread most commonly by close person-to-person contact. Dogs, cats, and other pets do not play a role in the transmission of human lice.
Head lice infestations can be asymptomatic, particularly with a first infestation or when an infestation is light. The most common symptom of head lice infestation is pruritus, which is caused by an allergic reaction to louse bites. It may take 4-6 weeks for itching to appear the first time a person has head lice. Other symptoms may include:

- A tickling feeling or a sensation of something moving in the hair;
- Irritability and sleeplessness; and
- Sores on the head caused by scratching, which may become infected with bacteria normally found on a person’s skin.139

The National Association of School Nurses (NASN) as well as the American Academy of Pediatrics (AAP) recommends a healthy child **not be excluded** from school for lice or nits found on a child’s head. Because lice can be transmitted with head to head contact, efforts need to be made to limit such contact and treatment needs to be initiated in accordance with the lice medication directions for the elimination of head lice.

**Local Public Health Teaching Points**

- Head lice are not a health hazard or a sign of poor hygiene and, in contrast to body lice, are not responsible for the spread of any disease.

- No healthy child should be excluded from or miss school because of head lice, and no-nit policies for return to school should be abandoned.

- Families need to be reminded to check for nits daily after any lice shampoo treatment has been done, as the nits are not killed by the shampoo, and removal, although time consuming, is essential to completely get rid of lice.

- Do not use a cream rinse or combination shampoo/conditioner before using lice medicine. Do not re-wash hair for 1-2 days after treatment.

- Follow head lice medication application instructions and check hair every 2-3 weeks after the treatment to be sure all the lice and nits are gone.

**Resources**


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SECTION 10-4: BED BUGS AND CONSIDERTIONS FOR LOCAL PUBLIC HEALTH NURSES

Bed bugs are parasites that preferentially feed on humans, yet are not linked to the spread of disease. In the past decade, bed bugs have begun making a comeback across the U.S. and are often found in places where many people pass such as in hotels, shelters, or apartment buildings. The local public health nurses’ role would focus on consultation, health education, recognition of signs and symptoms, and collaborating with the environmental sanitarian in conjunction with property owner.

Context

There are two species of human bed bug, the common bed bug *Cimex lectularius L* and the tropical bed bug, *C. hemipterus Fabr*. Bed bugs are nocturnal feeders and hide in the seams along mattresses, luggage, furniture, and in crevices in walls, baseboards, and electric outlets. Although they need to feed on blood to grow and reproduce, these parasites can survive for long periods between feedings (e.g., up to 70 days) and are difficult to eradicate. Typically, the first sign of bed bug infestation are when an individual wakes up to find red bits on the skin, usually on the arms and shoulders, which tend to have straight rows of bites or clusters.

Local Public Health Nursing Teaching Point

- Bed bugs are not known to spread disease.
- Instruct prevention strategies both at home and when traveling.
- Educate regarding the sign and symptoms of bed bug infestation (e.g., bite marks, droppings, and casings)
- Educate regarding that inspection for bed bugs is done at night when they are active. Look for dark specks, bloody smears and empty skins/exoskeletons.

Resources


   - Bed bugs: How to deal with them
• Biology, history, and current bed bug issues
• Research and development
• Legal aspects of bed bug enforcement

2. Connecticut Department of Public Health Web site at  

• Bed Bugs: What to Consider When Treating for Bed Bugs with Pesticides
• Ohio State University Extension Fact Sheet – Bed bugs
• NYC Department of Health – Stop Bed Bugs Safety
• Rutgers New Jersey Agricultural Experiment Station – Bed Bugs Fact Sheet
• Bed Bug Presentation
CHAPTER 11: COMMUNITY PARTNERSHIPS AND ACTIONS TO IDENTIFY AND SOLVE HEALTH PROBLEMS: CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSES

A coalition is the coming together of people and organizations to influence outcomes related to a specific problem or set of problems. Two primary roles of the local public health nurses are being a resource person and facilitator. With knowledge of available resources, the local public health nurse can identify gaps in service, identify the critical services provided by the health care delivery system, and promote services for meeting health or social needs of the population. The local public health nurse's role may include helping a community agency or coalition conduct community needs assessment and develop a strategic plan to improve the health of the community. In addition, the nurse may facilitate communication across agencies by working with interagency coalitions or alliances.

SECTION 11-1: MOBILIZING COMMUNITIES

In order to mobilize communities to assess their health status, set health priorities and foster community-based demands for humane decision making it is important to create linkages between academics, practitioners, and the public. When these kinds of partnerships form within the community they create the power and resources to manifest change that strives to improve the health status of the people within that jurisdiction.

The three interventions associated with this essential public health service are:

1. Coalition Building.
2. Collaboration.
3. Community Organizing.

Context

Coalition building promotes and develops alliances among organizations or constituencies for a common purpose. It builds linkages, opportunities to leverage resources to solve problems, and/or enhances local leadership to address health concerns. The most effective attributes of community coalitions include:

- A holistic and inclusive approach.
- Being flexible and responsive to community members.
- Building a sense of community.
- Building and enhancing resident engagement in community life.

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- Providing a vehicle for community empowerment
- Allowing diversity to be valued and celebrated as a foundation for the wholeness of the community
- Functioning as incubators for innovative solutions to large problems facing not only their community, but also the nation as a whole.  

*Inter-Related Concepts*

**Collective action** is the generic term for interventions characterized by groups of people or organizations that come together to address jointly issues that matter to them. Community organizing, coalition building and collaboration are all examples of collective action and have many common features—especially at the community level of practice.

**Similarities**

- Empowerment is an enabling process through which individuals or communities take control of their environment.
- Emphasis is placed on “beginning where the people are.”
- Reliance on the process of community engagement at the level community-focused practice; all reflect the principle of collective action.

**Differences**

- Unlike community organizing, coalition building may be brought about by outside organizations or influences rather than the community itself.
- Unlike collaboration, coalition building does not require enhancing the capacity of other organizations or constituencies within the coalition.

*Public Health Nursing Teaching Points*

Consider certain qualities when looking for coalition members:

- Someone who thinks holistically, someone who can see “the big picture”
- Someone who is active in other community organizations and has a history of getting things done
- Someone who has access to resources such as a computer and printer.
- Someone who has a good rapport with community leaders, especially elected officials
- Someone who is a dynamic speaker to attract people and keep them interested in the projects of the coalition

Community change is envisioned as:

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• Working with whole communities (defined as every individual and organization in a community).
• Increasing grassroots and civic engagement ~ successful coalitions will engage those who are most affected by the decision making process.
• Promoting diversity ~ by celebrating diversity as the foundation of the wholeness of a community.
• Collaboration and Advocacy ~ when major systems and organizations will work with one another and enhance each other’s capacities.
• Increasing roles for professional technical assistance and evaluation ~ The Web will be the essential modality for bringing these resources to every corner of the United States and the world.
• Future changes in the role of government~ first the government will no longer work in “silos” but have a more holistic approach and will yield the power and responsibility to communities.
• The building of Healthy communities ~ that will mobilize all forces in a community to work together to reach shared visions and goals.  

Examples of Connecticut Coalitions

• Connecticut Coalition Against Domestic Violence, information is available online:  www.ctcadv.org

• Coalition for a Safe and Healthy Connecticut, information is available online:  http://www.safehealthyct.org/

• Connecticut Lead Hazard Awareness Coalition, information is available online:  http://home.cshore.com/ctlead/CTLEAD/About_Us.html

Other Reference Information

• Wisconsin Clearinghouse for Prevention Resources,  http://wch.uhs.wisc.edu/01-prevention/01-prev-coalition.html

• Utah State University, Center for Persons with Disabilities, Champions for Inclusive Communities, Evidence-Based Practices for Coalition Building

• University of Florida IFAS Extension, Building Coalitions: Mobilizing the Community. (April 2002)

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SECTION 11-2: PUBLIC HEALTH EMERGENCY PREPAREDNESS

Natural disasters or other public health emergencies require coordinated, multi-agency emergency response efforts from government, public and private organizations, and the community. Natural disasters and other public health emergencies include fires, hurricanes, flooding, chemical, nuclear or bio-hazard events. Some examples of response efforts that the local public health nurse may be engaged include: participation in the development of emergency response plans, mass vaccination efforts (e.g., Pandemic Influenza outbreak), emergency shelters, assessments, data collection, telephone hot lines, follow-up interviews and investigations. The local public health nursing expertise can contribute to all phases of the disaster cycle: mitigation, preparation, response, and recovery.147

Context

No single entity, organization, agency or discipline is solely responsible for the complex array of challenges associated with disaster response efforts or the planning necessary to coordinate efforts effectively. It is important for the local public health nurse to gain an understanding of the municipal health department’s or health district’s emergency response plan, which should clarify functional roles, how the plan is integrated with the response efforts for the town, region and state, and responsible authorities. The Federal Emergency Management Agency (FEMA) has developed a framework and guidance for coordinated multi-jurisdictional efforts through the National Incident Management System (NIMS) that is applicable at all jurisdictional levels and across functional disciplines. NIMS is a comprehensive, national approach to incident management, which is standardized for all hazards and focuses on the following elements:

- Planning.
- Procedures and protocols.
- Training and exercising.
- Personnel qualifications and certifications.
- Equipment certification.

At risk populations include individuals with functional considerations include community residents who need assistance with: mobility, self-care (e.g., eating, bathing, dressing, toileting), self-direction, information processing, or who are dependent on various types of medical devices and/or supplies that must be tended by others or periodically replenished in order to maintain their health status. Some individuals may also need particular adaptations in living and social environments (e.g., constant room air temperature and humidity, quiet area, handicap access, etc.). The focus is on what a person needs in order to stay well and function independently, not on particular diagnoses or categorical labels. Any person can become functionally impaired at any time in his/her life, whether by injury, illness, or other temporary or permanent disability. Functional considerations are present in every demographic group and are not limited by age, socio-economic status, ethnic, or cultural groups.1

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147 Association of State and Territorial Health Officials (2008), At-Risk Populations And Pandemic Influenza Planning Guidance For State, Territorial, Tribal and Local Health Departments
Mass Evacuation and Emergency Shelters

Depending on the scope of the area affected by the disaster, multiple emergency shelters may need to be activated or considerations may be needed to support sheltering in place. The local health agency may assist the local town emergency managers in the planning and implementation of response efforts. Large scale disaster events that affect regions of the state(s), municipalities will work with the state’s Division of Emergency Management and Homeland Security under the Governor’s direction to coordinate response efforts and resources.

The Mass Evacuation Incident Annex to the National Response Framework (NRF) provides an overview of mass evacuation functions, agency roles and responsibilities, and overall guidelines for the integration of Federal, State, tribal, and local support in the evacuation of large numbers of people in incidents requiring a coordinated Federal response.

Essential Planning Considerations for Mass Evacuations

Planning for anticipated evacuees’ care needs and understanding the logistical support necessary to operate emergency shelters is critical. Essential considerations include:

- Shelter site and accessibility for populations with physical disabilities (e.g., ramps verses stairs, handicap toilets and showers)
- Shelter staff to include administrative, environmental sanitarians, local public health nurses, access to emergency medical services
- Logistic support (e.g., drinking water, electricity, heat, cots, food services, basic first aid supplies, and cleaning supplies)

Pre-event planning needs to consider assurance of a core multi-disciplinary staffing plan for the emergency shelter and may include, but is not limited to the use of volunteers and staff from:

1. Local health departments/districts,
2. Medical Reserve Corps,
3. Civilian Emergency Response Teams (CERTs),
4. ESAR/VHP,
5. CT-1 DMAN Team,
6. Local and regional call-out networks,
7. Colleges and universities for nursing, medical and other students, and
8. Other identified existing networks with the DEMHS ESFs and other governmental or private service providers.

The size of the facility, number of persons seeking emergency shelter services, and the scope of operation should be used to determine the quantities of items needed, as well as the length of the time the shelter is operational. Items include:¹⁴⁸

1. Signage to identify the facility and direct traffic to the triage area and admission.
2. A handicapped accessible drop off area should be identified.

3. A system to track both staff and volunteers working in the shelter, as well as evacuees in the shelters and upon discharge.

4. Systems must be in place to track credentials of the professional staff assigned to providing any direct care to the shelter occupants.

5. For infection control it is recommended to establish a stockpile of hand sanitizers, gloves, brooms, buckets, disposable wipes and disinfectant spray.

6. Inventory of first aid and medical supplies.

7. Shelter accessibility with handicap access.

8. Parking that is close to building entrance.

9. Accessible entrance to shelter (i.e., has ramp if there are steps at the front and has doors that are easy to open, or are automatic).

10. Restrooms that allow for easy access to toilet and washing facilities to include accommodations for handicap access.

11. Privacy area – Create some sections of the shelter that are separate from the other shelter occupants for use as a “privacy rooms”.

12. Chaise lounges or reclining chairs may be alternatives to cots, if available.

Local Public Health Nursing Teaching Points

- The more prepared, the less the evacuation trauma on the community, municipality, and affected residents. Much of the success of emergency response efforts is dependent on how well the plans were thought out and steps initiated to support the plan.

- To be fully prepared to stand up the emergency shelter, individuals, staff, logistic support, and emergency shelter facilities need to be pre-determined and a feasibility assessment of the site completed.

- A contingency plan is needed for the event that the first choice of the site or other resources is affected (e.g., inaccessible due to flooding, damaged by hurricane winds, etc.).

- Pre-event planning considerations includes: safety, command and control, staffing, medical protocols, volunteers, communications, supplies, logistic support, food services, and security. Emergency shelters should be operational and self-sustaining for a minimum of 24 hours. Attachment 11 is a sample checklist integrating the various considerations and logistic support issues for an emergency shelter.

References Guides


• CDC Shelter (Evacuation and Emergency) guide accessible at
  http://www.cdc.gov/nceh/ehs/etp/shelter.htm

• Federal Emergency Management Agency’s National Response Framework – Emergency Support
  Function #6 - Mass Care, Emergency Assistance, Housing and Human Services available on line at

• Federal Emergency Management Agency’s National Response Framework Emergency Support Function
  #6 – Mass Evacuation Incident Annex available on line at
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CHAPTER 12: EVALUATION AND CONSIDERATIONS FOR LOCAL PUBLIC HEALTH NURSING PRACTICE

Virtually every phase of the evaluation process for human services has political implications, which will affect the issues of focus, decisions made, how the local health agency, community partners and public perceives the program or initiative. Consequently, the local public health nurse needs to understand the implications of his/her actions related to the delivery of services and the evaluation. Being sensitive to the concerns of the project or program director, other local health staff, clientele and other stakeholder groups is necessary.\(^{150}\) The local public health nursing should collaborate with various stakeholders to determine evaluation criteria, may be engaged in data collection and analysis, and dissemination of results to various stakeholders such as decision makers, funding entity, and the public.

The effectiveness of local public health nursing practice interventions depends on the frequent assessment or revision to the plan to achieve the pre-determined goals of program or activities. Nursing practice is a dynamic process that allows modification in a care or program plan, problem identification, or implementation phase. Evaluation is one of the most critical phases of the local public health nursing process because it helps to:

- Determine whether the program objectives were met.
- Document the strengths and weaknesses of the program, interventions, or service.
- Provide information regarding performance or program effects (summative evaluation).
- Provide information about how a program or services might be improved (formative evaluation).
- Collect data to support financial records to ensure accountability.
- Improve skills in planning, conducting and evaluating activities.
- Build the program’s capacity to manage operations.
- Identify hypotheses about behavior for future evaluation.

**Context**

Due the broad scope of public health and diverse populations who makeup communities, each project serves a unique mix of clients, uses different service delivery approaches, is at varied phases of development, and faces a range of contextual issues. Wherever possible, it is important to gain an understanding of the meaning of the program and its outcomes from the participants’ perspectives. Diverse ethnic and culture groups may designate different attributes to the value of the services or program.\(^{151}\) This could be done through:

- Collection of information from groups representing the community.
- Establishing if their needs are being met, including those groups at risk.
- Determine if the people served are satisfied with the health care services.
- Recognition of areas where health services can be improved.
- Identify gaps in the provisions of population-based health services.

Planning Considerations

A summary of planning considerations from different perspectives is provided in Table 5.

Table 5: Consider who wants to know what and how the information is to be used?

<table>
<thead>
<tr>
<th>Who might use the evaluation*</th>
<th>What do they want to know?</th>
<th>How will they use the results?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health Nurse</td>
<td>Is the program meeting the clientele needs?</td>
<td>To make decisions about modifying the program</td>
</tr>
<tr>
<td></td>
<td>Is my teaching or interventions effective?</td>
<td>To influence decisions about merit</td>
</tr>
<tr>
<td>Local Health Board of Health</td>
<td>Who does the program serve?</td>
<td>To make decisions about budget allocations</td>
</tr>
<tr>
<td></td>
<td>Is the program cost-effective?</td>
<td></td>
</tr>
<tr>
<td>Professional review</td>
<td>Is the local public health nurse an effective educator?</td>
<td>For performance review and professional development</td>
</tr>
<tr>
<td></td>
<td>Is the local public health nurse developing the core competencies in public health practice?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is the local public health nurse’s practice in line with the Public Health Nursing Scope and Standards of Care (2007, American Nurses Association)</td>
<td></td>
</tr>
<tr>
<td>Funder (e.g., grant award)</td>
<td>Were the contractual deliverables completed?</td>
<td>For accountability and financial reporting</td>
</tr>
<tr>
<td></td>
<td>Were the expected services provided?</td>
<td></td>
</tr>
<tr>
<td>Clientele</td>
<td>Is the public health service or program meeting their needs?</td>
<td>To determine whether to continue or participate in program or consider other alternate services</td>
</tr>
</tbody>
</table>

*Examples of broad user categories are listed here. Be as specific as possible when identifying potential users and their interest. Adapted from: Taylor-Powell, Steele, & Dougla (1996). Program Development and Evaluation: Planning a Program Evaluation.

Evaluation Planning Criteria:

Program evaluation refers to the thoughtful process of focusing on questions and topics of concern, collecting appropriate information, and then analyzing and interpreting the information for a specific use and purpose. Evaluation focus areas differ:

- **Process or formative evaluation** is concerned with how the program is delivered. It deals with things such as when the program activities occur, where they occur, and who delivers them. An effective program may not yield desired results if it is not delivered properly.
• **Impact evaluation** is concerned with the short-term effect on the behavior, knowledge, and attitudes of your population. It also measures the extent to which the objectives were met.

• **Outcome or summative evaluation** addresses the question of what are the long-term results. These goals could be changes in rates of illness or death, as well as in the health status of the population.

The evaluation must be able to be replicated by other evaluation groups. Three tasks are involved with conducting an evaluation: (1) measurement, (2) use of particular research design, and (3) analysis of the data. Attention to each of these areas is necessary so that the evaluation process will produce usable results. Appendix 15 provides an overview of the types of evaluations, desired goals, and methods to be considered in data collection.

Evaluating program effectiveness must include the measurement of the conditions specified in the program objectives. Health services goals should be measured against the established criteria (i.e., baseline). The focus of objectives in relation to services varies. Whatever the purpose that underlines the evaluation, those involved in the process must be sure to accomplish the task by using appropriate methodologies, processes, and analyses. A summary comparing type of objectives, results and evaluation focus area is provided in Table 6.

**Table 6: Matching Objectives with Evaluation Method**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Results</th>
<th>Evaluation Focus</th>
</tr>
</thead>
</table>
| **Program Objective** | Changes in morbidity, mortality, and quality of life                  | • What is the outcome?  
• Is there a change in health status and is it attributed to the program? |
| **Behavioral Objective** | Changes in behavior, behavioral adaptation                            | • What is the impact?  
• Has a new, healthier behavior been adapted, and can it be attributed to the program?          |
| **Learner Objective** | Change in knowledge, attitude, practices, etc.                        | • Is there the requisite change in knowledge, attitudes, habits, and skills needed for behavior change? |
| **Process Objective** | Adherence to timeline tasks, completion of activities, efficient use of resources | • Is the program working?  
• Are people attending?  
• Are the methods appropriate? |


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Methodology

A well-constructed and implemented evaluation provides a powerful tool to assess progress, identify areas needing improvement, and help organizations and funding agencies identify and commemorate their successes. Quantitative method is the core of evaluation; this method is both useful and essential. It yields data that can be statistically analyzed and presented in the form of tables and charts. In addition, qualitative data can provide insightful information regarding perceptions, appropriateness of interventions and methods employed. Analysis includes the interpretation of the results and explains unexpected outcomes and informs decisions about modifications to service provision. Appendix 16 provides Worksheet: How to Plan and Evaluation and Appendix 17 provides an overview and description of common data collection methods used in evaluation.

The evaluation procedure\(^{153}\) includes:

2. Planning

- Review the program goals and objectives.
- Meet the stakeholders to determine what general questions should be answered.
- Identify what resources you have and will need to conduct the evaluation; budget for additional costs or scale back the evaluation design.
- Identify if staff will conduct the evaluation or if a consultant will need to be hired to complete the evaluation. There are pros and cons to either method and considerations for the purpose of the evaluation and who is going to use the data must be addressed.
- Develop the evaluation design.
- Decide which evaluation instruments will be used, and, if needed, who will develop them.
- Find out if the evaluation questions reflect the goals and objectives of the program.
- Decide if you want to include questions of other groups, such as program administrations, facilitators, planners, participants, and funders.
- Decide when the evaluation will be conducted; develop a timeline.

3. Data Collection (Appendix 16 is a sample worksheet for planning an evaluation and Appendix 17 provides a description of various data collection methods frequently used in evaluations)

- Decide how the information will be collected (e.g., surveys, records and documents, telephone interviews, personal interviews, observation).
- Decide who will collect the data.
- Plan and conduct a pilot test to assess if there are any major problems or gaps in the process and possible evaluation results.
- Review the results of the pilot test to refine the data collection tool and the data collection procedures.
- Decide who will be included in the evaluation (e.g., all program participants, or a random same of participants, all program staff or the nurse).
- Conduct the data collection.

\(^{153}\) McKenzie & Smeltzer (2001). Planning, Implementing, and Evaluating Health Promotion Programs: A Primer. 3\(^{rd}\) Ed. Allyn and Bacon: Boston, MA, 274-275
**4. Data Analysis**

- Decide how the data will be analyzed.
- Decide who will analyze the data, e.g., program or project staff or consultant.
- Conduct the analysis. Allow for several interpretations of the data.

**5. Reporting**

- Find out who will receive the results.
- Decide who will report the findings.
- Find out how and in what form the results will be disseminated.
- Discuss how the findings of the evaluation will affect the program.
- Decide when results of impact, outcome, or summative evaluation will be made available.
- Disseminate the findings.

**6. Application** -- Determine how the results can be used for future implementation.

*Local Public Health Nursing Teaching Points*

- No evaluation is good unless results are used to make a difference.
- No results are used unless a market has been created prior to creating the product or service.
- No market (e.g., community, public, target population) is created unless the evaluation is well focused, including most relevant and useful questions.
- No evaluation focus is the right one unless it reflects what the program is really about and checks assumptions with stakeholders (e.g., recipients of services, funders, program staff).
- Program evaluation is systematic process that applies methods and techniques designed to increase the certainty about the validity of judgment made regarding the program or services.
- Information collected through an evaluation can be used to improve program effectiveness and make informed decisions.
- Although conducting a credible and useful evaluation is demanding, benefits include:

  - To find out how well the program has worked.
  - To stay on track. A clear understanding of the implementation process can assist with bringing the actual delivery in-line with the intended delivery.

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- To facilitate replication. Providing detailed information about what exactly went on to achieve certain outcomes provides a basis to expand the program or services.
- To improve program efficiency. Evaluation may reveal opportunities to streamline program delivery or enhance coordination between program components.
III. Tools and Samples
APPENDICES

1. Connecticut State Map of Local Health Jurisdictions

2. Academia and Public Health Practice Core Competencies for Public Health Professionals

3. Summary of the Public Health Nursing Scope and Standards of Practice

4. The 17 Public Health Interventions

5. A Summary of Basic Tools and Techniques Used in Quality Improvement

6. Community Assessment Considerations

7. Examples of Health Status Indicators

8. Sample of Local Health Agency's Protocol and Communication with LTCFs Regarding Hepatitis C Follow-up, Surveillance, Education and Counseling

9. Tuberculosis Diagnostic Test Description Summary

10. A Sample Blood Pressure Screening Worksheet

11. Steps to Implementation of Outreach Activities

12. Health Resource organizations for Health Fair – National Resources

13. Eight Steps to Building an Effective Coalition

14. A Sample Emergency Shelter Checklist

15. An Overview of Types of Evaluations and Contrasting Goals

16. Worksheet: How to Plan an Evaluation

17. An Overview and Description of Common Data Collection Methods Used In Conjunction with Evaluations

18. Continuing Education Opportunities

CONNECTICUT ASSOCIATION OF PUBLIC HEALTH NURSES
Last Revised April 2013

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Appendix 1

State of Connecticut
Local Health
Departments and Districts
July 2012

Health Districts
1. Bristol-Burlington Health District
2. CT River Area Health District
3. Central Connecticut Health District
4. Chittam Health District
5. Chespyrtott Health District
6. East Shore Health District
7. Eastern Highlands Health District
8. Farmington Valley Health District
9. Bridgeport Health District
10. workout Valley Health District
11. Newtown Health District
12. North Central Health District
13. Northwest District Dept of Health
14. Plainville-Southington Regional Health District
15. Pomperaug Health District
16. Quinnipiac Valley Health District
17. Torrington Area Health District
18. Turnbridge-Wrentham Health District
19. Uncas Health District
20. West Hartford-Bloomfield Health District
21. Westport Weston Health District

Sovereign Nations
A. Mohegan Tribe
B. Mashantucket Tribe

Source: Connecticut Department of Public Health, Office of Local Health Administration
Analytic/Assessment Skills
1) Assesses the health status of populations and their related determinants of health and illness (e.g. factors contributing to health promotion and disease prevention, availability and use of health services)
2) Describes the characteristics of a population-based health problem (e.g. equity, social determinants, environment)
3) Selects variables that measure public health conditions
4) Uses methods and instruments for collecting valid and reliable quantitative and qualitative data
5) References sources of public health data and information
6) Evaluates the integrity and comparability of data
7) Identifies gaps in data sources
8) Employs ethical principles in the collection, maintenance, use, and dissemination of data and information
9) Interprets quantitative and qualitative data
10) Makes community-specific inferences from quantitative and qualitative data (e.g. risks and benefits to the community, health and resource needs)
11) Uses information technology to collect, store, and retrieve data
12) Utilizes data to address scientific, political, ethical, and social public health issues

Policy Development/Program Planning Skills
1) Analyzes information relevant to specific public health policy issues
2) Articulates policy options
3) Determines the feasibility and expected outcomes of policy options (e.g. health, fiscal, administrative, legal, ethical, social, political)
4) Articulates the implications of policy options (e.g. health, fiscal, administrative, legal, ethical, social, political)
5) Utilizes decision analysis for policy development and program planning
6) Manages public health programs consistent with public health laws and regulations
7) Develops a plan to implement policy and programs
8) Incorporates policy into organizational plans, structures, and programs
9) Develops mechanisms to monitor and evaluate programs for their effectiveness and quality
10) Incorporates public health informatics practices (e.g. use of data and information technology standards across the agency where applicable, and use of standard software development life cycle principles when developing new IT applications)
11) Develops strategies for continuous quality improvement

Communication Skills
1) Assesses the health literacy of populations served
2) Communicates in writing and orally, in person, and through electronic means, with linguistic and cultural proficiency
3) Solicits input from individuals and organizations
4) Utilizes a variety of approaches to disseminate public health information (e.g. social networks, media, blogs)
5) Presents demographic, statistical, programmatic, and scientific information for use by professional and lay audiences
6) Applies communication strategies (e.g. principled negotiation, conflict resolution, active listening, risk communication) in interactions with individuals and groups

Cultural Competency Skills
1) Incorporates strategies for interacting with persons from diverse backgrounds (e.g. cultural, socioeconomic, educational, racial, ethnic, sexual orientation, professional)
2) Considers the role of cultural, social, and behavioral factors in the accessibility, availability, acceptability and delivery of public health services
3) Responds to diverse needs that are the result of cultural differences
4) Explains the dynamic forces that contribute to cultural diversity
5) Describes the need for a diverse public health workforce
6) Assesses the public health organization for its cultural competence

**Community Dimensions of Practice Skills**
1) Assesses community linkages and relationships among multiple factors (or determinants) affecting health
2) Collaborates in community-based participatory research efforts
3) Establishes linkages with key stakeholders
4) Facilitates collaboration and partnerships to ensure participation of key stakeholders
5) Maintains partnerships with key stakeholders
6) Uses group processes to advance community involvement
7) Describes the role of governmental and non-governmental organizations in the delivery of community health services
8) Negotiates for the use of community assets and resources
9) Uses community input when developing public health policies and programs
10) Promotes public health policies, programs, and resources

**Public Health Sciences Skills**
1) Describes the scientific foundation of the field of public health
2) Identifies prominent events in the history of the public health profession
3) Relates public health science skills to the Core Public Health Functions and Ten Essential Services of Public Health
4) Applies the basic public health sciences (including, but not limited to biostatistics, epidemiology, environmental health sciences, health services administration, and social and behavioral health sciences) to public health policies and programs
5) Conducts a comprehensive review of the scientific evidence related to a public health issue, concern, or intervention
6) Retrieves scientific evidence from a variety of text and electronic sources
7) Determines the limitations of research findings (e.g. limitations of data sources, importance of observations and interrelationships)
8) Determines the laws, regulations, policies and procedures for the ethical conduct of research (e.g. patient confidentiality, human subject processes)
9) Contributes to building the scientific base of public health

**Financial Planning and Management Skills**
1) Interprets the interrelationships of local, state, and federal public health and health care systems for public health program management
2) Interprets the organizational structures, functions, and authorities of local, state, and federal public health agencies for public health program management
3) Develops partnerships with agencies within the federal, state, and local levels of government that have authority over public health situations or with specific issues, such as emergency events
4) Implements the judicial and operational procedures of the governing body and/or administrative unit that oversees the operations of the public health organization
5) Develops a programmatic budget
6) Manages programs within current and forecasted budget constraints
7) Develops strategies for determining budget priorities
8) Evaluates program performance
9) Uses evaluation results to improve performance
10) Prepares proposals for funding from external sources
11) Applies basic human relations skills to the management of organizations, motivation of personnel, and resolution of conflicts
12) Applies public health informatics skills to improve program and business operations (e.g. business process analysis, enterprise-wide information planning)
13) Negotiates contracts and other agreements for the provision of services
14) Utilizes cost-effectiveness, cost-benefit, and cost-utility analyses in programmatic prioritization and decision making

Leadership and Systems Thinking Skills
1) Incorporates ethical standards of practice as the basis of all interactions with organizations, communities, and individuals
2) Incorporates systems thinking into public health practice
3) Participates with stakeholders in identifying key values and a shared vision as guiding principles for community action
4) Identifies internal and external problems that may affect the delivery of essential public health services
5) Promotes individual, team and organizational learning opportunities
6) Establishes mentoring, peer advising, coaching or other personal development opportunities for the public health workforce
7) Contributes to the measuring, reporting and continuous improvement of organizational performance
8) Modifies organizational practices in consideration of changes in the public health system, and the larger social, political, and economic environment
### Summary of the Public Health Nursing Scope and Standards of Practice

<table>
<thead>
<tr>
<th><strong>STANDARDS OF PRACTICE</strong></th>
<th><strong>RESPONSIBILITIES INCLUDE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard 1: Assessment</strong></td>
<td>Collecting comprehensive data pertinent to the health status of populations</td>
</tr>
<tr>
<td><strong>Standard 2: Population Diagnosis and Priorities</strong></td>
<td>Analyzing the assessment data to determine the population diagnoses and priorities</td>
</tr>
<tr>
<td><strong>Standard 3: Outcomes Identification</strong></td>
<td>Identifying expected outcomes for a plan that is based on population diagnoses and priorities</td>
</tr>
<tr>
<td><strong>Standard 4: Planning</strong></td>
<td>Developing a plan that reflects best practices by identifying strategies, action plans, and alternatives to attain expected outcomes</td>
</tr>
<tr>
<td><strong>Standard 5: Implementation</strong></td>
<td>Implementing the identified plan by partnering with others</td>
</tr>
<tr>
<td><strong>Standard 5A: Coordination</strong></td>
<td>Coordinating programs, services, and other activities to implement</td>
</tr>
<tr>
<td><strong>Standard 5B: Health Education and Health Promotion</strong></td>
<td>Employing multiple strategies to promote health, prevent disease, and ensure a safe environment for populations</td>
</tr>
<tr>
<td><strong>Standard 5C: Consultation</strong></td>
<td>Providing consultation to various community groups and officials to facilitate the implementations of programs and services</td>
</tr>
<tr>
<td><strong>Standard 5D: Regulatory Activities</strong></td>
<td>Identifying, interpreting, and implementing public health laws, regulations, and politics</td>
</tr>
<tr>
<td><strong>Standard 6: Evaluation</strong></td>
<td>Evaluating the health status of the population</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>STANDARDS OF PROFESSIONAL PERFORMANCE</strong></th>
<th><strong>RESPONSIBILITIES INCLUDE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard 7: Quality of Practice</strong></td>
<td>Systematically enhancing the quality and effectiveness of nursing practice</td>
</tr>
<tr>
<td><strong>Standard 8: Education</strong></td>
<td>Attaining knowledge and competency that reflects current nursing and public health practice</td>
</tr>
<tr>
<td>Standard</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Standard 9: Professional Practice Evaluation</strong></td>
<td>Evaluating one’s own nursing practice in relation to professional practice standards and guidelines, relevant statutes, rules, and regulations</td>
</tr>
<tr>
<td><strong>Standard 10: Collegiality and Professional Relationships</strong></td>
<td>Establishing collegial partnerships while interacting with representatives of the population, organizations, and health and human services professionals, and contributing to the professional development of peers, students, colleagues and others</td>
</tr>
<tr>
<td><strong>Standard 11: Collaboration</strong></td>
<td>Collaborating with representatives of the population, organizations, and health and human services professional in providing for and promoting the health of the population</td>
</tr>
<tr>
<td><strong>Standard 12: Ethics</strong></td>
<td>Integrating ethical provisions in all areas of practice</td>
</tr>
<tr>
<td><strong>Standard 13: Research</strong></td>
<td>Integrating research findings into practice</td>
</tr>
<tr>
<td><strong>Standard 14: Resource Utilization</strong></td>
<td>Considering factors related to safety, effectiveness, cost, and impact on practice and on the population in the planning and delivery of nursing and public health programs, policies, and services</td>
</tr>
<tr>
<td><strong>Standard 15: Leadership</strong></td>
<td>Providing leadership in nursing and public health</td>
</tr>
<tr>
<td><strong>Standard 16: Advocacy</strong></td>
<td>Advocating to protect the health, safety, and rights of the population</td>
</tr>
</tbody>
</table>
## Appendix 4

### The 17 Public Health Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surveillance</strong></td>
<td>Describe and monitors health events through ongoing and systematic collection, analysis and interpretation of health data for the purpose of planning, implementing, and evaluating public health interventions. 155</td>
</tr>
<tr>
<td><strong>Disease and Health Threat Investigation</strong></td>
<td>Systematic collection and analysis of data regarding threats to the health of populations, ascertain the source of the threat, identification of cases and others at risk, and determination of control measures.</td>
</tr>
<tr>
<td><strong>Outreach</strong></td>
<td>Location of populations-of-interest or populations-at-risk and provides information about the nature of the concern, what can be done about it, and how services can be obtained.</td>
</tr>
<tr>
<td><strong>Case Finding</strong></td>
<td>Location of individuals and families with identified risk factors and connect them to resources. Case finding is a one-to-one intervention and therefore, operates only at the individual/family level. Case-finding is frequently implemented to locate those most at risk.</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Identified individuals with unrecognized health risk factors or asymptomatic disease conditions in populations. Three types of screening include: mass, targeted, and periodic.</td>
</tr>
<tr>
<td><strong>Referral and follow-up</strong></td>
<td>Assists individuals, families, groups, organizations, and communities to utilize necessary resources to prevent or resolve problems or concerns. The key to successful referral is follow-up; without evaluating its results is both ineffective and inefficient.</td>
</tr>
<tr>
<td><strong>Case Management</strong></td>
<td>Optimizes self-care capabilities of individuals and families and capacity of systems and communities is to coordinate and provide services.</td>
</tr>
<tr>
<td><strong>Delegated Functions</strong></td>
<td>As allowed under Connecticut regulations the scope of professional registered nursing practice delegated functions include any direct care task a registered professional nurse entrusts to other appropriate personnel to perform.</td>
</tr>
<tr>
<td><strong>Health Teaching</strong></td>
<td>Communicates facts, ideas, and skills that change knowledge, attitudes, values, beliefs, behaviors, and practice and skills or individuals, families, systems, and/or communities.</td>
</tr>
</tbody>
</table>

| **Counseling** | Establishes an interpersonal relationship with a community, system, family, or individual intended to increase or enhance their capacity for self-care and coping. Counseling engages the community, system, family, or individual at an emotional level. |
| **Consultation** | Seeks information and generates optional solutions to perceived problems or issues through interactive problem-solving with a community, system, family or individual. The community, system, family, or individual selects and acts on the option best meeting the circumstances. |
| **Collaboration** | Commits two or more persons or organizations to achieving a common goal through enhancing the capacity of one or more of them to promote and protect health. |
| **Coalition building** | Promotes and develop alliances among organizations or constituencies for a common purpose. It builds linkages, solves problems, and/or enhances local leadership to address health concerns. |
| **Community Organizing** | Helps community groups identify common problems or goals, mobilize resources, and develop and implement strategies for reaching the goals they collectively have set. |
| **Advocacy** | Pleads someone’s cause or acts on someone’s behalf, with a focus on developing the community, system, individual, or family’s capacity to plead their own cause or act on their own behalf. |
| **Social Marketing** | Utilizes commercial marketing principles and technologies for programs designed to influence the knowledge, attitudes, values, beliefs, behaviors, and practices of the populations-of-interest. |
| **Policy Development** | Places health issues on decision-makers’ agendas, acquires a plan of resolution, and determines needed resources. Policy development results in laws, rules and regulations, ordinances, and policies. Policy enforcement compels others to comply with the laws, rules, regulations, ordinances, and policies created in conjunction with policy development. |

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Appendix 5

A Summary of Basic Tools and Techniques Used in Quality Improvement

There are numerous tools and techniques that can be used to assist clarifying a complex issue, solve a quality improvement problem or improve a problem process. A description of more common tools used for investigating or analyzing data follows:

- **Bar Chart** – is a bar graph used to communicate information visually. It is useful to comparing classes or groups of data.

- **Brainstorming** – is a method for a group to generate a large number of ideas around an issue of interest. Brainstorming is an effective method to engage the group to help break out of stale, established patterns or when new opportunities need to be developed.

- **Cause-and-effect diagram** – graphically relates the symptom or problem under investigation to the factors or causes driving it. The cause-and-effect diagram is sometimes referred to as a fishbone diagram and is a systematic approach to analyze the problem and find the root cause. Typical main categories include people, policies, materials, equipment, lifestyle, and environment.

- **Check sheet** - is a simple data recording form for collecting data systematically.

- **Control chart** – is a statistical study of how a process changes over time. Data is plotted in time order sequences to monitor and control process variation.

- **Five Whys and Five Hows** – are a questioning process designed to drill down into the details of a problem or a solution to peel away the layers of symptoms.

- **Flowchart** – provide a visual picture of all the steps a process uses to complete its assigned task or output. It describes the sequence of events of process or service.

- **Force Field Analysis** – is a process used to look at the balance of power in a changing situation by presenting the positives and negatives of a situation so they can be easily compared.

- **Nominal Group Technique** – is a structured process that can be used to help a team prioritize by consensus a large list of items, causes or solutions to a short list of action items.

- **Pareto Chart** – is a method of information presentation based on the rule that 80 percent of a total problems observed are the result of 20 percent of the possible cause. The chart is similar to a histogram or bar chart, except that the bards are arranged in decreasing order from left to right along the X-axis. A Pareto chart helps a team to focus on those causes that will have the greatest impact if solved.

- **Pie Chart** - is a circle graph divided into pieces that show a qualitative view of data.
• **Run Chart** - are line graphs of a variable under study over time with a median line displayed and showing time patterns. Run charts may show data patterns such as trends, mixtures, outliers, cycles, instability, or sudden shifts.

• **Scatter Diagram** – is a nonmathematical graphical method to determine if a possible visual relationship exists between two variables.

• **Solution - and- Effect Diagram** identifies changes and recommendations made to solve a problem. The effect is made into a positive statement. This tool is the reverse of the cause-and-effect diagram since the focus is on the solution rather than cause. For example, “What are the causes of childhood obesity” to “How to prevent childhood obesity?”
Appendix 6

Community Assessment Considerations

Based on the *Handbook for Public and Community Health Nursing Practice. A Health Promotion Guide (2001)*, a community assessment should include the following:

A. Population
   a. Total population
   b. Age distribution
      i. List by age groups of 5 years (0-4, 5-9, etc.).
      ii. Give actual numbers and percentages for each group.
   c. Sex distribution (Actual numbers and percentages)
   d. Race distribution (As above)
   e. Ethnicity (As above)
   f. Religion
      i. As above
      ii. Separate “other,” separating persons in non-major denominations from actual nonbelievers
   g. Education (As above)
   h. Socioeconomic status
      i. Incomes of families. (As above, in increments of $10,000 until $40,000 and above.)
      ii. Categories of occupations
      iii. Unemployment levels

B. Environment
   a. Geography
      i. Topography
      ii. Location
      iii. Boundaries
   b. Climate
   c. Sanitation
      i. Water supply source
      ii. Sewage disposal
      iii. Trash and garbage
   d. Protection
      i. Fire. Describe services
      ii. Police. Describe services
   e. Housing
      i. Ownership. Give numbers and percentages; describe
      ii. Rental (As above)
   f. Pollution-safety hazards
      i. Air
      ii. Water
      iii. Land
C. Organization
   a. Government
      i. Type
      ii. Leaders
      iii. History. Include major changes (such as shifts in industry, highway development, urban renewal, and regionalization).
   b. Economics. List primary sources of government and private income.
   c. Recreation
      i. Parks (public and private)
      ii. Entertainment
         a. Theaters
         b. Museums
         c. Amateur/professional sporting teams
      iii. Social organizations
   d. Education. Levels, types, and number of schools
   e. Religion
      i. Churches (Number and size)
      ii. Religious organizations
   f. Power structure
      i. Community leaders
      ii. Decision makers

D. Technology/business
   a. Leading industries
      i. Name
      ii. Type
      iii. Number of employees
   b. Utilities
      i. Energy sources (such as electricity, oil, gas, coal, solar)
      ii. Telephone services
   c. Transportation
      i. Highways
      ii. Train
      iii. Bus
      iv. Air
   d. Business organizations
   e. Basic Services
      i. Food (Sources, major stores)
      ii. Clothing (As above)

E. Communication
   a. Newspaper
      i. Name
      ii. Publication schedule
      iii. Circulation
   b. Radio stations
i. Name  
ii. Format style and content  
iii. Frequencies  

c. Television  
i. Name  
ii. Ownership  
iii. Number of beds  
iv. Types of services  
v. Average length of stay  

d. Ambulatory services/clinics  
i. Name  
ii. Public/private ownership  
iii. Services offered  

e. Mental health facilities  
i. Name  
ii. Ownership  
iii. Number of beds  
iv. Services offered  

f. Emergency services  
i. Name  
ii. Ownership  
iii. Personnel involved  
iv. Availability  

g. Social/Health services  
i. Occupational  
ii. School  
iii. Voluntary agencies  
iv. Comprehensive health centers/clinics  
v. Prepaid group health plans  
vi. Health Councils  
vii. Social service agencies  

h. Healthcare personnel  
i. Physicians  
ii. Registered nurses  
iii. Dentists  
iv. Social Workers  
v. Chiropractors  
vi. Others
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Examples of Health Status Indicators

The *Public Health Nursing Leadership: A Guide to Managing the Core Functions* (2001)\(^\text{158}\) provides a summary of examples of health status indicators data considerations as follows:

**Socio-Demographic Profile**
1. Birth rate
2. Population (# and %) by 5-year age groupings for each sex
3. Population (# and %) by race/ethnicity
4. Household income by categories
5. Percent of populations < 100% federal poverty level
6. Percent of population < 200% federal poverty level
7. Percent of unemployed
8. Percent of persons over 25 years of age with high school diploma
9. Percent of population change over 10 years, overall, population groups, and for ages
10. Median income
11. Percent of persons at current address for at least 5 years
12. Percent of persons who moved into local health jurisdiction within last 5 years
13. Percent of retired
14. Divorce rate
15. High school drop-out rate
16. Number of homeless shelter clients/rate per 100,000

**General Health Indicators**
1. Life expectancy
2. Overall death rate per 100,000
3. Top 5 causes of death – rate per 100,000 overall and by age/sex
4. Top 5 causes of hospitalization
5. Perceived health status
6. Percent of population without health insurance
7. Percent of population without usual source of primary care
8. Dental care indicator

**Chronic Disease Behavioral Risk Indicators**
1. Percent of breast, cervical, and colorectal cancer diagnosed at a late stage
2. Percent of persons age 18+ who smoke
3. Percent of adolescents who smoke
4. Percent of women age 18-64 with pap smear in past three years
5. Percent of women age 50-64 with mammogram in past two years
6. Percent of population > 18 with blood pressure measured in past 2 years

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7. Percent of population > 18 with cholesterol measured in past 5 years
8. Percent of persons reporting moderate, regular exercise
9. Percent of persons reporting obesity
10. Percent reporting they eat 5 fruit/vegetable servings a day

Maternal-Child Health Disease/Outcome Indicators
1. Total infant mortality rate
2. Neonatal deaths (0-28 days)
3. Percent of live births < 2500 grams (less than 5.5 pounds)
4. Abortion rate
5. Percent of live births with congenital anomalies

Unintentional Injury and Poisoning Disease/Outcome Indicators
1. Unintentional injury deaths – rate per 100,000, age-specific rates
2. Unintentional injury hospitalizations – rate per 100,000
3. Firearm deaths – rate per 100,000
4. Motor vehicle deaths – rate per 100,000, age-specific rate
5. Residential fire deaths – rate per 100,000
6. Deaths related to falling – rate per 100,000
7. Hospitalizations due to falls – rate per 100,000
8. Drowning deaths – rate per 100,000 (natural water and recreational facilities)
9. Poisoning deaths – rate per 100,000
10. Hospitalizations due to poisoning – rate per 100,000
11. Unintentional CO poisoning hospitalization – rate per 100,000
12. Number of children/adults identified with elevated blood lead levels
13. Occupational injury/illness claims pre 100,000
14. Number of pesticide illnesses – rate pre 100,000
15. Work-related injury deaths per 100,000
16. Number of reported traffic injury accidents

Infectious Disease – Disease/Outcome Indicators
1. Incidence of chlamydia cases – number and rate per 100,000
2. Incidence of syphilis cases – number and rate per 100,000
3. Incidence of gonorrhea cases – number and rate per 100,000
4. Incidence of TB cases – number and rate per 100,000
5. Incidence of Hepatitis A and B cases – number and rate per 100,000
6. Incidence of pneumonia/influenza deaths – number and rate per 100,000
7. Incidence of pneumonia hospitalizations – number and rate per 100,000
8. Incidence of childhood vaccine-preventable illnesses – number and rate per 100,000 (HiB, diphtheria, tetanus, pertussis, measles, mumps, rubella, polio)
9. Incidence of campylobacter – number and rate per 100,000
10. Incidence of E. coli – number and rate per 100,000
11. Incidence of Salmonella and rate per 100,000
12. Incidence of Shigella – number and rate per 100,000
13. Incidence of Giardiasis – number and rate per 100,000
14. Rabies cases – number and rate per 100,000
15. Vector-borne disease – number and rate per 100,000
16. Zoonotic disease – number and rate per 100,000
17. Incidence of AIDS cases – number and rate per 100,000
18. Number of recreational – related waterborne disease outbreaks/cases per 100,000

Crime and Violence Disease/Outcome Indicators
1. Homicide deaths – rate per 100,000 by age and race
2. Assault-related hospitalizations
3. Arrests/victims of violent crimes per 100,000, 10-17 year olds
4. Arrest/victims of violent crimes per 100,000, 18+ year olds
5. CPS reported cases of child abuse per 100,000
6. Arrests of domestic violence per 100,000
7. Additional indicators from Youth Risk Assessment Database
8. Percent of crimes committed by local health jurisdiction residents
9. Arrest/victims of violent crimes per 100,000, 18+ year olds
10. Additional indicators for child/spouse abuse

Mental Health and Substance Abuse Disease/Outcome Indicators
1. Suicide deaths – rate per 100,000
2. Alcohol-related deaths per 100,000
3. Mental health service utilization information from Regional Support Network
4. Number of mental health crisis lines calls
5. Number of DWI arrests

Air Quality Environmental Risk Indicators
1. Number of days of impaired air quality (exceeded EPA primary criteria standards)
2. Number of days wood burning in stoves is banned or restricted

Drinking Water Quality Disease/Outcome Indicators
1. Number of waterborne disease outbreaks
2. Number of waterborne disease cases/rate per 100,000

Food Quality Disease/Outcome Indicators
1. Number of food-borne outbreaks
2. Number of food-borne illnesses- rate per 100,000
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SAMPLE LOCAL HEALTH AGENCY PROTOCOL FOR HEPATITIS C
FOLLOW-UP SURVEILLANCE, EDUCATION AND COUNSELING

Date effective

1. Once the case of Hepatitis is received from the lab, a letter will be sent to the medical provider requesting information on the PD-23 form.
2. We will advise the medical provider of (name of local health agency’s) availability to provide educational follow-up, as needed.
3. If the case is referred to (name of local health agency) by the medical provider, educational needs related to the disease, treatment options, protection of contacts and support systems will be discussed and literature made available to the case his/her contacts.
4. As available, Hepatitis A and Hepatitis B vaccines can be offered free of charge to the individual(s) infected with HCV. The CDC and DPH recommend that these vaccines be offered and medical providers are informed of this in the contact letter (copy provided next page).
5. Confidential follow-up activities will be documented on the lab report and filed per (name of local health agency’s) policy.

(signature)  
Name of Medical Director or Medical Advisor  Date
SAME COMMUNICATION RE: LONG TERM CARE FACILITIES AND SURVEILLANCE ACTIVITIES

January, 2013

Dear Physician/medical Practitioner:

The (insert your agency’s name) health department (or district) is asking for your assistance in our continued surveillance of Hepatitis C (HCV) case reports.

According to the Institute of Medicine’s report brief for April 2010, although HCV is a preventable disease, it continues to be a serious health problem in the United States. Prevention for those at risk and medical management for those already chronically infected can be enhanced by improved knowledge among all medical providers. Additionally, “providers should build screening, testing, and vaccination strategies into their routine practices.”

Enclosed is a copy of your patient’s laboratory report and a confidential PD-23 state reporting form. Please fill out the PD-23 form as it applies to your patient’s diagnostic status and return promptly. Although we will not contact your patient, educational materials are available from the health department/district if requested by your patient. Additionally, (agency name) joins CDC and the Connecticut Department of Public Health in recommending that the HAV and HBV vaccines be offered to select individuals with HCV. If you cannot provide the vaccines for your patient, arrangements can be made through the health department/district.

Thank you for your time and attention to this very important public health agenda. If you have any questions, please do not hesitate to call (local public health nurse’s name), RN.

Sincerely,

Local Director of Health’s Name
### Appendix 9

#### Tuberculosis Diagnostic Tests Description Summary

<table>
<thead>
<tr>
<th>Diagnostic Tests</th>
<th>Description Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis skin test (TST)</td>
<td>Nurses are able to administer a TST and read the test 48-72 hours after placement. See reference sheet on TB Skin Testing or See CDC site for fact sheet on TST and Interpreting Tuberculin Skin Test Results. <a href="http://www.cdc.gov/tb/publications/factsheets/testing/skintesting.htm">http://www.cdc.gov/tb/publications/factsheets/testing/skintesting.htm</a></td>
</tr>
<tr>
<td>Sputum Culture analyzes phlegm coughed up from deep inside the lungs</td>
<td>The laboratory examines the sputum specimen for TB bacteria using a smear; part of the sputum can also be used to do a culture, which is the gold standard for confirmation of diagnosis. However, results from a sputum culture can take 1-2 weeks.</td>
</tr>
<tr>
<td>Chest X-ray</td>
<td>The diagnostic images are used to indicate lung damage from TB bacteria.</td>
</tr>
<tr>
<td>Interferon-Gamma Releases Assays (IGRAs)</td>
<td>A blood sample is collected and used to determine if the individual is infected with TB bacteriant. The blood test measures how the immune system reacts to the bacteria that cause TB. A positive IGRA means the person has been infected with the TB bacteria. However, additional testing is necessary to determine if the person has latent TB infection or TB disease. These IGRA tests are the preferred method of testing for people who have received bacilli Calmette-Guerin (BCG), which is a vaccine for TB disease. This method is also recommended for individuals who have difficulty returning for a second appointment to evaluate the reaction to the TST skin test.</td>
</tr>
<tr>
<td>Nucleic acid amplification tests (NAATS), also known as Nucleic acid tests (NATs)</td>
<td>NAAT is a rapid laboratory test used to identify small amounts of DNA or RNA in test samples. NAATS can reliably detect Mycobacterium tuberculosis bacteria in specimens to shorten the time needed to diagnose TB from 1--2 weeks to 1--2 days. However, the NAAT should only be done on persons who are strongly suspected for having TB and not ordered routinely when the clinical suspicion of TB is low.</td>
</tr>
<tr>
<td>Bronchoalveolar lavage (BAL)</td>
<td>BAL is a medical procedure where a bronchoscope is passed through the mouth or nose into the lungs and fluid is squirted into a small part of the lung and then recollected for examination. BAL is commonly used to diagnose infections in people with immune system problems such as HIV.</td>
</tr>
<tr>
<td>Medical history positive for HIV diagnosis*</td>
<td>A person with both latent TB infection and HIV infection is a very high risk for active TB disease.</td>
</tr>
</tbody>
</table>
**Table:**

<table>
<thead>
<tr>
<th>Additional tests for TB outside of the Lungs (i.e., Extra-pulmonary TB)</th>
<th>Extra-pulmonary TB affects people with weak immune system, diabetes, HIV, or malnourished people, very young children or elderly, those undergoing prolonged treatment with chemotherapy or cortisone. Among the most common forms of extra-pulmonary TB are node tuberculosis, osteo-articular, renal and skin tuberculosis. Tissue and/or fluids from the suspected site of infection are collected and used in the diagnostic tests. Like pulmonary TB, extrapulmonary TB relies on a specialized bacterial stain and culture called acid-fast stain to confirm diagnosis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biopsy tissue</td>
<td></td>
</tr>
<tr>
<td>Pleural fluids</td>
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<tr>
<td>Peritoneal fluid</td>
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<tr>
<td>Needle aspirates</td>
<td></td>
</tr>
<tr>
<td>Cerebro-spinal fluid</td>
<td></td>
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<tr>
<td>Urine</td>
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</tbody>
</table>

*All patients with TB and HIV infection should be evaluated immediately to determine if antiretroviral therapy is indicated during the course of treatment for TB. Arrangements appropriate for the individual to access antiretroviral drugs should be made for those who meet indications for treatment.*

159 Provisions for service access include:

- Hospital clinics specializing in TB care.
- Local Community Health Center for primary care.
- Private physician.
- Hospitalization is necessary given severity of symptoms and associated disease states.


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### Appendix 10

**A Sample Blood Pressure Screening Worksheet**

**Screening Criteria**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SYSTOLIC</th>
<th>DIAGNOSTIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>&lt;120</td>
<td>&lt;80</td>
</tr>
<tr>
<td>Pre-hypertension</td>
<td>120-139</td>
<td>80-89</td>
</tr>
<tr>
<td>Stage 1</td>
<td>140-159</td>
<td>90-99</td>
</tr>
<tr>
<td>State 2</td>
<td>&gt;160</td>
<td>&gt;100</td>
</tr>
</tbody>
</table>

Please check mark according to the above criteria as you measure the blood pressure.

<table>
<thead>
<tr>
<th>Date</th>
<th>Normal</th>
<th>Pre-Hypertension</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>On BP Meds? Y/N (comments)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

**Family Health History:**

- Personal health risk factors:
  - □ Alcohol Use; Frequency? _________
  - □ Smoker

- Chronic Disease(s):
  - Diabetes: □ Self □ Blood Relative
  - Hypertension: □ Self □ Blood Relative
  - Sleep Apnea: □ Self □ Blood Relative
  - Heart Disease: □ Self □ Blood Relative
  - Kidney Disease: □ Self □ Blood Relative
  - Thyroid Disease: □ Self □ Blood

- Prescription Medications (list): _____________________________________________________

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160 From DPH “ConnectiFit” initiative
Appendix 11

STEPS TO IMPLEMENTATION OF OUTREACH ACTIVITIES

1. Community health assessment done in order to develop an outreach plan
   - identify the potential threats and issues that may pose a health concern to the community
   - describe the at risk population (aka target population) demographic information
   - amount of people
   - age, gender, race
   - location, geographical area
   - financial situation of people of concern
   - education
   - occupation of head of household
   - unemployment rates
   - determine who is a reliable and trusted member of this community
   - where in community do people congregate

2. Develop plan
   - Ensure message/plan is tailored to fit target population (e.g., culturally sensitive, ethnically appropriate).
   - Define objectives.
   - Have peer review plan for effectiveness prior to implementation. Attempt to have key community person review plan prior to implementation.

3. Test the outreach plan to assure it communicates the right message and reaches the target population

4. Implement and monitor the plan
   - Monitoring the plan is important to ensure the plan is followed and to critique the process and begin to gather information towards the evaluation process.
   - Test the outreach plan to be sure it communicates the right message, reaches the right group or persons.

5. Evaluation
   - Were the objectives met? (i.e., increase in number of people getting vaccinated, or increase in participants attending smoking cessation program)
   - Questions such as: What works, what doesn’t?
   - Who heard the message, what message was heard?
   - Who acted on it?
   - What were the barriers to the message being received?
   - Identify what barriers prevented people from receiving and/or acting on the message (e.g., printed information is above the reading level of the group, lack of access for transportation, time conflict).
   - Identify what factors contributed to outreach success.
5. Redo and alter outreach plan according to evaluation

- In order to reach those populations not reached by outreach plan, adjust plan to target those groups \(^{161}\)
- And of course, as with many activities, when simple mistakes and minor complication endure, it is essential to think outside the box and find new innovative ideas and approaches to reach persons the trying to be reached.

### Health Resource Organizations for Health Fairs
#### National Resources

<table>
<thead>
<tr>
<th>Organization</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association of Retired Persons (AARP)</td>
<td>State office of AARP that expands national AARP services by providing information, extending services for direct assistance, and local advocacy.</td>
</tr>
<tr>
<td><a href="http://www.aarp.org/health/">http://www.aarp.org/health/</a></td>
<td></td>
</tr>
<tr>
<td>American Cancer Society</td>
<td>The American Cancer Society is the nationwide, community-based, voluntary health organization dedicated to eliminating cancer as a major health problem by preventing cancer, through research, education, advocacy, and service.</td>
</tr>
<tr>
<td><a href="http://www.cancer.org/">http://www.cancer.org/</a></td>
<td></td>
</tr>
<tr>
<td>American Diabetes Association</td>
<td>Association that funds research and publishes results; services as advocate for diabetes funding; provides materials, education, and other services to people with diabetes and their families, health professionals, and the public.</td>
</tr>
<tr>
<td><a href="http://diabetes.org">http://diabetes.org</a></td>
<td></td>
</tr>
<tr>
<td>American Heart Association</td>
<td>The mission of the American Heart Association is to reduce disability and death from cardiovascular diseases and stroke. The association provides the public with a variety of risk assessment information including materials on smoking, nutrition, fitness and high blood pressure, as well as heart-healthy recipes.</td>
</tr>
<tr>
<td><a href="http://americanheart.org">http://americanheart.org</a></td>
<td></td>
</tr>
<tr>
<td>American Lung Association</td>
<td>The American Lung Association is a non-profit, voluntary health organization dedicated to the conquest of lung disease and the promotion of lung health. The Association provides programs of education, community service, advocacy, and research.</td>
</tr>
<tr>
<td><a href="http://lungusa.org">http://lungusa.org</a></td>
<td></td>
</tr>
<tr>
<td>American Red Cross</td>
<td>Organization that provides education in the treatment of medical emergencies and assists people who have been involved or affected by disasters.</td>
</tr>
<tr>
<td><a href="http://www.redcross.org/">http://www.redcross.org/</a></td>
<td></td>
</tr>
<tr>
<td>Arthritis Foundation</td>
<td>Foundation that provides brochures and other literature on a variety of arthritis-related diseases; offers seminars and speakers to school community groups; offers support programs, exercise programs, and referrals.</td>
</tr>
<tr>
<td><a href="http://www.arthritis.org">http://www.arthritis.org</a></td>
<td></td>
</tr>
<tr>
<td>Dallas Regional Office</td>
<td></td>
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<tr>
<td><a href="http://www.cpsc.gov">http://www.cpsc.gov</a></td>
<td></td>
</tr>
<tr>
<td>Dairy Max</td>
<td>Dairy Max is the USDA-qualified generic.</td>
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<tr>
<td>Website/Link</td>
<td>Description</td>
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</tr>
<tr>
<td><a href="http://www.dairymax.org/">http://www.dairymax.org/</a></td>
<td>Promotion program organized by dairy farmers. It provides nutrition information and marketing materials for schools and health professionals.</td>
</tr>
<tr>
<td><a href="http://www.fda.gov/">Food and Drug Administration</a></td>
<td>Government agency that disseminates information regarding nutrition and food and drug safety.</td>
</tr>
<tr>
<td><a href="http://www.nal.usda.gov/fnic/">Food and Nutrition Information Center Rural Information Center</a></td>
<td>Library maintained by the Department of Agriculture that provides information on nutrition, food services, and food technology. Will do literature searches and provide information on grants for rural areas.</td>
</tr>
<tr>
<td><a href="http://www.epa.gov/iaq/">Indoor Air Quality Information Clearinghouse</a></td>
<td>Specialists provide information, referrals, publications, and database searches on indoor air quality. Information includes pollutants and sources, health effects, control methods, commercial building operations and maintenance, standards and guidelines, and federal and state legislation.</td>
</tr>
<tr>
<td><a href="http://www.marchofdimes.com/">March of Dimes Birth Defects Foundation</a></td>
<td>This organization provides information directed at improving the health of babies by preventing birth defects, premature birth and infant mortality.</td>
</tr>
<tr>
<td><a href="http://www.madd.org">Mothers Against Drunk Driving (MADD)</a></td>
<td>The mission of Mothers Against Drunk Driving is to stop drunk driving and to support victims of this violent crime.</td>
</tr>
<tr>
<td><a href="http://www.nmss.org/">National Multiple Sclerosis Society</a></td>
<td>Organization that provides services and education for persons affected by multiple sclerosis.</td>
</tr>
<tr>
<td><a href="http://www.cancer.gov">National Cancer Institute (NCI) Cancer Information Services (CIS)</a></td>
<td>The Cancer Information Services (CIS) is a nationwide network of 19 regional field offices supported by the National Cancer Institute (NCI) that provides accurate, up-to-date information on cancer to patients and their families, health care professionals, and the general public. The CIS can provide specific information in English and Spanish about particular types of cancer, as well as information on how to obtain second opinions and the availability of clinical trials. Each CIS office has access to the NCI treatment database PDQ, which offers callers the most current state-of-the art treatment and clinical trial information.</td>
</tr>
<tr>
<td><a href="http://www.ncfh.org/">National Center for Farmworker Health, Inc.</a></td>
<td>Program that provides farmworker families with health-related information and technical assistance.</td>
</tr>
<tr>
<td><a href="http://www.ncemch.org/">National Center for Education in Maternal and Child Health</a></td>
<td>Organization that provides general and technical assistance, develops professional educational and reference materials on issues relating to public policy and program development in maternal and child health.</td>
</tr>
</tbody>
</table>
### National Center for Health Statistics
**http://www.cdc.gov/nchs/**

The Center is the federal government’s principal vital and health statistics agency. Provides reference, inquiry, and referral services. Produces series of publications—some free of charge. Catalogs of electronic and printed products are available.

| National Cholesterol Education Program  
NHLBI Information Center  
**http://www.nhlbi.nih.gov/about/ncep/index.htm**  
NHLBI program that has developed recommendations, guidelines, and educational materials related to cholesterol. |
| National Clearinghouse for Alcohol and Drug Information (NCADI)  
**http://ncadi.samhsa.gov**  
Organization that provides the latest information on alcohol, tobacco, and other drugs in a variety of formats, including printed material and videos |
| National Clearinghouse for Primary Health Care Information  
**http://www.bphc.hrsa.gov/**  
Clearinghouse that provides information to support the delivery of health care to areas that have shortages of medical personnel and services. |
| National Foundation for Infectious Diseases  
**http://nfid.org/**  
Provides fact sheets on immunizations to prevent infectious diseases. |
| National Council on Patient Information & Education  
**http://www.talkaboutrx.org/**  
Council provides information on programs, services, and materials that promote the safe use of medicines. |
| National Diabetes Education Program  
**http://ndep.nih.gov**  
Resources for people with diabetes and those who work with them. |
| National Diabetes Information Clearinghouse (NDIC)  
**http://diabetes.niddk.nih.gov**  
NDIC is an information and referral service of the National Institute of Diabetes and Digestive and Kidney Diseases, one of the National Institutes of Health. The NDIC maintains a database of patient and professional education materials, from which literature searches are generated. |
| National Digestive Diseases Information Clearinghouse (NDDIC)  
**http://digestive.niddk.nih.gov**  
The National Digestive Disease Information Clearinghouse (NDDIC) is an information and referral service of the National Institute of Digestive and Kidney Disease, one of the National Institutes of Health. It develops and distributes publications about digestive diseases, and provides referrals to digestive diseases organizations, including support groups. The NDDIC maintains a database of patient and professional education materials, from which literature searches are generated. |
| National Institutes of Health (NIH)  
**http://health.nih.gov/**  
Division of NIH that provides information on selected health topics. |
| National Eye Education Program  
**http://www.nei.nih.gov/**  
The National Eye Institute (NIH); implements eye health education programs for the public and health professionals, including national campaigns and |
<table>
<thead>
<tr>
<th>Organization</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Heart, Lung and Blood Institute</strong></td>
<td>Organization that provides national leadership for national programs and research related to the cause, prevention, and treatment of cardiovascular, pulmonary, and blood diseases including high blood pressure, cholesterol, peripheral artery disease, sleep apnea and COPD; disseminates numerous educational materials for the public and health professionals.</td>
</tr>
<tr>
<td><a href="http://www.nhlbi.nih.gov/">http://www.nhlbi.nih.gov/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Highway Traffic Safety Administration (NHTSA)</strong></td>
<td>Agency provides brochures, flyers, statistical reports, videotapes, and other information about safety belts, car seats, pedestrian, bicycle and motorcycle safety, and drunk and impaired driving.</td>
</tr>
<tr>
<td><a href="http://www.nhtsa.dot.gov/">http://www.nhtsa.dot.gov/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Information Center for Children and Youth with Disabilities (NICHCY)</strong></td>
<td>NICHCY is an information clearinghouse that provides information on disabilities and disability-related issues. Children and youth with disabilities are their special focus.</td>
</tr>
<tr>
<td><a href="http://www.nichcy.org/">http://www.nichcy.org/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Institute on Deafness and Other Communications Disorders</strong></td>
<td>Agency provides information for health professionals, patients, industry, and the public on deafness and other communication disorders.</td>
</tr>
<tr>
<td><a href="http://www.nidcd.nih.gov/">http://www.nidcd.nih.gov/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Institute of Neurological Disorders &amp; Stroke</strong></td>
<td>Organization that disseminates information on the causes, prevention, diagnosis, and treatment of neurological disorders and stroke</td>
</tr>
<tr>
<td><a href="http://www.ninds.nih.gov/">http://www.ninds.nih.gov/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Osteoporosis Foundation</strong></td>
<td>Non-profit organization that provides resource materials on osteoporosis for health care professionals and the public.</td>
</tr>
<tr>
<td><a href="http://www.nof.org/">http://www.nof.org/</a></td>
<td></td>
</tr>
<tr>
<td><strong>Homelessness Resource Center – Substance Abuse and Mental Health Services</strong></td>
<td>Center that provides information and technical assistance concerning the needs of homeless people with substance abuse and mental health issues.</td>
</tr>
<tr>
<td>Administration <a href="http://www.nrchmi.samhsa.gov/">http://www.nrchmi.samhsa.gov/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Safety Council</strong></td>
<td>Mission is to educate and groups to adopt safety, health, and environmental policies, practices, and procedures that prevent and mitigate human suffering and economic losses arising from preventable causes. Good source of prevention fact sheets</td>
</tr>
<tr>
<td><a href="http://www.nsc.org/">http://www.nsc.org/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Stroke Association</strong></td>
<td>Non-profit organization that serves as an advocate for stroke prevention, rehabilitation, research, and survivor support; offers a wide selection of materials including videotapes, audiotapes, journals, brochures, and booklets for continuing education, staff training, and the public.</td>
</tr>
<tr>
<td><a href="http://www.stroke.org/">http://www.stroke.org/</a></td>
<td></td>
</tr>
<tr>
<td><strong>National Health Information Center</strong></td>
<td>Provides health information and referral to national organizations for health-related information.</td>
</tr>
<tr>
<td><a href="http://www.health.gov/nhic/">http://www.health.gov/nhic/</a></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.healthfinder.gov">http://www.healthfinder.gov</a></td>
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</tbody>
</table>
EIGHT STEPS TO BUILDING AN EFFECTIVE COALITION

1. **Decide whether or not to coalesce, that is to come together.** This decision is based on:
   - Recognition of community’s need to respond to a perceived health issue
   - Recognition that a coalition would help fulfill an organization’s goals
   - Estimation of resource requirements
   - Determination that dedicating resources to coalition building is the best use of those resources.

2. **Recruit the right people**
   Consider the following points:
   - The goal of the coalition should determine the type of membership
   - Members should have authority to commit resources of the organization they represent
   - Size should be kept workable (for example, 12-18) At times it may be preferable to bring together a narrow group with more closely defined interests to accomplish objectives quickly and the broaden membership at a later time.

3. **Devise a set of preliminary objectives and activities.**
   This step is critical to coming together around a common interest. The following points will guide you:
   - All members should have a stake in the outcomes
   - Short-term reachable goals should be planned
   - The reality of working with groups of individuals should be considered:
     - It is not always possible to avoid “turf” struggles. However, coalitions should try to avoid exacerbating them. Formal and informal opportunities to understand difference in agency history, mandates, and funding may reduce turf struggles
     - Select activities that coalition members will experience as successful-activities to which they can make unique contributions
     - Make objectives compelling
     - Be sensitive to the fact that coalition work is not the main job of coalition members, and keep assignments simple and achievable.
     - Keep reminding people that it is okay to day “no” or to set limits.

4. **Convene the coalition.** The convening group should present a strong proposal for the coalition’s structure, mission, and membership at the initial meeting. Encouraging member response to a prepared proposal is usually more productive than expecting the group to create the proposal.

5. **Anticipate human, material, and financial resources required to accomplish the goal.** Effective coalitions generally require minimal financial outlay for materials and supplies but require substantial time commitments from people. It is important to:

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162 Source: Contra Costa Health Services, Developing Effective Coalitions: An eight Step Guide. © 1994, Contra Costa County Health Services Department Prevention Programs.
Estimate how much of the work will be the responsibility of the lead agency and how much of the work to realistically expect of others. Anticipate that members will not always fulfill their commitments.

Be appreciative of what is done, rather than “moralistic” when people cannot accomplish everything they planned.

In calculating needed resources, estimate the hours needed per month for the following categories and then double that number:

- Clerical
- Meeting support
- Membership support
- Research and fact gathering
- Public relations and public information
- Coordination of activities
- Fund-raising.

6. **Select an appropriate Structure.** The technical details of a coalition structure are vital to achieving success. Consider the following elements in designing the structure:

   **Life expectancy of the coalition**
   - Shorter term, single-purpose coalitions that intend to disband usually require less formal structures

   **Location, frequency, and length of meetings**
   - Poll members to see which times and locations present the least conflict in terms of both personal and work commitments.
   - Avoid meeting times that cause members to face traffic jams and sites with difficult parking

   **Membership criteria**
   - Add vitality with new members
   - Provide an orientation session for new members to reduce their need to interrupt coalition meetings to catch up with the topics

   **Decision-making process**
   - Minimize complaints; maximize relevance, and encourage participation

   **Agenda setting**
   - Never lose track of the true purpose of the coalition; coalition sometimes turn inward and begin discussing their own internal processes rather than resolving the community issue they came together to address

   **Rules for participation**
   - State that the coalition’s position represents the “opinion of the majority of participating groups”; in other words, sometimes the positions of the coalition need to be distanced from that of an individual member.

7. **Maintain the vitality of the coalition.** Warning signs of coalition problems are not always easy to spot, since every coalition has ebbs and flows. Possible problems include:

   - Poor group dynamics
   - Membership or participation concerns
• Focus on too many long-term goals without enough short-term “wins” to add energy to the group
• Poor planning or inadequate resources that make goal attainment difficult
• External changes affecting the coalition’s mission.

The following activities are important in avoiding problems:

• **Sharing power and leadership**
  It is ironic that the characteristics that indicate a strong coalition—a heightened sense of collective identity and a high degree of commitment to collaborative work—can also exacerbate tension in defining the direction of the coalitions

• **Anticipating and dealing with conflict**

• **Recruiting and involving new members**
  Every member will bring to the coalition his or her own perspective; therefore, a broad framework, a common vocabulary, and a set of principles for participation must be presented early in the coalition’s formation

• **Providing training and challenging work**
  Anticipate that coalition work is frustrating and exhausting at times; therefore, renewal opportunities need to be provided

• **Celebrating successes**
  Successes need to be celebrated and shared to maintain morale.

8. **Make improvements through evaluation.** Evaluation should be an ongoing process throughout the life of a coalition.\(^{163}\)

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\(^{163}\) Source: Contra Costa Health Services, Developing Effective Coalitions: An eight Step Guide. © 1994, Contra Costa County Health Services Department Prevention Programs.
## A Sample Emergency Shelter Planning Checklist

<table>
<thead>
<tr>
<th>Requirements</th>
<th>In Place</th>
<th>Partial</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administration and Support:</strong></td>
<td></td>
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</tr>
<tr>
<td>Identify and Outline policies for record keeping and reporting procedures</td>
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<tr>
<td>Identify and Outline policies for shelter registration procedure</td>
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<td></td>
</tr>
<tr>
<td>Identify and Outline policies on training and exercise requirements</td>
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<tr>
<td><strong>Communications:</strong></td>
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<tr>
<td>Identify a communications system with redundant capabilities</td>
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<tr>
<td>Identify communications resources (i.e., landline telephone, Nextel, internet access, ham radio, etc.)</td>
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<tr>
<td>Identify source for access to public/media information</td>
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<tr>
<td><strong>Logistics:</strong></td>
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<tr>
<td>Identify supply sources for:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>- Food</td>
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<tr>
<td>- Water</td>
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<tr>
<td>- Lighting</td>
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<tr>
<td>- Electricity</td>
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<tr>
<td>- Back-up generator</td>
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<td></td>
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<tr>
<td>- Fuel</td>
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<tr>
<td>Coordinate external delivery of food, snacks and drinks (consider special dietary needs)</td>
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</tr>
<tr>
<td>Identify a central coordinating point(s) for receiving, analyzing, reporting, and retaining (event log) disaster related information (property damage, fire status) for EOC staff and/or responsible teams</td>
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<tr>
<td>Establish mutual aid agreement with private sector companies and/or volunteer agencies</td>
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<tr>
<td>Identify modes of transporting shelter employees to the shelter</td>
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<tr>
<td>Identify system for setting up and tearing down equipment</td>
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<tr>
<td>Identify resource accountability system</td>
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<tr>
<td>Compile a list of necessary resources</td>
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<tr>
<td>Identify sources to obtain necessary resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify a shelter location</td>
<td></td>
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</tr>
</tbody>
</table>
Complete an feasibility assessment of shelter location
  • Heating/Ventilation/Air Conditioning
  • Billeting service for staff
  • Bathroom and showering facilities for patients and staff
  • Secure pharmaceutical area and refrigerator

Complete ADA Checklist for Emergency Shelters available at www.ada.gov/shelterck.htm?

Identify a contingency plan for an alternate shelter location

Complete a building plan (floor plan for each location), including room layout. Identify:
  • Logistical/Administrative Support Workspace
  • Registration/Information Area
  • Nurses’ Station/Office Area
  • Triage Area
  • Isolation Area
  • Sleeping Areas
  • Temporary Morgue
  • Staff Sleeping Area
  • Designated Area for Arrival of Staff/Volunteers
  • Area for Disbursement of Supplies
  • Food Preparation/Storage and Service Area

Identify a triage process

Identify visitation procedure

Identify discharge plan for shelter occupants

Identify a source for necessary shelter supplies

Identify a system to obtain durable medical equipment if necessary

Identify a procedure for tracking usage and accounting for supplies

### Responsibilities/Staffing:

| Identify a Shelter Manager |
| Identify and clearly describe responsibilities of departments or personnel |
| Identify shelter managers and support staff |
| Create and distribute printed instructions advising employees of shelter locations and routes to get to the facility |
Identify activation procedures

**Sanitation:**
- Identify sanitation procedures
- Identify resource for sanitation supplies

**Security:**
- Identify options for securing all essential resources within the shelter
- Identify plans for safety of shelter occupants and staff

**Medication:**
- Identify a system to replace essential shelter occupant pharmaceuticals
- Identify methods to properly store medications (e.g., refrigeration)
- Identify methods for proper disposal of medications and medication administration devices (e.g., syringes)

**Deactivation:**
- Identify a deactivation plan
- Identify person responsible for making decision to demobilize shelter

**Closing Operations:**
- Identify and outline responsibilities of shelter staff for closing operations
- Consider arrangements for oxygen, transfer unit, medication, supplies, blankets and cots to be picked up
- Identify procedure to ensure all documents (i.e., forms, charting forms, management advisory reports, media releases, staff sign-in sheets, supply logs, room assignment logs, volunteer packets, etc.) are returned to the proper authority

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1. Association of State and Territorial Health Officials (2008), *At-Risk Populations And Pandemic Influenza Planning Guidance For State, Territorial, Tribal and Local Health Departments*
### AN OVERVIEW OF TYPES OF EVALUATIONS AND CONTRASTING GOALS

<table>
<thead>
<tr>
<th>Evaluation Type</th>
<th>Evaluation Goal</th>
<th>Specific Questions</th>
<th>Activities</th>
</tr>
</thead>
</table>
| **Process**     | This evaluation involves judging the activities or strategies of your project. This often involves looking at what has been done, who has been reached, and the qualities of the activities. It involves seeking answers to questions. | - Has the program reached the appropriate people?  
- Are all the program activities progressing as planned? If not, why?  
- Were any changes made to the intended activities? If so, why?  
- Are materials, information, and presentations of good quality?  
- Are the participants and other key people satisfied? | - Assessment of staff performance  
- Review of program documents  
- Program review  
- Documentation review  
- Observation. |
| **Impact**      | This evaluation involves judging the extent to which your program has had an immediate effect on the knowledge, attitudinal, and behavioral changes of the target population. It measures whether you have met these objectives. | - What progress has been made toward achieving the goal?  
- To what extent has the program met its objectives?  
- How effective has the program been at producing changes?  
- Are there any factors outside of the program that have contributed to (or prevented) the desired change?  
- Has the program resulted in any unintended changes? | - Surveys. |
| **Outcome**     | This evaluation will determine whether and how well the long-term program goals have been achieved. | - What progress has been made toward achieving the goals?  
- To what extent has the program met its objectives?  
- How effective has the program been at producing changes?  
- Are there any factors outside the program that have contributed to or prevented the desired change?  
- Has the program resulted in any unintended change? | - Surveys. |
| **Formative**   | Typically carried out during the development or improvement of a program to identify problems with implementation and efficacy. Results are used to revise intervention components, data collection instruments, or procedures. | - How can we improve the intervention/program?  
- Have the right questions been asked on the surveys?  
- Was sufficient evidence-based information provided to promote knowledge, attitude, or a change in behavior? | - Focus group  
- Pilot test an intervention  
- Semi-structured interviews. |
WORKSHEET: How to Plan an Evaluation

What are you going to evaluate?
__________________________________________________________

What is the purpose of the evaluation?
__________________________________________________________

Who will use the evaluation? How will they use it?

<table>
<thead>
<tr>
<th>Who/users</th>
<th>How will they use the information?</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

How may others be involved in the evaluation?
______________________________________________

What questions will the evaluation seek to answer?
____________________________________________________
____________________________________________________
____________________________________________________

What information do you need to answer the questions?

<table>
<thead>
<tr>
<th>What I wish to know</th>
<th>Indicators—How I will know it?</th>
</tr>
</thead>
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</table>

When is the evaluation needed?
______________________________________________

What resources do you need?

a. Time available to work on evaluation:
______________________________________________

b. Money:
______________________________________________

c. People—professional, paraprofessional, volunteers, participants:
__________________________

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WORKSHEET: Collecting the Information

What sources of information will you use?
Existing information:__________________________________________________________
People: ____________________________________________________________________
Observations: ____________________________________________________________________
Pictorial records: ____________________________________________________________________

What data collection method(s) will you use?

☐ Survey  ☐ Document Review
☐ Interview  ☐ Testimonials
☐ Observation  ☐ Expert panel
☐ Group techniques  ☐ Simulated problems or situations
☐ Case study  ☐ Journal, log, diary
☐ Tests  ☐ Unobtrusive measures
☐ Photos, video  ☐ Other (list) __________________________

Instrumentation: What is needed to record the information?
______________________________________________________________________________
______________________________________________________________________________

What data collection procedures will be used?
When will you collect data for each method you’ve chosen?

<table>
<thead>
<tr>
<th>Method</th>
<th>Before program</th>
<th>During program</th>
<th>Immediately after</th>
<th>Later</th>
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</table>
Will a sample be used? 

- No
- Yes--If yes, please describe the procedure you will use.

Who will collect the data?

- How will the data be analyzed?
  Data analysis methods:

Who is responsible:

- How will the information be interpreted—by whom?

Who will do the summary:

- How will the evaluation be communicated and shared?

<table>
<thead>
<tr>
<th>To whom</th>
<th>When/where/how to present</th>
</tr>
</thead>
<tbody>
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Managing the evaluation

- Implementation plan: timeline and responsibilities

Management chart

Budget

## Appendix 17

### Common Data Collection Methods Used in Conjunction With Evaluations

<table>
<thead>
<tr>
<th>Method</th>
<th>Overall Purpose</th>
<th>Advantages</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| Questionnaires, Surveys, Checklists | Used to quickly and/or easily get a lot of information from people in a non-threatening way. | - Can complete anonymously  
- Inexpensive to administer  
- Easy to compare and analyze  
- Can administer to many people  
- Can get a lot of data  
- Many sample questionnaires already exist. | - Might not get useful feedback  
- Wording can bias client’s responses  
- Are impersonal  
- May need sampling expert for surveys  
- Does not get the full story. |
| Interviews                  | Used to fully understand someone’s impressions or experiences or to learn more about their answers to questionnaires. | - Provide a full range and depth of information  
- Develop a relationship with client  
- Can be flexible with the client. | - Can take a significant amount of time  
- Can be hard to analyze and compare  
- Can be costly  
- Interviewer can bias client’s response. |
| Documentation review        | Used to obtain an impression of how a program operates without interrupting the program through a review of applications, finances, memos, and minutes. | - Provide comprehensive and historical information  
- Does not interrupt program or client’s routine in program  
- Information already exists  
- Few biases about information. | - Often takes much time  
- Information may be incomplete  
- Need to be quite clear about what data are needed  
- Not a flexible means to get data; data are restricted to what already exists. |
| Observation                 | Used to gather accurate information about how a program actually operates, particularly about processes. | - Can view operations of a program as they are actually occurring  
- Can adapt to events as they occur. | - Can be difficult to interpret seen behaviors  
- Can be complex to categorize observations  
- Can influence behaviors of program participants  
- Can be expensive. |
| Focus groups                | Explore a topic in depth through group discussion (e.g., about reactions to an experience or suggestion, understanding common complaints) | - Quickly and reliably get common impressions  
- Can be an efficient way to get a greater range and depth of information in a short time  
- Can convey key information about programs. | - Can be hard to analyze responses  
- Need good facilitator for safety and closure  
- Difficult to schedule. |
<table>
<thead>
<tr>
<th>Case studies</th>
<th>Useful in evaluation and marketing.</th>
<th>Fully describe a client’s experiences in a program, including input, process, and results.</th>
<th>Can be time consuming to collect, organize and describe.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fully describe a client’s experiences in a program</td>
<td>Allow for the conduct of a comprehensive examination through cross-comparison of cases.</td>
<td>Represent depth of information, rather than breadth.</td>
</tr>
</tbody>
</table>

Source: Overview of Methods to Collect Information (by Carter McNamara, Ph.D.; last revision: February 16, 1998)
Some Recommended Continuing Education Opportunities

- **AMIA 10x10: Public Health Informatics Training** - (American Medical Informatics Association (AMIA)) - Public health informatics training program that includes a Web-based component and a one day in-person session held in conjunction with an AMIA meeting. The content covers areas such as electronic and personal health records, health information exchange, standards and terminology, and health care quality and error prevention.

- **APHA Continuing Professional Education** - (American Public Health Association (APHA)) - The mission of APHA Learning and Professional Development Programs Unit is to promote professional development, and strengthen public health practice within the core guidelines of the public health essential services.

- **Area Health Education Centers Directory** - Area Health Education Centers (AHECs) provide continuing education based on the recent literature. Many AHECs also have libraries or resource centers.

- **Asksphere** - (Health Resources and Services Administration) - a clearinghouse of public health "learning objects" that can be used by those developing training. Developed by the Southeast Public Health Training Center.

- **Center for Public Health Preparedness e-Learning Center** - Freely available online courses related to public health preparedness from the University of Albany School of Public Health.

- **Centers for Disease Control and Prevention (CDC), Public Health Training Opportunities** - (Centers for Disease Control and Prevention (CDC))

- **Centers for Public Health Preparedness** - (Association of Schools of Public Health (ASPH), Centers for Disease Control and Prevention (CDC)) - National network of centers to train the public health workforce to respond to threats to our nation's health, such as bioterrorism, infectious disease outbreaks and other public health emergencies.

- **Certificate in Field Epidemiology** - (University of North Carolina (UNC) School of Public Health) - Online 12-credit hour program of the study of field epidemiology. The curriculum addresses the core functions of outbreak investigation, surveillance systems and methods, infectious disease epidemiology and field epidemiology methods.

- **CMED Public Health Grand Rounds** - (Department of Community Medicine (CMED), West Virginia University School of Medicine) - This program offers free preferred continuing education credits for physicians, nurses, dentists, pharmacists, public health practitioners, as well as CHES credits.

- **Continuing Education and Professional Development at the University of Albany School of Public Health** - The University at Albany (SUNY) School of Public Health Continuing Education and Professional Development Program uses its award-winning Third Thursday Breakfast Broadcast (T2B2) satellite telecasts, webstreaming and online courses to provide exemplary education and training for the public health workforce. Certificates for Nursing Contact Hours, CHES and CME credits are available.

- **Culture & Health Literacy Online Training** - (Midwest Center for Life-Long Learning in Public Health) - This online training discusses how inequalities in health information contribute to unequal treatment and health outcomes for some populations (health disparities) and what communities can do to close the gap and improve health literacy.

- **Epidemiologic Case Studies** - (Centers for Disease Control and Prevention (CDC)) - Interactive case study exercises developed to teach epidemiologic principles and practices. They are based on real-life outbreaks and public health problems and were developed in collaboration with the original investigators and experts from the Centers for Disease Control and Prevention.
• **Finding and Using Health Statistics: A Self-Study Course** - (National Library of Medicine, National Information Center on Health Services Research and Health Care Technology) - This online course describes the range of available health statistics and presents strategies to successfully find health statistics.

• **From Evidence to Practice: Using a Systematic Approach to Addressing Disparities in Birth Outcomes** - (New York State Department of Health) - Scenario-based approach to understanding the evidence-based public health approach. The scenario used is disparities in birth outcomes in a fictitious community. The course is free, offers continuing credits, and takes about three hours to complete.

• **Genomics for Public Health Practitioners** - Genomics for Public Health Practitioners is a 45-minute presentation that serves as an introduction to genomics and public health as well as the larger education resource called Six Weeks to Genomics Awareness. It is intended for public health practitioners who have minimal experience in genomics as it pertains to public health.

• **Health Indicators: a 4-Part Webinar Series** - (National Library of Medicine, National Information Center on Health Services Research and Health Care Technology) - This 4-part webinar series will provide an overview of health indicators, an in-depth review of a county-level indicator project, practical approaches in using health indicator data to engage with communities, and an exploration of several important new indicator efforts expected to be available in 2010.

• **Health Literacy for Public Health Professionals** - (Centers for Disease Control and Prevention (CDC)) - Free web-based course to educate public health professionals on the importance of health literacy and their role in providing health information and services and promoting public health literacy.

• **Health Policy and Management Continuing Education** - (Johns Hopkins School of Public Health (JHSPH)) - Certificate programs in specific areas of public health and short-term, intensive educational opportunities for public health practitioners.

• **Journal Self Study** - (Society for Public Health Education (SOPHE)) - Self-study opportunities with journal articles in SOPHE's publications of Health Promotion Practice and Health Education Behavior.

• **MI-INFO Online Tutorials** - (University of Michigan School of Public Health) - MI-INFO (Michigan Informatics) is a series of online tutorials on health information and computer skills designed to support academic public health informatics programs and public health outreach training initiatives. The nine tutorials are competency-based and feature learning objectives, key concepts, exercises, and case studies. The tutorials will enable public health audiences to better access, evaluate, manage, and apply information needed to respond to public health issues and problems.

• **National Center for Disaster Medicine and Public Health** - (Uniformed Services University of the Health Sciences) - The Center serves the U.S. Government as an academic home for the development and dissemination of core skills, knowledge and abilities, and for research on education and training strategies in the fields of disaster medicine and public health.

• **National Public Health Training Center (PHTC) Network Distance Education Center** - (Public Health Training Centers (PHTC)) - Online searchable resource database for PHTC-developed distance learning trainings and train-the-trainer tools.

• **New York New Jersey Public Health Training Center (NYNJ PHTC)** - (New York New Jersey Public Health Training Center (NYNJ-PHTC)) - Training resource for public health workers in New York, New Jersey, and other states. The site provides free web-based training programs.

• **North Carolina Center for Public Health Preparedness Training** - (North Carolina Center for Public Health Preparedness) - This site offers free short Internet-based trainings on public health
preparedness topics such as disease surveillance, basic epidemiology, bioterrorism and new/emerging disease agents.

- **Orientation to Public Health** - (New York New Jersey Public Health Training Center (NYNJ-PHTC)) - A web-based course that provides learners with a basic understanding of public health's mission and functions.

- **Planning for Healthy Places with Health Impact Assessments** - (Centers for Disease Control and Prevention (CDC), National Association of County and City Health Officials (NACCHO)) - Online course on how to conduct health impact assessments (HIAs).

- **Practicing Cross Cultural Communication** - (New York New Jersey Public Health Training Center (NYNJ-PHTC)) - The first of three interactive modules in which you can hone your cross-cultural communication skills, in the context of a hepatitis A outbreak in a Mexican-American community. Experience a practical application of the ten effective strategies for cross-cultural communication. You must register to select a username and password. The online course is free.

- **Prevention Research Centers (PRC) Training** - (Centers for Disease Control and Prevention (CDC)) - Web-based catalog of training programs for public health practitioners, public health advocates, community health workers, teachers, and students. The training covers a wide range of topics within the vast and changing field of public health.

- **Public Health Grand Rounds** - (Centers for Disease Control and Prevention (CDC), University of North Carolina (UNC) School of Public Health) - Series of satellite broadcasts and webcasts presenting real-world case studies on public health issues ranging from obesity to bioterrorism, from SARS to food safety.

- **Public Health Informatics Training** - (American Medical Informatics Association (AMIA), Centers for Disease Control and Prevention (CDC)) - The purpose of the program is to strengthen the breadth and depth of the public health workforce by providing training in public health informatics. As a first step AMIA will be accepting applications from leaders in national, state or local public health agencies interested in participating in informatics training.

- **Public Health Information and Data Tutorial** - (National Network of Libraries of Medicine (NN/LM)) - Provides online instruction for members of the public health workforce on issues related to information access and management. Four modules cover staying informed about news in public health, health education resources, public health statistics and data sets, and supporting decisions with the best evidence.

- **Public Health Information and Data: A Training Manual** - (National Network of Libraries of Medicine) - A manual to support training public health workers on information access and management.

- **Public Health Law 101** - (Centers for Disease Control and Prevention (CDC)) - Foundational course on public health law for public health practitioners, students, and others. The course comprises 9 slide lecture units for delivery by legal counsel to health departments and by other persons trained in law.

- **Public Health Practice Grand Rounds Webcast Archives** - (Johns Hopkins School of Public Health (JHSPH), MidAtlantic Public Health Training Center (MAPHTC)) - Archive of webcast lecture series on a variety of public health topics.

- **Public Health Training Centers** - (Health Resources and Services Administration) - Public Health Training Centers are designed to assess the learning needs of the public health workforce and provide training to meet them.
• **Public Health Training Network (PHTN)** - (Centers for Disease Control and Prevention (CDC)) - The Public Health Training Network (PHTN) is a distance learning network of people and resources that takes training and information to the learner. PHTN uses a variety of instructional media ranging from print-based to videotape and multimedia to meet the training and information needs of the health workforce nationwide.

• **PublicHealthLearning.com** - (Illinois Public Health Preparedness Center (IPHPC), Mid-America Public Health Training Center (MAPHTC)) - PublicHealthLearning.com offers access to a free, public-accessible learning management system (LMS), where you can assess yourself on key professional competencies (core public health, leadership, emergency preparedness, and others), and find appropriate training opportunities offered by IPHPC, MAPHTC, and outside partner organizations.

• **Rapid Response Training: The Role of Public Health in a Multi-Agency Response to Avian Influenza** - (Centers for Disease Control and Prevention (CDC), Council of State and Territorial Epidemiologists (CSTE)) - Course materials presented at regional trainings provide a standardized curriculum to state and local public health responders about how to identify and control human infections and illness associated with avian influenza A (H5N1). Users can download free course materials including presentations, case studies, and tabletop exercises and adapt them to meet the training and preparedness needs of individual state health agencies.

• **Science of Sex and Gender in Human Health Online Course Site** - (Office of Research on Women's Health, NIH, Office of Women's Health, FDA) - Offers participants a basic scientific understanding of the major physiological differences between the sexes, their influence on illness and health outcomes, and their implications for policy, medical research, and health care.

• **Six Weeks to Genomic Awareness** - (Michigan Public Health Training Center) - An online series of presentations designed to provide public health professionals a foundation for understanding how genomics advances are relevant to public health.

• **SOPHE Webinars** - (Society for Public Health Education (SOPHE)) - Opportunities to learn about important topics in health education through SOPHE's webinars. Users can view recorded web-based seminars at their convenience. The webinars have been approved to award continuing education contact hours (CECHs) for a fee.

• **Teaching/Training Modules on Trends in Health and Aging** - (American Society on Aging (ASA)) - Teaching modules on trends in health-related behaviors, health status, health care utilization, functional status and disability, and health care expenditures of the United States aging population. The modules are based on and illustrated with data from the NCHS Data Warehouse on Trends in Health and Aging.

• **TRAIN - TrainingFinder Real-time Affiliate Integrated Network** - (Public Health Foundation (PHF)) - The premier learning resource for professionals who protect the public's health. A free service of the Public Health Foundation, www.train.org is part of the newly expanded TrainingFinder Real-time Affiliate Integrated Network (TRAIN).

• **Tutorial on Finding Relevant Quality Improvement Resources** - (Public Health Foundation (PHF)) - Tutorial on finding relevant quality improvement resources from the Public Health Infrastructure Resource Center. (Takes a minute to load.)

• **Unified Health Communication: Addressing Health Literacy, Cultural Competency, and Limited English Proficiency** - (Health Resources and Services Administration (HRSA)) - Online interactive training course that aims to raise the quality of provider-patient interactions by teaching providers and their staff how to gauge and respond to their patients' health literacy, cultural background, and language skills.
• **Unnatural Causes: Learn How Social Conditions Affect Health** - (San Francisco State University) - Health professionals can learn more about how social justice affects health and earn continuing education credit by viewing the documentary series, "Unnatural Causes: Is Inequality Making Us Sick?" This four-hour series examines America’s socio-economic and racial inequities in health.