In 1988 the National Center for Nursing Research (NCNR) was established under the National Institutes of Health (NIH) to facilitate nursing research. In 1993 the U.S. Congress expanded the scope and functions of the NCNR and made it part of the NIH; it was renamed the National Institute of Nursing Research (NINR). The NINR is crucial to the profession’s movement to build a stronger knowledge base for practice. Although no conceptual or theoretical model will meet the needs of all nurses, several nursing and public health models serve as frameworks for organizing educational programs and for making practice decisions.

In 1988 the Institute of Medicine report on the Future of Public Health identified the three primary or core functions of public health: (1) assessment through data collection and sharing of information, (2) policy development for family-, community-, and state-level health policies, and (3) assurance of available and necessary health services for clients. In 1993 the Public Health Nursing Directors of Washington State developed a model showing how nurses perform the three core functions with all clients: individuals, families, and communities. In 2000 the Council on Linkages initially developed a list of competencies required of public health workers to provide quality care. In 2003 the Quad Council of Public Health Nursing Organizations then applied the competencies to population-centered nursing practice. Both of these documents have been updated and continue to direct practice today. These competencies help nurses to recognize how they may implement the core functions of public health.

The scientific base provided by public health as a specialty remains the foundation for population-centered nursing. In 2003 two additional documents from the Institute of Medicine—The Future of the Public’s Health in the 21st Century and Who Will Keep the Public Healthy?—further delineates the practice, education, and research needs for public health nursing. The chapters in Part Three support the tenants of these documents and provides information about how to use conceptual models, epidemiology, principles of education, and evidence to organize population-centered nursing practice to meet the core functions of public health. A new direction identified was emphasis on genomics. Each chapter provides both theory and practical application of the specific topic to the clinical area. This section provides readers with tools that can be used to influence population-centered nursing practice.

It has been estimated that the effect of the medical care system on the usual indexes for measuring health is about 10%. The remaining 90% is determined by factors over which health care providers have little or no direct control, such as lifestyle and social and physical environmental conditions. This text focuses on the processes and practices for promoting health, principally by the nurse, who is considered to be an ideal person to demonstrate and teach others how to promote health. To be effective, health promotion requires that people cease focusing on how to “fix” themselves and others only when they detect physical and emotional disequilibriums and that they instead assume personal responsibility for health promotion. Such a change in emphasis requires that health care providers incorporate health promotion techniques into their practice.
Concern currently exists that the environment’s effects on health and social conditions are causing an increase in the rate of infectious diseases. Nurses are concerned with prevention, control, surveillance, case-finding, reporting, and maintenance strategies as they relate to communicable and infectious disease, to chronic disease processes, and to environment-related problems. Technological advances increasingly influence the environment and make it a potential threat to many aspects of health maintenance. Nurses must help others recognize how their actions as individuals, as well as in a composite group (aggregate) or community, are destroying vital parts of the environment. It has become increasingly important to base population-centered practice on the best available evidence found in the literature. Nationally, there is increased emphasis on developing more substantial evidence to improve health outcomes through population, community, and public health practices.
CHAPTER 9

Population-Based Public Health Nursing Practice: The Intervention Wheel

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ADDITIONAL RESOURCES

• Quiz
• Case Studies
• Glossary
• Answers to Practice Application

OBJECTIVES

After reading this chapter, the student should be able to do the following:

1. Identify the components of the Intervention Wheel.
2. Describe the assumptions underlying the Intervention Wheel.
3. Define the wedges and interventions of the Intervention Wheel.
4. Differentiate among three levels of practice (community, systems, and individual/family).
5. Apply the nursing process at three levels of practice.

KEY TERMS

advocacy, p. 205
consultation, p. 197
case finding, p. 197
counseling, p. 197
case management, p. 197
delegated functions, p. 197
collaboration, p. 197
determinants of health, p. 190
collaboration, p. 197
disease and other health event investigation, p. 197
community, p. 190
health teaching, p. 197
community-level practice, p. 191
individual-level practice, p. 191
community organizing, p. 205
intermediate goals, p. 210
interventions, p. 191
levels of practice, p. 188
outcome health status indicators, p. 210
outreach, p. 197
policy development, p. 205
policy enforcement, p. 205
population, p. 189
population of interest, p. 189

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In these times of change, the public health system is constantly challenged to keep focused on the health of populations. The Intervention Wheel is a conceptual framework that has proved to be a useful model in defining population-based practice and explaining how it contributes to improving population health. The Intervention Wheel provides a graphic illustration of population-based public health practice (Keller et al., 1998, 2004a,b). It was previously introduced as the Public Health Intervention Model and was known nationally as the “Minnesota Model”; it is now often simply referred to as the “Wheel.” The Wheel depicts how public health improves population health through interventions with communities, the individuals and families that comprise communities, and the systems that impact the health of communities (Figure 9-1). The Wheel was derived from the practice of public health nurses (PHNs) and intended to support their work. It gives PHNs a means to describe the full scope and breadth of their practice.

This chapter applies the Intervention Wheel framework to population health practice. However, it is important to note that other public health members of the interprofessional team such as nutritionists, health educators, planners, physicians, and epidemiologists also use these interventions.
practice scenarios developed at the workshops that ranged from home care and school health to home visiting and correctional health. In the final analysis, 17 actions common to the work of PHNs regardless of their practice setting were identified. The analysis also demonstrated that most of these interventions were implemented at three levels: (1) with individuals, either singly or in groups, and with families, (2) with communities as a whole, and (3) with systems that impact the health of communities. A wheel-shaped graphic was developed to illustrate the set of interventions and the levels of practice (see Figure 9-1).

The interventions were subjected to an extensive review of supporting evidence in the literature through a grant from the federal Division of Nursing awarded to the Minnesota Department of Health in the 1990s. In 1999 the PHN consultant group at the Minnesota Department of Health designed and implemented a systematic process identifying more than 600 items from supporting evidence in the literature. These items were rated for their quality and relevancy by a group of graduate nursing students. The resulting subset of 221 items was further analyzed by two expert panels. One panel was composed of public health nursing educators and expert practitioners from five states (Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin). The other panel was a similarly composed national panel. The result was a slightly modified set of 17 interventions. Figure 9-2 graphically illustrates the systematic critique. Each intervention was defined at multiple levels of practice; each was accompanied by a set of basic steps for applying the framework and recommendations for best practices.

Adoption of the model was rapid and worldwide. Since its first publication in 1998, the Intervention Wheel has been incorporated into the public/community health coursework of numerous undergraduate and graduate curricula. The Wheel serves as a model for practice in many state and local health departments and has been presented in Mexico, Norway, Poland, Hungary, Namibia, Kazakhstan, and Japan. It has served as an organizing framework for inquiry for topics ranging from doctoral dissertations (Sheridan, 2005) to the epidemiology of the lowly head louse (Monsen and Keller, 2002). The Wheel’s strength comes from the common language it affords PHNs to discuss their work (Keller et al, 1998).

ASSUMPTIONS UNDERLYING THE INTERVENTION WHEEL

As with all conceptual frameworks and models, assumptions are made that help to explain the model or framework. The Intervention Wheel framework is based on 10 assumptions.

Assumption 1: Defining Public Health Nursing Practice

Public health nursing is defined as the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health sciences (APHA, 1996). The title “public health nurse” designates a registered nurse with educational preparation in both public health and nursing. The primary focus of public health nursing is to promote health and prevent disease for entire population groups. This is done by working with individuals, families, communities, and/or systems.
**Assumption 2: Public Health Nursing Practice Focuses on Populations**

The focus on populations as opposed to individuals is a key characteristic that differentiates public health nursing from other areas of nursing practice. A population is a collection of individuals who have one or more personal or environmental characteristics in common (Williams and Highriter, 1978). Populations may be understood as two categories. A population at risk is a population with a common identified risk factor or risk exposure that poses a threat to health. For example, all adults who are overweight and hypertensive constitute a population at risk for cardiovascular disease. All underimmunized or unimmunized children are a population at risk for contracting vaccine-preventable diseases. A population of interest is a population that is essentially healthy but that could improve factors that promote or protect health. For instance, healthy adolescents are a population of interest that could benefit from social competency training. All first-time parents of newborns are a population of interest that could benefit from a public health nursing home visit. Populations are not limited to only individuals who seek services or individuals who are poor or otherwise vulnerable.

**Assumption 3: Public Health Nursing Practice Considers the Determinants of Health**

Health inequities are defined as health status inequalities that society deems to be avoidable or unnecessary (Kawachi, Subramanian, and Almeida-Filho, 2002). Significant health disparities related to race, gender, age, and socioeconomic status exist within the United States. The Health, United States, 2009 Chartbook (CDC, 2009) provides the following examples:

- In 2006, the U.S. rate of infant deaths per 1000 live births was 6.7. At least 29 other developed countries had lower rates.

Assumption 4: Public Health Nursing Practice Is Guided by Priorities Identified Through an Assessment of Community Health

In the context of the Intervention Wheel, a community is defined as “a social network of interacting individuals, usually concentrated in a defined territory” (Johnston et al, 2000).

Assessing the health status of the populations that comprise the community requires ongoing collection and analysis of relevant quantitative and qualitative data. Community assessment includes a comprehensive assessment of the determinants of health. Data analysis identifies deviations from expected or acceptable rates of disease, injury, death, or disability as well as risk and protective factors. Community assessment generally results in a lengthy list of community problems and issues. However, communities rarely possess sufficient resources to address the entire list. This gap between needs and resources necessitates a systematic priority-setting process. Although data analysis provides direction for priority setting, the community’s beliefs, attitudes, and opinions as well as the community’s readiness for change must be assessed (Keller et al, 2002). PHNs, with their extensive knowledge about the communities in which they work, provide important information and insights during the priority-setting process.

DID YOU KNOW? For a PHN employed by a unit of government, such as a city, county, or state public health department, a “community” is almost always a geopolitical unit. Core functions of governmental health departments are considered to be: assessment (identification of community problems); policy development (mobilization of necessary effort and resources); and assurance (making sure that vital conditions for keeping people healthy are in place) (Committee for the Study of the Future of Public Health, 1988). For these PHNs, accountability is to a board of elected officials and ultimately to the constituents who elect them. For PHNs employed by visiting nurse associations, and other non-governmental population-based entities, a service area is assigned by the agency. In these cases, accountability typically is to an appointed board of directors.

Assumption 5: Public Health Nursing Practice Emphasizes Prevention

Prevention is “anticipatory action taken to prevent the occurrence of an event or to minimize its effect after it has occurred” (Turnock, 2009, p 516). Prevention is customarily described as a continuum moving from primary to tertiary prevention (Leavell and Clark, 1965; Novick and Mays, 2001; Turnock, 2009). The Levels of Prevention box provides definitions and examples of the levels of prevention.

A hallmark of public health nursing practice is a focus on health promotion and disease prevention, emphasizing primary prevention whenever possible. Although not every event is preventable, every event has a preventable component.
**Assumption 6: Public Health Nurses Intervene at All Levels of Practice**

To improve population health, the work of PHNs is often carried out sequentially and/or simultaneously at three levels of prevention (see Figure 9-2).

- **Community-level practice** changes community norms, community attitudes, community awareness, community practices, and community behaviors. It is directed toward entire populations within the community or occasionally toward populations at risk or populations of interest. An example of community-level practice is a social marketing campaign to promote a community norm that serving alcohol to under-aged youth at high school graduation parties is unacceptable. This is a community-level primary prevention strategy.

- **Systems-level practice** changes organizations, policies, laws, and power structures within communities. The focus is on the systems that impact health, not directly on individuals and communities. Conducting compliance checks to ensure that bars and liquor stores do not serve minors or sell to individuals who supply alcohol to minors is an example of a systems-level secondary prevention strategy practice.

### Levels of Prevention

<table>
<thead>
<tr>
<th>Primary Prevention</th>
<th>Secondary Prevention</th>
<th>Tertiary Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary prevention promotes health and protects against threats to health. It keeps problems from occurring in the first place. It promotes resiliency and protective factors or reduces susceptibility and exposure to risk factors. Primary prevention is implemented before a problem develops. It targets essentially well populations. Immunizing against a vaccine-preventable disease is an example of reducing susceptibility, building developmental assets in young persons to promote health is an example of promoting resiliency and protective factors.</td>
<td>Secondary prevention detects and treats problems in their early stages. It keeps problems from causing serious or long-term effects or from affecting others. It identifies risk or hazards and modifies, removes, or treats them before a problem becomes more serious. Secondary prevention is implemented after a problem has begun, but before signs and symptoms appear. It targets populations that have risk factors in common. Programs that screen populations for hypertension, obesity, hyperglycemia, hypercholesterolemia, and other chronic disease risk factors are examples of secondary prevention.</td>
<td>Tertiary prevention limits further negative effects from a problem. It keeps existing problems from getting worse. It alleviates the effects of disease and injury and restores individuals to their optimal level of functioning. Tertiary prevention is implemented after a disease or injury has occurred. It targets populations who have experienced disease or injury. Provision of directly observed therapy (DOT) to clients with active tuberculosis to ensure compliance with a medication regimen is an example of tertiary prevention.</td>
</tr>
</tbody>
</table>

**Assumption 7: Public Health Nursing Practice Uses the Nursing Process at All Levels of Practice**

Although the components of the nursing process (assessment, diagnosis, planning, implementation, and evaluation) are integral to all nursing practice, PHNs must customize the process to the three levels of practice. Table 9-1 outlines the nursing process at the community, systems, and individual/family levels of practice.

**Assumption 8: Public Health Nursing Practice Uses a Common Set of Interventions Regardless of Practice Setting**

Interventions are “actions taken on behalf of communities, systems, individuals, and families to improve or protect health status” (ANA, 2010). The Intervention Wheel encompasses 17 interventions: surveillance, disease and other health investigation, outreach, screening, case finding, referral and follow-up, case management, delegated functions, health teaching, consultation, counseling, collaboration, coalition building, community organizing, advocacy, social marketing, and policy development and enforcement.

The interventions are grouped with related interventions; these *wedges* are color coordinated to make them more recognizable (Figure 9-3, A). For instance, the five interventions in the *red* wedge are frequently implemented in conjunction with one another. Surveillance is often paired with disease and health event investigation, even though either can be implemented independently. Screening frequently follows either surveillance or disease and health event investigation and is often preceded by outreach activities in order to maximize the number of those at risk who actually get screened. Most often, screening leads to case finding, but this intervention can also be carried out independently. The *green* wedge consists of referral and follow-up, case management, and delegated functions—three interventions that, in practice, are often implemented together (Figure 9-3, B). Similarly, health teaching, counseling, and consultation—the *blue* wedge—are more similar than they are different; health teaching and counseling are especially often paired (Figure 9-3, C). The interventions in the *orange* wedge—collaboration, coalition building, and community organizing—although distinct, are grouped together because they are all types of collective action and are most often carried out at systems or community levels of practice (Figure 9-3, D). Similarly, advocacy, social marketing, and policy development and enforcement—the *yellow* wedge—are often interrelated when implemented (Figure 9-3, E). In fact, advocacy is often viewed as a precursor to policy development; social marketing is seen by some as a method of carrying out advocacy.

<table>
<thead>
<tr>
<th>PUBLIC HEALTH NURSING PROCESS</th>
<th>SYSTEMS LEVEL</th>
<th>COMMUNITY LEVEL</th>
<th>INDIVIDUAL/FAMILY LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruit additional partners.</td>
<td>Recruit additional partners (local, regional, state, national) from systems that are key to impacting and/or who have an interest in the health issue/problem.</td>
<td>Recruit community organizations, services, and citizens who are part of the community intervention that have an interest in this health issue/problem.</td>
<td>Identify new and current clients in caseload who are at risk for the priority problem.</td>
</tr>
<tr>
<td>Identify population of interest.</td>
<td>Identify those systems for which change is desired.</td>
<td>Identify the population of interest at risk for the problem.</td>
<td>Begin/continue establishing relationship with the family.</td>
</tr>
<tr>
<td>Assess priority.</td>
<td>Assess the impact and inter-relationships of the various systems on the development and extent of the health issue/problem.</td>
<td>Assess the health issue/problem (demographics, health determinants, past and current efforts).</td>
<td>Identify the particular strengths, health risks, social supports, and other factors influencing the health of the family and each family member.</td>
</tr>
<tr>
<td>Elicit perceptions.</td>
<td>Develop a common consensus among system partners of the health issue/problem and the desired changes.</td>
<td>Elicit the population of interest’s perception of their strengths, problems, and health influences.</td>
<td>Elicit family’s perception of their strengths, problems, and other factors influencing their health.</td>
</tr>
<tr>
<td>Set goals.</td>
<td>In conjunction with system partners, develop system goals to be achieved.</td>
<td>In conjunction with the population of interest, negotiate and come to agreement on community-focused goals.</td>
<td>In conjunction with the family, negotiate and come to agreement on meaningful, achievable, measurable goals.</td>
</tr>
<tr>
<td>Select health status indicators.</td>
<td>Based on systems goals, select meaningful, measurable health status indicators that will be used to measure success.</td>
<td>Based on the refined community goal/problem, select meaningful, measurable health status indicators that will be used to measure success.</td>
<td>Select meaningful, measurable health status indicators that will be used to measure success.</td>
</tr>
<tr>
<td>Implement the interventions.</td>
<td>Implement the interventions.</td>
<td>Implement the interventions.</td>
<td>Implement the interventions.</td>
</tr>
</tbody>
</table>
The interventions on the right side of the Wheel (i.e., the red, green, and blue wedges) are most commonly used by PHNs who focus their work more on individuals, families, classes, and groups and to a lesser extent on work with systems and communities. The orange and yellow wedges, on the other hand, are more commonly used by PHNs who focus their work more on individuals, families, classes, and groups. However, a PHN may use any or all of the interventions.

**Assumption 9: Public Health Nursing Practice**

*Contributes to the Achievement of the 10 Essential Services*

Implementing the interventions ultimately contributes to the achievement of the 10 essential public health services (see Chapter 1). The 10 essential public health services describe what the public health system does to protect and promote the health of the public. Interventions are the means through which public health practitioners implement the 10 essential services. Interventions are the *how* of public health practice (Public Health Functions Steering Committee, 1995).

**Assumption 10: Public Health Nursing Practice Is Grounded in a Set of Values and Beliefs**

The Cornerstones of Public Health Nursing (Box 9-1) were developed as a companion document to the Intervention Wheel. The Wheel defines the “what and how” of public health nursing practice; the Cornerstones define the “why.” The Cornerstones synthesize foundational values and beliefs from both public health and nursing. They inspire, guide, direct, and challenge public health nursing practice (Keller, Strohschein, and Schaffer, 2010).

**Using the Intervention Wheel in Public Health Nursing Practice**

The Wheel is a conceptual model. It was conceived as a common language or catalog of general actions used by PHNs across all practice settings. When those actions are placed within the context of a set of associated assumptions or relations among concepts, the Intervention Wheel serves as a conceptual model for public health nursing practice (Fawcett, 2005). It creates a structure for identifying and documenting

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**TABLE 9-1 PUBLIC HEALTH NURSING PROCESS—cont’d**

<table>
<thead>
<tr>
<th>PUBLIC HEALTH NURSING PROCESS</th>
<th>SYSTEMS LEVEL</th>
<th>COMMUNITY LEVEL</th>
<th>INDIVIDUAL/FAMILY LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regularly reassess interventions.</td>
<td>Regularly reassess the system’s response to the interventions and modify plan as indicated.</td>
<td>Reassess the population of interest’s response to the interventions on an ongoing basis and modify plan as indicated.</td>
<td>Reassess and modify plan at each contact as necessary.</td>
</tr>
<tr>
<td>Adjust interventions.</td>
<td>Adjust the frequency and intensity of the interventions according to the needs and resources of the community.</td>
<td>Adjust the frequency and intensity of the interventions accordingly.</td>
<td>Adjust the frequency and intensity of the interventions according to the needs and resources of the family.</td>
</tr>
<tr>
<td>Provide feedback.</td>
<td>Provide feedback to system’s representatives.</td>
<td>Provide feedback to the population of interest and informal and formal organizational representatives.</td>
<td>Provide regular feedback to family on progress (or lack thereof) of client goals.</td>
</tr>
<tr>
<td>Compare results to plan.</td>
<td>Compare actual results with planned indicators.</td>
<td>Compare actual results with planned indicators.</td>
<td>Compare actual results with planned indicators.</td>
</tr>
<tr>
<td>Identify differences.</td>
<td>Identify and analyze differences in those systems that achieved outcomes compared with those that did not.</td>
<td>Identify and analyze differences in those in the population of interest who achieved outcomes compared with those who did not.</td>
<td>Identify and analyze differences in services received by families who achieved outcomes compared with those who did not.</td>
</tr>
<tr>
<td>Apply results to practice.</td>
<td>Apply results to identify needed systems changes. Depending on readiness of the system to accept the results, present results to decision makers and the general population.</td>
<td>Apply results to modify community interventions. Present results to community for policy considerations as appropriate.</td>
<td>Report results to supervisor and other service providers as appropriate. Apply results to personal practice and agency for policy considerations as appropriate.</td>
</tr>
</tbody>
</table>

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p0465 The interventions on the right side of the Wheel (i.e., the red, green, and blue wedges) are most commonly used by PHNs who focus their work more on individuals, families, classes, and groups and to a lesser extent on work with systems and communities. The orange and yellow wedges, on the other hand, are more commonly used by PHNs who focus their work on effecting systems and communities. However, a PHN may use any or all of the interventions.

b0030 **WHAT DO YOU THINK?** No single PHN is expected to perform every intervention at all three levels of practice. From a management perspective, however, it is useful to ensure that a public health workforce has the capacity to implement all 17 interventions at all three practice levels. How could management ensure that a health agency has this capacity?

s0060 **Assumption 9: Public Health Nursing Practice**

*Contributes to the Achievement of the 10 Essential Services*

Implementing the interventions ultimately contributes to the achievement of the 10 essential public health services (see Chapter 1). The 10 essential public health services describe what the public health system does to protect and promote the health of the public. Interventions are the means through which public health practitioners implement the 10 essential services. Interventions are the *how* of public health practice (Public Health Functions Steering Committee, 1995).

s0070 **Assumption 10: Public Health Nursing Practice**

*Is Grounded in a Set of Values and Beliefs*

The Cornerstones of Public Health Nursing (Box 9-1) were developed as a companion document to the Intervention Wheel. The Wheel defines the “what and how” of public health nursing practice; the Cornerstones define the “why.” The Cornerstones synthesize foundational values and beliefs from both public health and nursing. They inspire, guide, direct, and challenge public health nursing practice (Keller, Strohschein, and Schaffer, 2010).

s0070 **Using the Intervention Wheel in Public Health Nursing Practice**

The Wheel is a conceptual model. It was conceived as a common language or catalog of general actions used by PHNs across all practice settings. When those actions are placed within the context of a set of associated assumptions or relations among concepts, the Intervention Wheel serves as a conceptual model for public health nursing practice (Fawcett, 2005). It creates a structure for identifying and documenting
**Component 1: The Model Is Population Based**

The upper portion of the Intervention Wheel clearly illustrates that all levels of practice (community, systems, and individual/family) are population based. Public health nursing practice is population focused. It identifies populations of interest or populations at risk through an assessment of community health status and an assignment of priorities.

**DID YOU KNOW?**

Are services to individuals and families population based?

Services to individuals and families are population based only if they meet the following criteria: (1) individuals receive services because they are members of an identified population, and (2) services to individuals clearly contribute to improving the overall health status of the identified population.

The population of Sherburne County (Minnesota) increased almost 175% in 25 years (Minnesota Departments of Education, Health, Human Services, and Public Safety, 2007). The numerous new housing developments characterized urban sprawl, which has been implicated in the current obesity epidemic in both children and adults (Dunton et al, 2009; Renalds, Smith, and Hale, 2010). The local health department staff was concerned about the prevalence of obesity in its population. Data from the Community Health Status Indicators’ website showed that 24.1% of the population’s adults were considered obese (USDHHS, 2010). A 2007 state student health survey documented that 25% of ninth-grade girls and 20% of ninth-grade boys in the county were overweight or obese. In this same age group, 76% of girls and 80% of boys reported they were active less than 30 minutes daily. It was clear that Sherburne County had an obesity problem (Minnesota Departments of Education, Health, Human Services, and Public Safety, 2007).

Reversing this trend required reducing barriers to exercise. Health department staff recognized the impact of urban sprawl on their built environment (Renalds, Smith, and Hale, 2010), or the “human-made space in which people live, work and recreate on a day-to-day basis” (Roof and Oleru, 2008). One of the first factors they considered was the walkability of their communities, or extent to which planned transportation networks and public spaces accommodate walking and other forms of physical exercise. Walkability includes: (1) continuous and well-maintained sidewalks, (2) easy access, path directness, and street network connectivity, (3) crossing safety, (4) absence of heavy and high-speed traffic, (5) pedestrian buffering from traffic, (6) land-use density and diversity, (7) street trees and landscaping, (8) visual interest and sense of place, and (9) security (Lo, 2009).

With these data, the public health staff engaged community members to determine the next steps to improve community walkability. The department asked undergraduate nursing students who were in their public health nursing clinical program to design, implement, and evaluate a walkability project. The students walked over 100 miles and rated the walkability of three different Sherburne County communities. The students analyzed the results and presented recommendations for improvements to the city councils of the three communities. The findings were used by two of the three communities to secure funding for improvements to their community’s walkability (Zoller, 2010).

**Components of the Model**

As depicted in Figure 9-1, the model has three components: a population basis, three levels of practice, and 17 interventions.
When a confirmed case of a vaccine-preventable disease occurs, PHNs work with epidemiologists to identify and locate everyone exposed to the index case. PHNs assess the immunization status of people who were exposed and ensure appropriate treatment.

In the event of an outbreak in the community, all PHNs have a role and ethical responsibility to take part in mass dispensing clinics. Mass dispensing clinics disperse immunizations or medications to specific populations at risk. For example, clinics may be held in response to an epidemic of mumps, a case of hepatitis A attributable to a foodborne exposure in a restaurant, or an influenza pandemic in the general population.

### Systems Level of Practice

The goal of systems-level practice is to change the laws, policies, and practices that influence immunization rates, such as promoting population-based immunization registries and improving clinic and provider practices.

PHNs work with schools, clinics, health plans, and parents to develop population-based immunization registries. Registries, known officially by the Centers for Disease Control and Prevention (CDC) as “Immunization Information Systems,” combine immunization information from different sources into a single electronic record. A registry provides official immunization records for schools, day-care centers, health departments, and clinics. Registries track immunizations and remind families when an immunization is due or has been missed.

PHNs conduct audits of records in clinics that participate in the federal vaccine program. PHNs ascertain if a clinic is following recommended immunization standards for vaccine handling and storage, documentation, and adherence to best practices. PHNs also provide feedback and guidance to clinicians and office staff for quality improvement.

PHNs also work with health care providers in the community to ensure that providers accurately report vaccine-preventable diseases as legally required by state statute.

### Individual/Family Level of Practice

The goal of individual/family-level strategies is to identify individuals who are not appropriately immunized, identify the barriers to immunization, and ensure that the individual’s immunizations are brought up to date.

At the individual level of practice, PHNs conduct health department immunization clinics. Unlike mass dispensing clinics, immunization clinics are generally available to anyone who needs an immunization and do not target a specific population. These clinics often provide an important service to individuals without access to affordable health care.

PHNs use the registry to identify children with delayed or missing immunizations. They contact families by phone or through a home visit. The PHNs assess for barriers and consult with the family to develop a plan to obtain immunizations either through a medical clinic or from a health department clinic. The PHN follows up at a later date to ensure that the child was actually immunized.
PHNs routinely assess the immunization status for clients in all public health programs, such as well-child clinics, family planning clinics, maternal-child health home visits, or case management of elderly and disabled populations, and they ensure that immunizations are up to date.

**Component 3: The Model Identifies and Defines 17 Public Health Interventions**

The Intervention Wheel encompasses 17 interventions: surveillance, disease and other health investigation, outreach, screening, case finding, referral and follow-up, case management, delegated functions, health teaching, consultation, counseling, collaboration, coalition building, community organizing, advocacy, social marketing, and policy development and enforcement.

All interventions, except case finding, coalition building, and community organizing, are applicable at all three levels of practice. Community organizing and coalition building cannot occur at the individual level. Case finding is the individual level of surveillance, disease and other health event investigation, outreach, and screening. Altogether, a PHN selects from among 43 intervention-level actions.

Table 9-2 provides examples of the intervention at the three levels of practice for each of the 17 interventions.

**Surveillance** describes 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 (adapted from *Mortality and Morbidity Weekly Review*, 2001).

**Disease and other health event investigation** systematically gathers and analyzes data regarding threats to the health of populations, ascertainment of the source of the threat, identifies cases and others at risk, and determines control measures.

**Outreach** locates 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.

**Screening** identifies individuals with unrecognized health risk factors or asymptomatic disease conditions in populations (Box 9-2).

**Case finding** locates individuals and families with identified risk factors and connects them with resources.

**Referral and follow-up** assists individuals, families, groups, organizations, and/or communities to identify and access necessary resources in order to prevent or resolve problems or concerns.

**Case management** optimizes self-care capabilities of individuals and families and the capacity of systems and communities to coordinate and provide services.

_DID YOU KNOW?_ Case management has long been a key service provided by PHNs. The origins of this intervention are attributed to PHNs who staffed the settlement houses prevalent around the turn of the century, such as Lillian Wald’s Henry Street Settlement House in New York City. Wald and her colleagues provided direct patient care, as well as organized and mobilized family and community resources. Contemporary community-based case managers continue to address client needs and work to improve the quality of care provided to patients.


**Delegated functions** are direct care tasks a registered professional nurse carries out under the authority of a health care practitioner as allowed by law. Delegated functions also include any direct care tasks a registered professional nurse entrusts to other appropriate personnel to perform.

**Health teaching** communicates facts, ideas, and skills that change knowledge, attitudes, values, beliefs, behaviors, and practices of individuals, families, systems, and/or communities (Box 9-3).

Text continued on p. 205.

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**BOX 9-2 SCREENING**

A school nurse was approached by the school’s health and physical education staff who expressed interest in implementing a BMI screening program for children in 4th through 8th grades. Their plan was to do height, weight, and BMI measurements during gym class and requested that the school nurse do the follow-up with the parents of children found to be overweight or obese and encourage that these children be seen by their family health care provider. Although aware that prevalence of obesity in that age group was growing, she was also aware that most local health care providers believed that “chunkiness” in the middle years was a natural occurrence for children. She was also aware that a cardinal rule of screening is that it is unethical to screen if effective treatment and other resources for follow-up do not exist.

In 2008 the U.S. Task Force on Community Preventive Services found insufficient evidence to recommend school-based programs to prevent or reduce obesity. In addition, the American Academy of Pediatrics expressed caution to schools when considering implementing such a program (AAP, 2009). Based on this knowledge, the school nurse suggested to the health and physical education staff that together they find other means of addressing the issue.

**BOX 9-3 HEALTH TEACHING**

Health teaching communicates facts, ideas, and skills that change knowledge, attitudes, values, beliefs, behaviors, practices, and skills of individuals, families, systems, and/or communities.

- Knowledge is familiarity, awareness, or understanding gained through experience or study.
- Attitude is a relatively constant feeling, predisposition, or set of beliefs directed toward an object, person, or situation, usually in judgment of something as good or bad, positive or negative.
- Value is a core guide to action.
- Belief is a statement or sense, declared or implied, intellectually and/or emotionally accepted as true by a person or group.
- Behavior is an action that has a specific frequency, duration, and purpose, whether conscious or unconscious.
- Practice is the act or process of doing something or the habitual or customary performance of an action.
- Skill is proficiency, facility, or dexterity that is acquired or developed through training or experience.

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10009-STANHOPE-97803230800019
### TABLE 9-2 EXAMPLES OF 17 INTERVENTIONS AT THREE LEVELS OF PRACTICE

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<th>INTERVENTIONS</th>
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<tr>
<td>Surveillance</td>
<td>PHNs participated in dead bird reporting (i.e., making “dead bird calls”). People were asked to report the sighting of dead birds to a health department as part of surveillance activities for the West Nile virus. PHNs collected dead birds found in atypical places, such as the middle of a backyard or on a hiking trail. Birds were tested until a positive was found in the county.</td>
<td>PHNs implemented a program that tracked the growth and development of all newborns in the county. Parents were mailed questionnaires at regular intervals that they completed and returned to the public health office. PHNs screened the questionnaires for potential problems or delays and contacted the families by phone or home visits to determine if further action was indicated.</td>
<td>Surveillance at the Individual Level is CASE FINDING (see Case Finding Intervention).</td>
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<tr>
<td>Disease and other health event investigation</td>
<td>During a flood, the PHNs spent part of the day doing “rounds” among the rows of people living in a large emergency shelter set up in a gymnasium. The PHNs were concerned about the stresses that this population experienced, so they assessed for withdrawal, depression, and inability to cope. The PHNs observed that the children were not coping well. They questioned parents and heard stories about night terrors and atypical behavior. In response, the PHNs requested child mental health counselors from the Emergency Response Team. They also worked with parents in the shelter to set up a “toddler corner” where children could play and act like children. Parents took turns staffing the corner.</td>
<td>A PHN worked with a Catholic church that served a parish with a rapidly growing Hispanic population to connect mothers and children with community resources. The priest mentioned that he was seeing an unusual number of stillbirths among his parishioners. His comment led the PHN into a series of questions and investigation. The PHN discovered that the church allowed its kitchen facilities to store foods brought from Mexico. Suspecting a possible foodborne contaminant, the PHN took samples to the health department lab for testing. A supply of queso blanco fresco obtained from the church’s refrigerator was found to be contaminated with Listeria. After an outreach and education campaign within the parish and the community, the rate of stillbirths decreased.</td>
<td>Disease and other health event investigation at the Individual Level is CASE FINDING (see Case Finding Intervention).</td>
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| Outreach | Prior to launching a universally offered home visiting program for newborns, focus group interviews revealed the best strategies to encourage participation were as follows:  
• Send letters or postcards announcing the program to pregnant women  
• Make hospital visits to moms after delivery  
• Include photos of visitors on business cards and brochures  
• Be recommended by trusted individuals, such as physicians, nurses, and other new mothers  
• Have program staff visit Lamaze and other childbirth education programs, and early childhood development classes | PHNs were part of a coalition that received a grant to do community education on depression to an elderly Hmong population. Many Hmong elders were isolated but did not view depression as a disease. The PHNs tailored an outreach event to the Hmong population during a community market. Even though the program targeted persons over 50, people were allowed to determine their own eligibility. That is, if they “felt old,” they qualified. Second, since it was considered unlikely that the elders would come to the booth, the coalition members talked with elders in more casual settings, approaching elders sitting under shade trees or at their market booth. All the interviews were conducted in the Hmong language. | Outreach at the Individual Level is CASE FINDING (see Case Finding intervention). |
<table>
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<tr>
<th>Screening</th>
<th>Vision screening is a core PHN activity with the school-aged population. PHNs worked with a community group to determine why school children who failed vision screening and were referred did not receive the recommended follow-up. Issues included: the expense of eye-care services and glasses; lack of convenient appointment times with eye-care specialists; and whether parents valued eye care. The PHNs participated in a task force that facilitated an agreement among eye-care providers to schedule evening and weekend appointments, arranged support from the Lions International Service Club toward the purchase of eyewear, and communicated the need for follow-up to parents at parent-teacher conferences.</th>
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<tr>
<td>Case finding</td>
<td>Does not apply at this practice level</td>
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<td></td>
<td>PHNs collaborated with a high school on a prevention program to address physical inactivity and unhealthy dietary behaviors. The PHNs conducted health screenings that gave each student a “snapshot” of his or her health (height, weight, BMI, blood pressure, total cholesterol, HDL). Students received a report of their nutritional and physical activity levels with information about how to begin building lifestyle changes. One hundred ninety-two students from five schools were screened and 71 were referred (37% referral rate). Upon completion of the educational components, students who were rescreened had a total cholesterol decrease of 219 points.</td>
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<td></td>
<td>Screening at the Individual Level is CASE FINDING (see Case Finding Intervention).</td>
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<td></td>
<td>A state’s newborn blood screening program detected an infant with a possible case of congenital hypothyroidism. The information was sent to the infant’s medical provider, who was expected to contact the family. The mother of the infant was a single Hispanic woman who did not speak English and did not respond to the clinic’s numerous calls. The provider referred the situation to a PHN for assistance in locating the mother. After talking with contacts in the Hispanic community, the PHN located friends of the young mother who confirmed she had returned to Mexico with the infant. They did not know how to contact her but agreed to alert those within the Hispanic community of the seriousness of the baby’s problem. About 2 months later the mother did return, sought the PHN’s assistance, and received care for the baby.</td>
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<th>INTERVENTIONS</th>
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<td>Referral and follow-up</td>
<td>PHNs providing health services to inmates in a county jail noticed that individuals with mental health issues, chronic health concerns, chemical dependency issues, or homelessness frequently returned to jail. Few of these issues were typically addressed prior the inmates’ release. The PHNs initiated RAPP (Release Advance Planning Program), a voluntary “discharge planning” process through which referrals and other arrangements with community resources could be made prior to the inmates returning to the community. Recidivism rates decreased by 57% by the third year of the program’s operation.</td>
<td>PHNs often serve as community resource directories. PHNs are known by community members for their extensive knowledge of whom or where to call for a variety of problems or issues. For example, PHNs in a rural health department responded to calls ranging from rats to cockroaches to bedbugs, from septic tank failures to peeling paint, and from air quality to blue-green algae. The PHNs often followed up with community members to ensure that their issues were resolved.</td>
<td>A PHN received a referral on a mentally ill young man from a small town. He needed regular injections to prevent rehospitalization. When the PHN was unable to locate this client at home, she found him at his regular “hangout”—the local bar—where he only drank soda pop. While creatively maintaining confidentiality, the PHN worked with the bartender in this establishment to set up regular appointment times for the client.</td>
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<tr>
<td>Case management</td>
<td>Public health nurses representing 10 county health departments, medical clinics, a large health plan company, and the state health department worked together to provide coordinated prenatal care to improve birth outcomes. The group created an integrated prenatal care system that promoted early prenatal care, improved nutrition, and linked women to services in the communities.</td>
<td>PHNs provided case management for all frail elderly and disabled persons at risk for institutionalization but deemed eligible for community placement. Case management maintained this vulnerable population in their home or community and ensured that their needs were met within the allotted amount of money that would otherwise be spent on hospitalization or nursing home care.</td>
<td>A local physician reported a highly contagious active infectious tuberculosis (TB) case that was determined to be multi-drug resistant. The client did not speak English. The PHN coordinated his care with the physician, the state health department’s TB unit, the CDC, and a home health agency. Neither the hospital outpatient department nor any home health agency would agree to treat this client in their facility or make home visits. (Continued under delegated functions below.)</td>
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<tr>
<td>Delegated functions</td>
<td>In a county of 120,000 residents, PHNs from the local health department led a coalition of hospitals, clinics, schools, and emergency managers in designing and implementing a community-wide mass immunization plan to administer influenza vaccine. The design included the establishment of administration protocols approved by the health department’s medical advisor. The health department also served as the central distribution point for all vaccine available within the county.</td>
<td>PHNs administered immunizations at “drive-thru” flu clinics held in a county highway garage. Residents received their assessment and flu shots in their vehicles. This unique access increased the numbers of immunizations received by elderly and disabled residents, particularly those with limited mobility. The drive-thru clinic also reduced the exposure potential to infectious diseases that was inherent in regular clinic waiting rooms.</td>
<td>(See above case management.) In addition to doing daily direct observed therapy (DOT), the PHN was the only health care provider who would do weekly lab draws, daily IV therapy, and biweekly dressing changes for the first 7 months of treatment. Without PHN involvement, this client would have likely succumbed to TB. The client completed a full 18 months of therapy and recovered.</td>
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Health teaching

PHNs worked with the epidemiologist in their health department to develop “best practice” guidelines for pediculosis (lice) treatment from the perspectives of the scientific literature and the practice community. Recommendations included both suffocating and chemical agents. Clinics, schools, and pharmacists used the new guidelines. The public health department created an internal standardized pediculosis response procedure, and the county’s social services department developed a new policy for school truancy issues related to pediculosis.

Several rural counties launched a program to help youth incorporate a healthy diet and exercise into their lives. A health fair was held in conjunction with parent-teacher conferences. Committees composed of youth and adults planned activities such as “Dance ‘n’ Dips,” a dance followed by a dip at the city pool. Members of a church began offering evening exercise classes. A small town sponsored the “Run, Walk ‘n’ Roll” that was open to runners, walkers, strollers, and wheelchairs. The “Toilet Paper” document, a monthly nutrition and health tip sheet designed to resemble toilet paper, was displayed in 152 bathrooms, next to the toilet paper dispensers. The tips were popular; PHNs reported that people came up to them on the street to discuss the tips. PHNs reported seeing changes in community attitudes.

Counseling

PHNs partnered with a community family center to promote prenatal attachment for families who were isolated, who had experienced previous pregnancy loss, or who had other attachment issues. The project promoted attachment to the baby through the use of doulas, guided videotaping, nutrition counseling, and relaxation through music and imagery.

In response to multiple deaths within an American Indian community, PHNs in a tribal health department worked with the community to design and implement a culturally appropriate grief and loss program. Interventions included drumming activities for youth, traditional healers, and peer counselors.

A PHN works with pregnant and parenting teens at an alternative high school program that provides educational options for teens whose lives did not fit the traditional school day. The program included teens from a variety of cultures and backgrounds. The program had an onsite child care center; students were able to visit their child during the school day. The PHNs taught weekly prenatal classes in conjunction with life skills and child development classes. PHNs also worked with each student to look at family planning options. Their “Pregnancy Free Club” provided each student private time with a PHN to look at barriers that prevent the student from effectively using birth control. The program had a repeat adolescent pregnancy rate significantly lower than the national average, declining from a baseline of 25% to a mean of 4.7% over 9 years of the program.

A PHN led monthly support groups for family members and volunteers providing in-home care to individuals with Alzheimer’s disease. The PHN provided one-to-one caregiver coaching to those needing additional support.
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<tr>
<td>Consultation</td>
<td>After hearing about the risk for serious infectious disease for children in day care, PHN day-care consultants from eight local health departments developed a curriculum on handwashing for children. They obtained a grant to develop a video in several languages and widely distributed the handwashing materials.</td>
<td>PHNs providing post-partum home visits to new mothers noted that women employed by a certain large company often gave up breastfeeding upon returning to work. Reasons included lack of private space to express milk and non-supportive supervisors. The PHNs approached the company’s human resources director and presented a business case for breastfeeding. After several meetings the company agreed to revamp its policies on breastfeeding in the workplace and requested PHNs’ assistance in providing training.</td>
<td>The older sister of an elderly bachelor farmer died. The sister had kept house and cooked for her brother for their entire adult lives. Upon her death, he was unable to live independently. Neighbors concerned for his well-being convinced him to talk with a PHN/social worker team to explore his preferences and determine the best options for a living situation that respected his need for self-determination. He eventually moved into an assisted living facility that met his needs.</td>
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<td>Collaboration</td>
<td>PHNs changed the way they had traditionally related to the 26 medical clinics in their community. They visited each clinic quarterly to provide information about change in vaccine policy and improving the reporting of notifiable diseases as required by law. They also answered questions, promoted disease prevention programs, and resolved problems together, such as vaccine shortages. This relationship benefitted the public health department and the medical clinics.</td>
<td>Everyone is a bully, is being bullied, or is a bystander. School nurses worked with a community action team to develop community assets—caring, encouraging environment for youth and valuing of youth by adults. Through strategies such as a mentoring program for at-risk elementary school students and a revitalized orientation program for ninth graders entering high school, the incidence of bullying behavior was reduced.</td>
<td>Over a period of years, a PHN was able to establish a trusting relationship with a Haitian client with HIV. Through her transactions with this client, the PHN came to understand her own values differently and honored the client’s spiritual values and practices.</td>
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<tr>
<td>Coalition building</td>
<td>PHNs were part of a coalition that formed to address the exploding bedbug issue in the community. The coalition was a response to requests from local housing providers for assistance. Coalition members included PHNs along with property owners and managers, commercial pest management operators, university entomologists, and the local housing authority. They provided education about the eradication and prevention of bedbug infestations, cost implications and potential litigation issues to local apartment managers, fraternity house operators and housing officials.</td>
<td>A student health survey revealed a greater than expected number of overweight or obese children in a school district. A coalition of school nurses, educators, and health care providers concerned about childhood obesity developed a school-based program for elementary students. As a result of the work of this coalition, parents received a report card about their child’s BMI. Parents also received educational materials that offered tips for healthy living and a directory of physical activity options. A follow-up evaluation revealed that parents who received a report card were more likely to have initiated dietary changes or a physical activity plan than parents who had not.</td>
<td>Coalition building is not implemented at the individual level of practice.</td>
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### Community Organizing

A local newspaper reported that a statewide student health survey revealed their school district had one of the highest teen alcohol-use rates in the state. Numerous letters to the editors questioned why the community was not doing anything about the problem and demanded community action. In response, a PHN from the public health department partnered with other community groups and organizations to develop a plan to address alcohol use in the community. The plan included enforcing existing laws, such as enforcing “not a drop” laws with minors and developing social media messages for adolescents that emphasized “Not everyone drinks....”

In response to a public safety meeting where 750 angry residents showed up to complain about what they saw as the deterioration of their community, a city health department dispersed a team of PHNs to develop “social capital.” The PHNs facilitated the development of social connections, relationships, and trust in a community that had experienced an influx of mainly poor, minority renters. Their goal was to ensure that neighbors know and care about each other enough to run next door to borrow a cup of sugar or offer to help the elderly woman down the block. PHNs helped organize exercise classes, a farmer’s market, community gardens, and neighborhood dinners, which were free with the only requirement that diners eat next to somebody they did not know.

Community organizing is not implemented at the individual level of practice.

### Advocacy

A worker at a large meat packing plant that employed over 1000 people speaking 12 languages was diagnosed with active infectious tuberculosis (TB). Initially, the plant managers were more concerned about losing production than being exposed. The PHNs worked with the managers to convince them that exposure to TB was a serious problem and that they could cooperate with public health without decreasing production. Although the managers would not mandate testing, they did allow PHNs to offer free Mantoux tests during work time on all three shifts to any employee who wanted to be tested. Over 700 employees were tested, with over 70 positives. Many of the employees with positive Mantoux tests lacked access to health care. The PHNs negotiated reduced clinic fees and secured community grant funds to pay for x-rays and prescribed treatment for infected persons who were uninsured and without resources. (See individual advocacy example.)

A visiting nurse agency (VNA) served many families with small children living at or below poverty level. Many were homeless, experiencing mental health issues, alcohol or drug abuse, or domestic violence. Club 100 was a voluntary organization of community women and men associated with the VNA. It is a program that reaches out into the community to ask people of means to help care for people who have very little. It paired men and women with VNA nurses and their at-risk family clientele. The volunteers of Club 100 were divided into teams that worked with a PHN. The PHN selected clients that would benefit from the program and presented the client’s case to the team on a quarterly basis. The club provided “gifts” such as high chairs, strollers, diapers, books, toys, and tools to support family self-sufficiency and improved the lives of these men, women and children.

A PHN received a referral on a 9-month-old boy with a recent diagnosis of meningitis resulting from active TB. The child’s parents were a young Hispanic couple who did not speak English. The child’s mother was pregnant and stayed at home with her two small children. The family had no telephone and neither parent had a driver’s license. The entire family reacted positively to the Mantoux tests that the PHN administered. At this point, the PHN arranged an appointment at the local clinic for the entire family, complete with transportation and interpreters. The father was found to have active infectious TB. He was ordered not to return to his job at the meat packing plant and consequently lost his health insurance. The PHN assisted the family in applying for medical assistance and other services for which they were eligible. (The fact that a meat packing plant employee had infectious TB required this PHN to intervene at the systems level—see systems advocacy example.)

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<tr>
<td>Social marketing</td>
<td>A partnership of health departments, managed care organizations, pharmaceutical companies, health care insurers, and others sought to decrease unnecessary antimicrobial resistance and reduce the spread of antimicrobial resistance. “Moxie Cillin” and “Annie Biotic” were mascots that appeared on pamphlets, posters, stickers, and in person. They urged discontinuation of inappropriate requesting of antibiotics by parents and unnecessary prescribing of antibiotics by health care providers.</td>
<td>A PHN working in a small rural county was assigned to work on a Fetal Alcohol Syndrome prevention grant in partnership with the local hospital. The PHN coordinated the grant activities, which included mass media efforts such as billboards, radio spots read by local celebrities, and newspaper articles. Multiple posters were placed in every bar in the community, and local bartenders were engaged as partners in the effort to reduce alcohol use among pregnant women. After 2 years, the project documented an increase in community awareness, which is the first step in changing the community norm regarding alcohol use among pregnant women.</td>
<td>PHNs routinely conducted home safety checks with pregnant and parenting families to prevent childhood injuries. As incentives, they distributed safety kits that included items to child-proof a home, such as cupboard safety locks, outlet covers, door knob safety covers, and drawer latches. While having a PHN checking contents in cupboards and water temperatures may have felt intrusive to some families, the kits increased the number of families who were receptive to home safety checks.</td>
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<td>Policy development and enforcement</td>
<td>Local health department PHNs and health educators partnered with law enforcement to establish ordinances prohibiting the sale of tobacco to underage youth. Part of the initiative included recruiting and training youth to conduct compliance checks, in which underage youth attempted to purchase cigarettes in retail stores. PHNs also created an electronic compliance tracking system that was eventually used by the entire state.</td>
<td>A PHN investigated a public health complaint about a fly problem originating from the manure pit of a farm that housed millions of chickens. Garbed in protective equipment, the intrepid PHN crawled under the chicken cages that dumped into the manure pits and found masses of maggots. After determining that the situation constituted a public health nuisance, the PHN successfully worked with the business owners to find a solution that involved the drying of manure to prevent the maggots from surviving.</td>
<td>A PHN received a referral regarding the safety of an 80-year-old woman living alone on a littered farm site. The woman lived with 18 cats in a house without heat that was ankle-deep with cans, clothes, and cat feces. The PHN initiated a vulnerable adult evaluation that resulted in a “not sufficiently vulnerable” finding under state statute. Through repeated contacts, the PHN was able to establish a trusting relationship; the women accepted a referral for care to a physician. However, she was not successful in changing the woman’s living situation.</td>
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CHAPTER 9  Population-Based Public Health Nursing Practice: The Intervention Wheel

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.

Differentiating Counseling from Psychotherapy

Although PHNs do not provide psychotherapy, much of public health nursing deals with emotionally charged “client situations.” These range from individuals attempting to cope with chronic pain, a couple grieving for the loss of their infant to SIDS, women involved with partners who batter them, or an elderly couple attempting to cope with the loss of all their possessions in a flood. Public health nursing also occurs at systems and community levels of practice. Examples of this are mediating a heated debate between providers competing for the same public contract to provide home health services or a PHN facilitating a community meeting on teen pregnancy prevention where the members are polarized around their beliefs. Although counseling as practiced by a PHN should have a therapeutic outcome (i.e., have a healing effect), it should not be confused with providing psychotherapy. Counseling is intended to clarify problems, relieve tension, facilitate problem solving, encourage friendship and companionship, enhance understanding, encourage insight, and relieve stress.

From Burnard P: Counseling skills for health professionals, Cheltenham, England, 2005, Nelson Thomas Ltd.

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 achieve a common goal through enhancing the capacity of one or more of the members to promote and protect health (Freshman et al, 2010; Henneman et al, 1995).

Coalition building promotes and develops 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 to identify common problems or goals, mobilize resources, and develop and implement strategies for reaching the goals they collectively have set (Brown, 2007; Minkler, 1997).

Advocacy pleads someone’s cause or acts on someone’s behalf, with a focus on developing the capacity of the community, system, individual, or family to plead their own cause or act on their own behalf.

Social marketing uses commercial marketing principles and technologies for programs designed to influence the knowledge, attitudes, values, beliefs, behaviors, and practices of the population of interest.

Social Marketing

In a 2009 article in the OJIN: Online Journal of Issues in Nursing, Berkowitz and Borchard declared a “call to action” for nursing to participate in the prevention of childhood obesity. They stress that both health promoting and health protecting strategies are needed, targeted at the individual, family, and community levels in multilevel coordinated programming. Skills in advocacy, collaborative leadership, and social marketing are highlighted as necessary for nursing success in these strategies. Regarding social marketing, the authors specify that the nurse “…must understand what the target audience is willing to give up or modify in terms of behavior in order to adopt (exchange) the new behavior (in place of) the old behavior.” For example, a neighborhood group enlisted the support of their PHNs to develop a proposal requesting more sidewalks in a proposed housing project. The PHNs provided vital evidence that connected community “walkability” with community health.

Population-Based Public Health Nursing Practice: The Intervention Wheel

The Orange Wedge interventions are all examples of collective action, or groups of people or organizations coming together for mutual gain or problem solving. Collective action is part of the American democratic tradition. Alexis de Tocqueville, writing in Democracy in America in 1840, noted: “Americans are a peculiar people. If, in a local community, a citizen becomes aware of a human need that is not met, he thereupon discusses the situation with his neighbors. Suddenly a committee comes into existence. The committee thereupon begins to operate on behalf of the need, and a new common function is established. It is like watching a miracle.”

Policy development places health issues on decision-makers’ agendas, acquires a plan of resolution, and determines needed resources. Policy development results in laws, rules, regulations, ordinances, and policies.

Policy enforcement compels others to comply with the laws, rules, regulations, ordinances, and policies created in conjunction with policy development.

In addition to the definition and examples, each intervention has basic steps for implementation at each of the three levels (i.e., community, systems, and individual/family) as well as a listing of best practices for each intervention. The basic steps are intended as a guide for the novice public health nurse or the experienced public health nurse wishing to review his/her effectiveness. Box 9-4 describes the basic steps of the counseling intervention.

The best practices are provided as a resource for PHNs seeking excellence in implementing the interventions. They were constructed by a panel of expert public health nursing educators and practitioners after a thorough analysis of the literature. Many practices of public health nursing are either not researched or, if they are researched, not published. The process used to develop this model considered this limitation and met the challenge with the use of expert practitioners and educators. The best practices are a combination of research and other evidence from the literature and/or the collective wisdom of experts. Box 9-5 outlines an example of a set of best practices for the intervention of referral and follow-up, some supported by evidence and others supported by practice expertise.
In 2007, the American Nurses Association officially recognized the Intervention Wheel as a framework for teaching public health nursing practice: Intervention Wheel as a framework for teaching public health nursing practice (Keller et al., 2004a). Further dissemination of the model has occurred through the hundreds of innovations in practice and education since it was first published in 1998. The Intervention Wheel has led to evidence-based support. The Intervention Wheel has been widely adopted as a framework for teaching public health nursing practice.

### ADOPTION OF THE INTERVENTION WHEEL IN PRACTICE, EDUCATION, AND MANAGEMENT

The speed at which the Intervention Wheel was adopted may be attributed to the balance between its practice base and its evidence-based support. The Intervention Wheel has led to numerous innovations in practice and education since it was first published in 1998 (Keller et al., 2004a). Further dissemination of the model has occurred through the hundreds of graduate and undergraduate schools of nursing that use the Intervention Wheel as a framework for teaching public health nursing.

### BOX 9-4 BASIC STEPS FOR THE INTERVENTION OF COUNSELING*

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Meet the “client”—the individual, family, system, or community.</td>
</tr>
<tr>
<td>2.</td>
<td>Establish rapport by listening and attending to what the client is saying and how it is said.†</td>
</tr>
<tr>
<td>3.</td>
<td>Explore the issues.</td>
</tr>
<tr>
<td>4.</td>
<td>Gain the client’s perception of the nature and cause of the identified problem or issue and what needs to change.‡</td>
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<tr>
<td>5.</td>
<td>Identify priorities.</td>
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<tr>
<td>6.</td>
<td>Gain the client’s perspective on the urgency or importance of the issues; negotiate the order in which they will be addressed.</td>
</tr>
<tr>
<td>7.</td>
<td>Establish the emotional context.</td>
</tr>
<tr>
<td>8.</td>
<td>Explore, with the client, emotional responses to the problem or issue.</td>
</tr>
<tr>
<td>9.</td>
<td>Identify alternative solutions.</td>
</tr>
<tr>
<td>10.</td>
<td>Establish, with the client, different ways to achieve the desired outcomes and anticipate what would have to change in order for this to happen.</td>
</tr>
<tr>
<td>11.</td>
<td>Agree on a contract.</td>
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<tr>
<td>12.</td>
<td>Negotiate, with the client, a plan for the nature, frequency, timing, and end point of the interactions.</td>
</tr>
<tr>
<td>13.</td>
<td>Support the individual, family, system, or community through the change.</td>
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<tr>
<td>14.</td>
<td>Provide reinforcement and continuing motivation to complete the change process.</td>
</tr>
<tr>
<td>15.</td>
<td>Bring closure at the point the PHN and client mutually agree that the desired outcomes are achieved.</td>
</tr>
</tbody>
</table>


‡Understanding the client’s cultural or ethnic context is important to perception. For further information, please see Sue DW, Sue D: Counseling the culturally different: theory and practice, ed 3, New York, 1999, Wiley.

### BOX 9-5 BEST PRACTICES FOR THE INTERVENTION OF REFERRAL AND FOLLOW-UP

**Best Practice**

Successful implementation is increased when the . . .

- PHN respects the client’s right to refuse a referral.
- PHN develops referrals that are timely, merited, practical, and tailored to the client and client-controlled, and coordinated.
- Client is an active participant in the process and the PHN involves family members as appropriate.
- PHN establishes a relationship based on trust, respect, caring, and listening.
- PHN allows for client dependency in the client–PHN relationship until the client’s self-care capacity sufficiently develops.
- PHN develops comprehensive, seamless, client-sensitive resources that routinely monitor their own systems for barriers.

**Evidence**

- McGuire, Eigsti Gerber, Clemen-Stone, 1996 (expert opinion)
- Stanhope and Lancaster, 1984 (text)
- Will, 1977 (expert opinion)
- Wolff, 1962 (expert opinion)

**Expert Panel Recommendation**

- McGuire, Eigsti Gerber, Clemen-Stone, 1996 (expert opinion)
- Stanhope and Lancaster, 1984 (text)
- Will, 1977 (expert opinion)
- Wolff, 1962 (expert opinion)


- The Massachusetts Association of Public Health Nurses used the Intervention Wheel as the framework for their state “Leadership Guide and Resource Manual” (Massachusetts Association of Public Health Nurses, 2009).
- PHNs in the Shiprock Service Unit of the Indian Health Service use the Wheel in their practice and adapted it to reflect the Navajo culture. The Navajo Intervention Wheel (Figure 9-4) is presented as a Navajo basket and uses the traditional colors of the Navajo nation.
- From 2001 to 2005, the Intervention Wheel served as the framework for a Division of Nursing grant that successfully brought together education and practice communities to collaboratively redesign the public health nursing student’s clinical experience. Several of these collaboratives remain viable and active.
- PHN consultants at the Wisconsin Department of Health used the Intervention Wheel to differentiate levels of nursing practice in local health departments related to educational preparation and to outline the role of the associate degree and diploma nurse in public health. (Although the baccalaureate degree is the accepted standard for entry to public health nursing practice,
shortages of baccalaureate prepared nurses sometimes result in health departments employing associate degree and diploma nurses. PHNs at the St. Paul Ramsey County (MN) Department of Health used the Intervention Wheel to illustrate the activities of their refugee health program. Their display (Figure 9-5) identified the most common interventions implemented with the refugee population and illustrated each intervention with a photograph. The Wheel provides a meaningful frame of reference and common language for staff to communicate about the nature of their work and is used in orientation programs in several states.

**FIGURE 9-4** Navajo Wheel. (Courtesy Shiprock Service Unit, Shiprock, NM, Indian Health Service.)

The Navajo basket represents mother earth (the tan area), the black design represents the four sacred mountains that surround the Navajo Nation, and the red area represents the rainbow, which symbolizes harmony. In Navajo philosophy, one should not enclose oneself without an opening, therefore, the basket has an opening, or doorway, to receive all that is good/positive, and allow all the bad/negative to exit.

Neva Kayani
The Alaskan Public Health Nurse Leadership Academy uses the Intervention Wheel to familiarize new staff with population-based practice (http://www.hss.state.ak.us/dph/nursing/PFDs/Troshynski-Academy.pdf).

Several universities have developed online applications of the Intervention Wheel, including the Virginia Commonwealth University (http://www.people.vcu.edu/~elmiles/interventions/) and the University of Minnesota School of Public Health (http://www.sph.umn.edu/ce/tools/wheel.asp).

The concepts of the model have also been used internationally. The Intervention Wheel was used in public health nursing projects in New Zealand and Ireland. The Institute of Primary Health & Ambulatory Care in the Townsville Health Service District, Queensland Health in Australia used the Intervention Wheel to develop a set of competencies (http://www.health.qld.gov.au/townsville/Clinicians/default.asp).

The significance of the contributions of the Intervention Wheel has been recognized by the nursing community. The authors of the Intervention Wheel received Sigma Theta Tau International and National Pinnacle Awards for Research Dissemination and a Creative Achievement Award from the American Public Health Association, Section of Public Health Nursing.

The objectives chosen to be highlighted in this chapter show how many of the interventions from the Wheel are applied in the Healthy People 2020 document. It further indicates how appropriate these interventions are to improving the health of individuals, populations, and communities, thus improving the health of the nation.

**APPLYING THE NURSING PROCESS IN PUBLIC HEALTH NURSING PRACTICE**

PHNs use the nursing process at all levels of practice. PHNs must customize the components of the nursing process (assessment, diagnosis, planning, implementation, evaluation) to the three levels of practice. See Table 9-2 for an outline of the nursing process at the community, systems, and individual/family levels of practice.

**APPLYING THE PROCESS AT THE INDIVIDUAL/FAMILY LEVEL**

**Community Assessment**

During a health department’s community assessment process, information on the health status of children was obtained from the following:

- Staff public health nurses who worked with families in clinics, schools, and homes
- Community partners who worked with families, including health care providers, mental health workers, social workers, and school personnel
- Preschool screening program data on the number of young children with developmental delays and problems for the past 5 years
- Data from the county social services department on the number of substantiated child maltreatment and neglect cases for the past 5 years
Healthy People 2020 identifies action steps for 38 health priorities that the United States must take in order to achieve better population health by the year 2020. The 500 recommended objectives offer numerous opportunities for public health nurses to contribute through implementing interventions at any or all of the levels. Here are a few examples:

- **AH-8**: Adolescent Health Objective: Increase the proportion of adolescents who have a wellness check-up in the past 12 months. PHNs who provide well-child screening services in school settings or local health departments will need well-designed outreach interventions to convince teens that even healthy kids can benefit from check-ups. This will require consulting with parents and groups of teens themselves to identify what “benefits” would attract them and incorporating them into the outreach design. PHNs will also need to collaborate with other health care providers in the community to ensure that diagnostic and treatment services are available for teens who require additional services.

- **DH-7**: Disability and Secondary Conditions Objective: Reduce the proportion of older adults with disabilities who use inappropriate medications. The case management that PHNs provide to elderly or disabled populations in their communities includes an assessment of clients’ medications to ensure compliance with the regimen prescribed by health care providers under delegated functions.

- **ECBP-10**: Education and Community-Based Programs Objective: Increase the number of community-based organizations, providing population-based primary prevention services in the following areas: injury, violence, mental illness, tobacco use, substance abuse, unintended pregnancy, chronic disease programs, nutrition, and physical activity. PHNs may convene coalitions to address an issue or serve as facilitators or participants of coalitions already organized. For instance, PHNs with expertise in substance use prevention might offer health teaching and consultation to a coalition organized to find ways to reduce substance use during pregnancy. It could also mean the establishment of a new screening and referral system among providers to identify early pregnant women and their partners struggling with drug or alcohol use and link with resources for treatment.

- **EH-8.1**: Environmental Health Objective: Eliminate elevated blood lead levels in children. PHNs providing services to families with young children assess (surveillance) the living conditions for lead. Housing constructed prior to 1978, the year lead-based paint for residential use was banned, is particularly suspect. Depending on the community’s housing and lead-abatement codes, PHNs may provide health teaching and counseling to the families regarding the dangers of lead exposure to small children or provide advocacy on their behalf with housing authorities.

- **MICH-19**: Maternal Infant and Child Health Objective: Decrease postpartum relapse of smoking among women who quit smoking during pregnancy. A recent systematic review of the literature on effective strategies to prevent postpartum smoking relapse concluded that PHNs would more likely be effective in assisting new mothers to resist returning to smoking and exposing their child to second-hand smoke if they: (1) consistently used the U.S. Preventive Services Task Forces “5 A’s” when counseling with smokers, (2) tailored health teaching regarding the dangers of second-hand smoke to the client’s specific situation, (3) empowered the mother and family members to adopt a smoke-free home smoking policy, and (4) advocated for the importance of partners also quitting (Ashford et al, 2009).

PHNs participated in the community meeting that prioritized the long list of issues identified in the community assessment. One of the top community priorities that emerged was the following: **Decreasing numbers of children at risk for delayed development, injury, and disease because of inadequate parenting by parents experiencing mental health problems.**

The community health plan developed a goal to decrease the number of children with delayed development, injury, and disease attributable to inadequate parenting. The local health department, with the support of community partners, decided they would address this priority through a home visiting strategy. Home visiting enhances a child’s environment and increases the capacity of parents to behave appropriately. Although parental mental health problems are a major source of stress for children, this vulnerability can be tempered through support from others and a caring environment.

Home visiting to families is an example of practice at the individual level because the interventions are delivered to families with the goal of changing parental knowledge, attitudes, practices, and behaviors.

**Public Health Nursing Process: Assessment of a Family**

A PHN received a referral on Tyler, age 3. He was the only child of Ashley, a 19-year-old single mother with severe depression. Ashley lived in an old rented house in the small town where she grew up. She had a boyfriend who was not Tyler’s biological father. Ashley survived on limited public assistance and occasional help from her mom.

The PHN assessed the resilience, assets, and protective factors as well as the problems, deficits, and health risks of this family. The PHN also tried to elicit Ashley’s perception of her situation, which was difficult because of her depressed state. This step is important because often a client’s perception of their problems or strengths may not align with the PHN’s professional assessment.

All public health nursing practice is relationship based, regardless of level of practice. An established trust relationship
increases the likelihood of a successful outcome. One of the PHN’s main priorities was to establish a trusting relationship with Ashley. This was difficult because Ashley was seldom out of bed when the PHN arrived, but the PHN persisted and eventually developed the relationship.

**Public Health Nursing Process: Diagnosis**

- **Diagnosis:** Increased risk for delayed development, injury, and disease because of inadequate parenting by a primary parent experiencing depression
- **Population at risk:** Young children who are being parented by a primary parent who is experiencing mental health problems
- **Prevention level:** Secondary prevention, because the families have identified risk

**Public Health Nursing Process: Planning (Including Selection of Interventions)**

Based on the assessment of this family, the PHN negotiated with Ashley to establish meaningful, measurable, achievable **intermediate goals.** In families experiencing mental illness (actually, in most families), behavior change occurs in very small steps. For this family, client goals included the following outcomes:

- Ashley will get out of bed at least 3 days in the week.
- Tyler will be dressed when the PHN arrives.
- Tyler will get to the bus on time 3 days in a row.
- The clutter will be cleaned off the steps.
- Ashley will call to make a doctor’s appointment for Tyler’s well-child check.
- Ashley will use “time outs” instead of spanking.
- Ashley will read a story to Tyler twice a week. (Intermediate indicators at the individual level of practice are changes in an individual’s knowledge, attitudes, motivation, beliefs, values, skills, practices, and behavior that lead to desired changes in health status.)

The PHN also selected meaningful, measurable **outcome health status indicators** to measure the impact of the interventions on population health. Examples include no signs or reports of child maltreatment; child regularly attends preschool; child receives well-child examinations according to recommended schedule; child’s immunizations are up to date; the family seeks medical care for acute illness as needed and does not seek medical care inappropriately; and child falls within normal limits on developmental tests.

The PHN selected the interventions, which included collaboration, case management, health teaching, delegated functions, and referral and follow-up. In selecting these interventions, the PHN considered evidence of effectiveness, political support, acceptability to the family, cost-effectiveness, legality, ethics, greatest potential for successful outcome, and level of prevention.

**Public Health Nursing Process: Implementation**

The PHN determined the sequence and frequency of her home visits based on her assessment of each family. Some families received home visits once a week, some twice a week, and others twice a month. The PHN visited this family weekly in the beginning and then spaced the home visits farther apart. She used the following interventions.

**Collaboration**

The PHN identified and involved as many alternative caregivers in Tyler’s care as possible, including Tyler’s biological father, aunt and uncle, and grandparents as well as Ashley’s boyfriend.

**Case Management**

The PHN arranged childcare services and coordinated transportation for Tyler to spend significant portions of his day outside of the home.

**Health Teaching**

The PHN provided information on child growth and development, nutrition, immunizations, safety, medical and dental care, and discipline to Ashley and the alternative caregivers.

**Delegated Functions (Public Health Nurse to Paraprofessional)**

The PHN placed a family health aide in the home to provide role modeling for Ashley. As part of this intervention, the PHN monitored and supervised the aide.

**Referral and Follow-up**

Based on the assessment, the PHN referred Ashley to community resources and services that included early childhood services, legal aid, food stamps, mental health counselors, and transportation.

**Public Health Nursing Process: Evaluation**

The PHN reassessed and modified her plan at each home visit. She provided regular feedback to Ashley and the other caregivers on their progress. The PHN documented her results and compared them with the selected indicators. After 6 months of home visits, Ashley got out of bed most days of the week but rarely got dressed. Ashley was more successful in getting Tyler to the bus and to preschool. The family health aide helped Ashley clean the clutter off the steps. Ashley scheduled a doctor’s appointment for Tyler’s well-child visit but failed to get him to the appointment. Ashley was successful in learning to substitute “time outs” for spankings, with the help of the family aide. Tyler exhibited no signs of child maltreatment. He attended preschool regularly. Tyler was still behind on his immunizations because of the missed appointment. All of Tyler’s developmental tests were within normal limits.

The PHN reported her results to her supervisor during their regular supervisory meetings. The PHN also talked with other PHNs who worked with similar families about common issues and best practices, and applied what she had learned to her practice.

**APPLYING THE PUBLIC HEALTH NURSING PROCESS AT THE COMMUNITY LEVEL OF PRACTICE SCENARIO**

**Note:** At the community level of practice, the community assessment, program planning, and evaluation process is the public health nursing process.
Community Assessment (Public Health Nursing Process: Assessment)

Childhood obesity is a rapidly growing community problem. An increasing number of children ages 2 to 11 are considered overweight, as defined by a body mass index (BMI) at or above the 95th percentile (based on CDC Growth Charts; Ogden 2010). The 2007-2008 National Health and Nutrition Examination Survey data estimated that 10% of boys and 10.7% of girls aged 2 to 5 were overweight in the United States. Among children aged 6 to 11 years, the percentages were 21.2% for boys and 18% for girls (Dakota County, 2010). Childhood obesity and hyperplasia of adipose cells are linked to obesity later in life.

A health department recognized the well-established association between overweight and obesity in childhood and the development of both continuing overweight/obesity as adults and a host of chronic diseases (CDC, 2010a). In response, the public health nursing director of a health department convened a childhood obesity prevention summit. Over 80 participants representing area health care providers, schools, child care, and governmental and community-based health organizations met for an entire day to discuss the problem and frame solutions.

Community Diagnosis (Public Health Nursing Process: Diagnosis)

The percentage of children aged 2 to 11 who are overweight or obese is unacceptable and threatens the future health status of the community.

- Population of interest: Children aged 2 to 11
- Level of prevention: Primary prevention


At the conclusion of the summit, each organization represented committed to promoting healthy eating and physical activity habits for all residents, with an emphasis on parents of young children. The health department recognized that substantial portion of a child’s caloric intake occurs at child care.

Based on its assessment of the community, the health department initiated a 24-week evidence-based program that promotes the consumption of fruits and vegetables by young children through intervention with licensed home childcare providers. “LANA the Iguana” (Learning About Nutrition Through Activities) encourages eating eight targeted fruits and vegetables: broccoli, sweet red pepper, cherry tomatoes, apricots, sugar snap peas, kiwi, sweet potatoes, and strawberries (Figure 9-6). These fruits and vegetables were featured in activities throughout the program related to menu changes, classroom activities, and family involvement.

Menu Changes

Home childcare providers increased opportunities for children to eat more fruits and vegetables by serving the targeted fruits and vegetables on the menu, alternating four for one week and four the next. Fruits and vegetables were served as the morning and afternoon snack every day.

Classroom Activities

Home childcare providers increased children’s preference for and knowledge of fruits and vegetables by featuring one of the targeted fruits and vegetables each week throughout the program. During that week, the featured fruit or vegetable was the focus of tasting and cooking activities as well as the topic of stories and games.

Family Involvement

Home childcare providers gave families information about the program and activities to do at home. These included quick and easy kid-tested recipes and take-home fruit/vegetable tasting kits.

The PHNs selected their interventions, which included consultation, health teaching, social marketing, collaboration, and surveillance. In selecting these interventions, the PHNs considered evidence of effectiveness, acceptability to community, cost-effectiveness, legality, ethics, and greatest potential for successful outcome.

Community Implementation Plan (Public Health Nursing Process: Implementation)

1. Social marketing: LANA the Iguana was a social marketing program. It incorporated a range of age-appropriate social marketing techniques including iguana puppets and storybooks, recipe cards and activities. The PHNs promoted retention by providing home childcare providers with incentives, including two grocery store gift cards and plastic fruit/vegetable toys for the children. They worked with librarians to place LANA the Iguana kits (comprised of iguana puppets, activities, and storybooks) in the local library for parents to check out. PHNs also donned the LANA the Iguana costume to implement the curriculum directly to children as well as train the home childcare providers and parents.
PHNs selected their interventions, which included consultation, referral and follow-up, advocacy, policy development, and surveillance. In selecting these interventions, the PHNs considered evidence of effectiveness, political support, acceptability to the family, cost-effectiveness, legality, ethics, greatest potential for a successful outcome, non-duplication, and level of prevention.

Public Health Nursing Process: Implementation

The PHNs worked with the tenants and the housing advocacy service to implement the following interventions.

Consultation

The PHNs consulted with attorneys at a housing advocate service.

Referral and Follow-up

The attorneys informed the PHNs that they needed to hear directly from the tenants in order to proceed. The PHNs set up a meeting time between the tenants and the attorneys from the housing advocate service.
Advocacy

The PHNs continued to work with tenants to improve the conditions in the apartment complex. They met with a housing advocate service to develop the meeting agenda.

Policy Development

The public health nurses worked with the attorneys from the Policy Development to prepare for the meeting. They arranged for an interpreter to attend the meeting to interpret each family’s concerns. The PHNs strongly encouraged all of the tenants to attend.

Surveillance

The PHNs continued to conduct ongoing monitoring of living conditions in the apartment complex.

CHAPTER REVIEW

PRACTICE APPLICATION

Outreach locates 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. Outreach activities may be directed at whole communities, at targeted populations within those communities, and/or at systems that impact the community’s health. Outreach success is determined by the proportion of those considered at risk that receive the information and act on it.

p1245

The chance of a woman under the age of 30 developing breast cancer is 1 in 129; from ages 30 to 39, it is 1 in 229; from ages 40 to 49, it is 1 in 180; from ages 50 to 59, it is 1 in 37; from ages 60 to 69, it is 1 in 26; and from ages 70 to 79, it is 1 in 24 (Breast Cancer Action, 2007).

KEY POINTS

- In these times of change, the public health system is constantly challenged to keep focused on the health of populations.
- The Intervention Wheel is a conceptual framework that has proved to be a useful model in defining population-based practice and explaining how it contributes to improving population health.
- The Wheel depicts how public health improves population health through interventions with communities, the individuals and families that comprise communities, and the systems that impact the health of communities.
- The Wheel serves as a model for practice in many state and local health departments.
- The Wheel is based on 10 assumptions.
- The Wheel encompasses 17 interventions.
- Other public health members of the interprofessional team such as nutritionists, health educators, planners, physicians, and epidemiologists also use these interventions.
- Implementing the interventions ultimately contributes to the achievement of the 10 essential public health services.
- The Comerstones of Public Health Nursing was developed as a companion document to the Intervention Wheel.
- The original version of the Wheel resulted from a grounded theory process carried out by public health nurse consultants at the Minnesota Department of Health in the mid-1990s.
- The interventions were subjected to an extensive review of supporting evidence in the literature.
- The Wheel is a conceptual model. It was conceived as a common language or catalog of general actions used by public health nurses across all practice settings.
- The Intervention Wheel serves as a conceptual model for public health nursing practice and captures the nature of their work.
- The Wheel has three main components: a population basis, three levels of practice, and 17 interventions.
- The Wheel has led to numerous innovations in practice and education since the original Intervention Wheel was first published in 1998.
- Public health nurses in the Shiprock Service Unit of the Indian Health Service adapted the Intervention Wheel to reflect the Navajo culture.
- Numerous graduate and undergraduate schools of nursing throughout the United States have adopted the Intervention Wheel as a framework for teaching public health nursing practice.
s0295 1. Describe the three components of the Intervention Wheel. How do the components relate to each other? Explain how you can apply them to your clinical practice.

s0075 2. Go to Chapter 1 and reread the definitions of the core functions of public health practice and look at the 10 essential services. How does the Wheel address the core functions? How does it relate to the 10 essential services?

s0080 3. Go to the Wheel website: www.health.state.mn.us/divs/cnh/ophp/resources/docs/wheel.pdf. Choose one of the 17 interventions to explore. Read about the recommended strategies to use when intervening with a client. Explain the level of practice and how you can apply the intervention. Give a concrete example.

REFERENCES


American Public Health Association, Public Health Nursing Section: Definition and role of public health nursing, Washington, DC, 1996, APHA.


Sue DW, Sue D: Counseling the culturally different: theory and practice, New York, 1999, Wiley.