A public health nurse weighing children, 1930. Courtesy of the Visiting Nurse Service of New York.

CHAPTER 5

# Educating Public Health Nurses to Do the Work

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*. . .the nurse no longer feels herself qualified to care for people unless she has been trained to recognize and report symptoms other than those of her patient. Instruction in measures for protection and relief in housing, on labor legislation, on school laws, is a necessary part of her equipment, and above and beyond all is the personal and spiritual attitude, and the realization that she is not only serving the individual, but promotion the interests of collective society" (Wald, 1913, June 25, p. 2).*

## LEARNING OBJECTIVES

At the completion of this chapter, the reader will be able to:

- Describe public health nursing education.
- Identify challenges to public health nursing and public health nursing education.
- Analyze the relationship between interprofessional education and public health nursing education.
- Examine the benefits of participating in community-engaged learning.

## KEY TERMS

- ❏ Population-focused care
- ❏ Public health nursing education
- ❏ The Association of Community Health Nursing Educators (ACHNE)
- ❏ Quad Council
- ❏ Nursing's social policy statement
- ❏ Interprofessional education
- ❏ Community engaged learning
- ❏ Community partnerships

## State of Public Health

The U.S. healthcare system is facing many unique challenges that threaten the well-being of the population. Although antibiotics and vaccine development have minimized the impact of infectious disease in the past, we are now faced with antibiotic-resistant diseases and newly emerging infectious diseases. Zika, pandemic flu, *Escherichia coli* O104:H4, Ebola, resistant tuberculosis, and gonorrhea are some of the conditions greatly influencing the health of populations. Environmental factors, both natural and man-made, create hazards throughout the lifespan. Lead toxicity, as reported in Flint, Michigan, highlights the severe health risks posed, potentially impacting more than 26,000 children (Save the Children, 2016). In addition, lifestyles of modern society have created unprecedented levels of obesity for both adults and children, impacting nearly one-third of adults and 17% of children. This leads to chronic disease development and the need for health-promoting behavior, prevention, and better management (Ogden, Carroll, Kit, & Flegal, 2014). War and terrorism have challenged our healthcare system, with increasing incidence of post-traumatic stress disorders, as well as severe physical impairments, including traumatic amputations, sensory deficits, and disfiguring injuries. Nearly 4 million veterans reported a service-related disability in 2014 (U.S. Census Bureau, n.d.). It is striking that in today's society, gun violence is a leading cause of premature death, resulting in almost 30,000 deaths and 60,000 injuries each year (American Public Health Association, 2016).

Health promotion and disease prevention have taken the forefront as healthcare costs have soared, highlighting the need to gain control of these issues. In addition, lack of affordable health insurance with the consequent large number of uninsured individuals poses challenges to achieving good health outcomes. Public health nurses are well situated to address these crises and promote health and wellness for our communities. It is imperative that nurses and nursing students are well-versed in these areas and understand the overreaching impact they have on these all-encompassing problems facing us today.

### *Table 5-1* Centers for Disease Control 2016 Health Threats

| | |
|---|---|
| Ebola | Antibiotic Resistance |
| Global Health Security | Smoking and Tobacco Use |
| Prescription Drug Overdose | Lab Safety |

Data from Centers for Disease Control and Prevention. (2015). *2015:What kept us up at night and what will keep us busy in 2016.* Retrieved from http://www.cdc.gov/media/dpk/2015/dpk-eoy.html

See **Table 5-1** for Centers for Disease Control and Prevention 2016 Health Threats.

## What Is Public Health Nursing?

The practice of public health nursing promotes and protects the health of populations by using knowledge from nursing, social, and public health sciences. It is a specialty practice that embodies knowledge about advocacy, policy development, and planning (American Public Health Association, Public Health Nursing Section [APHA], 2013).

**Population-focused care**, the defining characteristic of public health nursing, provides interventions, using an ecological framework and systems approach, to individuals, families, communities, populations, and the systems that impact their health (APHA, 2013). A thorough understanding of the environmental, social, and physical determinants guides the public health nurse address inequities and provide focus on improving population health.

Implementation of the Patient Protection and Affordable Care Act (PPACA) impacts public health nursing. Public health nurses are called upon to provide the skills and the leadership necessary to implement the health promotion and prevention requirements of the PPACA (Quad Council, 2012). As the focus of the healthcare arena will be primary health care, positions requiring the expertise of public health nurses will be needed in acute care and community agencies. The public health nurse will

be instrumental in providing population-focused care, addressing the needs for self-managing chronic diseases, and advocating health promotion interventions. The educational preparation of public health nurses position these professionals to facilitate the collaborative efforts needed to bring all key players to the table—including the population—to form a proactive team. Public health nurses are well-versed in partnering with not only members of the health-care team but with their clients as well, including individuals, families, communities, and populations.

## Status of Public Health Nurses in the United States

The need for a strong public health nursing workforce has become increasingly evident in recent years. This need has occurred because of ongoing national events that have demonstrated the importance of emergency preparedness along with renewed attention on health promotion, risk factor reduction, and early detection of diseases and emerging infections in all areas. These events call for a stronger public health infrastructure requiring more and better educated public health nurses (American Public Health Association, 2014a). An alarming statistic, according to both the 2000 U.S. Census and the 2008 American Community Survey, less than 1% of nurses work in a public health setting. However, this does represent a 23% increase from 2000 to 2008 (Health Resources and Services Administration [HRSA], 2013).

Public health nursing comprises the largest discipline within the public health work force. At this time, the current public health nursing workforce shortage is the worst ever experienced in the United States. The ratio of public health nurses to population has decreased by more than 25% between 1980 and 2000 (Quad Council, 2013). The estimated total employment of registered nurses by local health departments decreased by approximately 5,000 full-time equivalent employees between 2008 and 2013 (National Association of County and City Health Officials, 2013).

Many factors contribute to the public health nursing workforce shortage. Already challenged by a general nursing shortage nationally, lower public health nurses' salaries are not competitive with salaries for nurses in acute care, resulting in fewer graduates seeking public health nursing as a career option. The low percentage of baccalaureate-prepared nurses in the overall nursing workforce, compounded by a shortage of faculty prepared to teach this specialty, add to the difficulty of meeting the needs for public health. Additionally, a lack of promotional and training opportunities challenges recruitment and retention of qualified public health nurses (National Association of County and City Health Officials, 2015; Quad Council, 2013). To compound the issue, nursing is confronted with an aging workforce. About one-third of the nursing workforce is older than 50, with the average age of nurses increasing by almost two years, raising the issue of impending retirements and a decreased workforce (HRSA, 2013).

## Public Health Nursing Education

The American Public Health Association (2014b) recommends integration of public health education into undergraduate curricula, which is supported by the 2003 Institute of Medicine (IOM) report. These core curricula include introductory coursework in public health, epidemiology, and global health, using integrative interdisciplinary approaches. In addition, local public health practitioners should participate in the teaching of these undergraduate courses. This will result in graduates having skills to critically examine public health issues, understand the importance of public health interventions, and be able to develop public health messages in the media geared to targeted populations. Many schools have reflected upon their traditional community health nursing courses and, based on recommendations from leaders in the field and various organizations, altered not only the content of their course but delivery as well. This evolution of course work represents the changing definitions of public health nursing as well as the maturing educational pedagogy of our time. The following case study provides such an example.

## Example of Reflections and Evaluation Leading to Course Evolution

**CASE STUDY**

### Population Health Teaching Strategies: Enhancing the Relevance

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As healthcare transitions from acute care settings to the community, helping nursing students understand and apply population health concepts and approaches is vital. A BSN program in the Midwest had noted that students taking the school's public health science course alongside junior level medical-surgical courses did not see the content as relevant to nursing. This course provided support for a senior-level public health nursing course and was generally rated poorly by students. Additionally, faculty for the senior-level public health nursing course indicated that students did not appear to retain the content taught the previous year. To address these issues further, faculty decided to revise the course and teaching strategies while an overall curriculum revision was underway. To increase student understanding and application of population health principles in their approach to nursing practice, faculty made three major changes.

The first change was to move the course from the junior year to the sophomore year based on the hope that provision of the content earlier in the curriculum would allow the students time to apply the concepts as they began their foundational nursing courses. Second, using current literature and national guidelines, the course was renamed "population health." Last, based upon the learning styles and preferences of the student population and with the support of a university-wide initiative, faculty decided to use active learning strategies to improve student engagement.

Faculty designed the course as a flipped design; material traditionally provided in class is completed online as preparation for in class activities. Online content is delivered via multiple methods, including voice-over PowerPoints, videos, web quests, and text readings. Students attend class every other week, taking a quick five-point quiz using iClicker at the start of class to ensure the prep work has been completed. Classrooms used for the class are designed to support active learning strategies and include small group tables with computer access, whiteboards, and enhanced technology. During class, students are randomly assigned to groups of four to five to complete in-class activities while faculty circulate around the room answering questions and challenging the students to think critically and use a population frame of reference. In-class activities include web quests, case studies, and guided use of public health data using sites such as Healthy People 2020 and County Health Rankings. At the end of each class, students share content learned with the entire class, using tools such as prezi.com and bubbl.us. Additionally, throughout the course, reflective journaling is used to encourage the students to critically think about complex issues such as social determinants, health disparities, environmental health, and global health challenges.

Since the revision, course ratings have dramatically increased. Students report they enjoy working together in class to learn the content. Students additionally indicate that the class supports a stronger understanding of population health issues and their relevance to nursing practice. Although this approach initially requires time to develop, faculty involved also report increased satisfaction with the course.

Recommended educational preparation for entry-level public health nurses is the baccalaureate degree (ACHNE, 2009; APHA; 2013; Quad Council of Public Health Nursing Organizations, 2011). However, only 55% of the RN workforce holds a bachelor's or higher degree (HRSA, 2013). *The Essentials of Baccalaureate Education for Professional Nursing Practice* (American Association of Colleges of Nursing [AACN], 2008) specify the educational framework for the preparation of professional nurses and emphasize the fundamental concepts needed for public health nursing practice. These include clinical prevention; population health; healthcare policy, finance, and regulatory environments; and interprofessional collaboration. Nursing students will graduate from their programs with the ability to conduct population and community assessments and apply principles of epidemiology.

Advanced degrees in nursing are encouraged. Nurses with master's degrees or higher have the knowledge and the expertise required for leadership positions. Competencies include interprofessional collaboration, health policy and advocacy, population assessment, prevention strategies, and program planning and evaluation. The doctor of nursing practice (DNP) provides executive leadership, systems development, and translation of research into practice. The doctor of philosophy (PhD) develops the science relevant to public health nursing and generates evidence needed to guide practice (APHA, 2013). Certification in public health nursing is available through the American Nurses Credentialing Center (ANCC) through portfolio submission. Eligible candidates must have practiced two years (or equivalent) as a registered nurse, hold a graduate degree, practiced a minimum of 2,000 hours in advanced public health nursing, and completed a minimum of 30 continuing education hours in advanced public health applicable to nursing in the past three years. Successful candidates earned the credentials of APHN-BC (ANCC, 2016).

Unfortunately, gaps exist in the education and training of public health nurses.

In state and local health departments, 29% of individual nurses do not hold a bachelor's degree in nursing, the entry-level qualification for public health nursing practice. Approximately 12% of nurses in state and local health departments have an advanced degree at the master's level, and less than 1% hold a doctoral degree (APHA, 2014c; University of Michigan, 2013).

## The Association of Community Health Nursing Educators (ACHNE)

The Association of Community Health Nursing Educators (ACHNE) developed *Essentials of Baccalaureate Nursing Education for Entry Level Community/Public Health Nursing Practice* (ACHNE, 2009). Objectives of this document are: (1) to provide a framework for nursing educators in planning and implementing baccalaureate nursing curricula relevant to 21st-century healthcare systems and (2) to communicate to the nursing, public health, and other communities, the theoretical and clinical practice underpinnings necessary for community/public health nursing education and practice (p. 3). The core competencies, which are community and population focused, are based on a synthesis of the science, values, and practice of nursing and public health, with emphasis on global health, disaster preparedness, emerging and re-emerging infections, and environmental health (p. 4). Furthermore, in 2007, ACHNE developed *Graduate Education for Advanced Practice Public Health Nursing: At the Crossroads.* This position paper offers a vision for graduate education for the advanced practice public health nursing (APPHN). The complexity of our contemporary society along with the burgeoning public health issues presents a very real need for nurses with advanced knowledge and skills to address these issues. Examples of content for the APPHN include population-centered nursing theory and practice, leadership, biostatistics, epidemiology, environmental health sciences, health policy, social and behavioral sciences, public health informatics, genomics, communication, community-based participatory research, and ethics and law (ACHNE, 2001).

## The Quad Council of Public Health Nursing Organizations—Quad Council

The Quad Council of Public Health Nursing Organizations is comprised of ACHNE, the Association of State and Territorial Directors of Nursing (ASTDN), APHA public health nursing section, and the American Nurses Association's Congress on Nursing Practice and Economics (ANA). The Council was founded in the 1980s to address priorities for public health nursing education, practice, leadership, and research, and to be the voice for public health nursing. In 2010, revision of the core competencies for public health nursing was undertaken. These competencies are applicable to agencies employing public health nurses, as well as educational institutions and other agencies involved in educating public health nurses (Quad Council, 2011).

The Quad Council Core Competencies covers both generalist and advanced public health nursing practice by incorporating three tiers of practice: basic or generalist (tier 1), specialist or midlevel (tier 2), and executive or multisystem (tier 3). The tiers are defined on a continuum, so public health nursing practice in each tier assumes mastery of the competencies of the previous tier. In addition, there are eight domains, which include analytic assessment, policy development/program planning, communication, competency, community dimensions of practice, basic public health science, financial planning and management, and leadership and systems thinking. The domains include specific tasks and duties for each of the three tiers. These competencies reflect the standards for public health nursing practice. They are written to be demonstrable and measurable and reflect the minimum competency at each of the three tiers of practice (Cravetz, Krothe, Reyes, & Swider, 2011). See **Table 5-2**.

### *Table 5-2* Examples of Competencies for Selected Domains

| Tier 1 | Tier 2 | Tier 3 |
|---|---|---|
| **Analytic and Assessment Skills** | | |
| Identifies determinants of health and illness of individuals and families. | Assesses health status of populations; partners with stakeholders to interpret data. | Conducts comprehensive system/organizational assessment related to population health. |
| **Policy Development** | | |
| Identifies policy issues relevant to the health of individuals, families and groups. | Identifies data relevant to health policies and uses policy analysis to address specific public health issues. | Establishes methods to collect and analyze public health and public policy information. |
| **Public Health Sciences Skills** | | |
| Incorporates public health and nursing science in delivery of care to individuals, families, and groups. | Utilizes public health and nursing science in practice at population and community level. | Serves as an expert in utilizing public health and nursing science in the design of public health practice environments. |
| **Financial Management** | | |
| Describes interrelationships among local, state, tribal, and federal public health and healthcare systems. | Collaborates with relevant public and/or private systems for managing programs in public health. | Identified funding sources and support to meet community and population health needs. |

Data from Quad Council of Public Health Nursing Organizations. (2011). Quad Council competencies for public health nurses. *Quad Council of Public Health Nursing Organizations.*

Tier 1 core competencies apply to generalist public health nurses, not in management positions, who carry out daily functions in state and local public health organizations. These functions include clinical, home visits, and population-based services. Responsibilities of the public health nurse may include working directly with at risk populations, carrying out health promotion programs at all levels of prevention, basic data collection and analysis, field work, program planning, outreach activities, programmatic support, and other tasks in their organization. Public health nurses apply these skills and competencies in the care of individuals, families, or groups (Cravetz et al., 2011).

Tier 2 core competencies apply to public health nurses with responsibilities for program implementation, management and/or supervisory responsibilities of generalist public health nurses. These responsibilities may include implementation and oversight of personnel; clinical, family-focused and population-based health services; program and budget development; establishing and managing community relations; establishing timelines and work plans; and presenting recommendations on policy issues. These skills and competencies reflect practice primarily with communities or populations (Cravetz et al., 2011).

Tier 3 core competencies apply to public health nurses who are at an executive/senior management level or in leadership roles in public health organizations. They are responsible for oversight and administration of programs or operation of an organization. This would include setting the vision and the strategy for an organization and its structural units. They are at a high level of positional authority within the organization and possess a higher level knowledge, an advanced education, and more experience than tier 2 public health nurses. They reflect organizational and systems level public health nursing leadership (Cravetz et al., 2011).

## Public Health Nursing Education, Nursing's Social Policy Statement, Code of Ethics

The essence of public health nursing is embedded within **Nursing's Social Policy Statement** (American Nurses Association, 2010). One of the six key areas of health care addressed in the document is provision for the public's health. This area focuses attention on the health promotion, disease prevention, and environmental measures interventions needed to assist self-help measures by the individual, family, group, community, or population.

Nursing has a long history of concern for the welfare of the ill, injured, and vulnerable as well as for social justice. This is embodied in the provision of nursing care to individuals, families, groups, the population, and communities for the prevention of illness protection and promotion of health. *The Code of Ethics for Nurses*, developed by the American Nurses Association, forms the foundation to guide public health nurses in their decisions and conduct (Fowler, 2008). Nursing has historically engaged in socially relevant, social justice-type activities since Lillian Wald's Henry Street Settlement (Lewenson & Nickitas, 2016).

The principles that guide public health nursing include autonomy, dignity, and the rights of individuals. Assuring confidentiality and applying ethical standards are critical in advocating for health and social policy. Serious disparities in health exist in the United States and at the global level. To address these disparities, public health is shifting to focus on disparities and the underlying social determinants of health such as poverty. Public health nurses have an obligation to care for the well-being of others and protecting the public. Critical to meeting that role requires an understanding of healthy populations, which in turn entails a concern for healthy individuals. In a restructured healthcare system that engages new advances in technology and genetics, it further underscores the imperative to provide ethical care and respect human rights. Public health nurses must be in the forefront of providing care that reflects an ethical base and a rights-based approach to practice with populations (Savage et al., 2016).

## Interprofessional Education

In the late 1960s and early 1970s, the term *interdisciplinary education* began to be discussed in the medical and nursing journals (Fairman, 2016). Fairman explains that, "Its meaning has

changed over time from one profession teaching another, to learning together or from each other in informal settings, to our current, more structured, and formal understanding (p. 110). The World Health Organization (WHO) defines the term interprofessional education as two or more students from different professions learning about, from, and with each other to enable effective collaboration and improve health outcomes. The goal of interprofessional education is to produce a health workforce prepared to collaborate in new and different ways to yield positive impacts on the health of individuals, the communities in which they live, and the health systems that care for them (WHO, 2010). The American Association of Colleges of Nursing, American Association of Colleges of Osteopathic Medicine, American Association of Colleges of Pharmacy, American Dental Education Association of American Medical Colleges, and Association of Schools of Public Health, comprising the Interprofessional Educational Collaborative, developed interprofessional competencies for health professions students to ready them for team-based care, envisioning this collaborative preparation as key to safe, high-quality, accessible, patient-centered care. **Box 5-1** provides a listing of these competencies.

Interprofessional learning prepares health professions students to deliberatively and with intention work together with the common goal of building a safer and better patient-centered and community/population-oriented U.S. healthcare system. Collaborative practice occurs when health workers from different professional backgrounds provide comprehensive services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings (Interprofessional Educational Collaborative [IPEC], 2011). These competencies highlight the realization that in order to achieve improvement in health, collaboration with professionals well versed in public health needs to occur to facilitate addressing environmental and social determinants of health, prevention, and early detection with both a patient-centered and community/population health orientation. See the following case study for an example of a global interprofessional educational initiative.

### *Box 5-1* Principles of Interprofessional Competencies

- Patient/family centered.
- Community/population oriented.
- Relationship focused.
- Process oriented.
- Linked to learning activities, educational strategies, and behavioral assessments that are developmentally appropriate for the learner.
- Able to integrate across the learning continuum.
- Sensitive to the systems context/applicable across practice settings.
- Stated in language common and meaningful across the professions.
- Outcome driven.

Reproduced from Interprofessional Education Collaborative Expert Panel. (2011). Core competencies for interprofessional collaborative practice: Report of an expert panel. Washington, DC: Association of American Medical Colleges.

**CASE STUDY**

## Sustainable Interdisciplinary and Interprofessional Approaches to Clean Water in Developing Countries

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Global health problems are very complex and challenging. Developing sustainable solutions to global health problems such as access to clean water must be addressed from multiple perspectives. A group of faculty and students from a Midwestern university (graduate and undergraduate) took on the challenge of providing access to clean water for a poor rural community in the Dominican Republic. In an effort to address all aspects of this issue, the group included students and faculty from engineering (civil, industrial, environmental, and ecological), nursing, agricultural economics, food science, and biological sciences. This student-driven service learning class worked with a nongovernmental organization (NGO) to find a community in need. In collaboration with the population residing within that community, an assessment was completed to determine the needs of the community and the population within that community, how they interacted with and accessed water, the cleanliness of water being used for drinking and cooking, and the current health issues being faced by the population and community. The assessment identified multiple health issues, particularly for women and children, related to unclean water and a large economic impact due to the cost of purchasing water for drinking and cooking, most of which tested positive for bacteria and parasites. In addition, the faculty/student group identified many local leaders, families, and healthcare providers at the local community clinic who were interested in being involved in the development of a system to provide clean water for the community.

Over a span of three years, many trips were made by the faculty/students to establish a relationship and develop trust with the community, which are so crucial to projects such as this. During these visits, the students and faculty spent long days interacting with the people residing within the community; community members provided lunches and dinners as well as many events to involve us in activities that were important to them and reflected their culture. Over this time, with our support, they developed a governance structure (El Patronato) for the water system and identified a location at the community's primary school. With the help of the university group and the funding they obtained, a water system was built using locally available materials and labor. The system was designed to require minimal maintenance and generate enough water to support the school and the nearby community. Excess water could be sold to the surrounding community at a cost far lower than most were currently paying for water, with the funds generated by the sales supporting the maintenance of the system. A ribbon-cutting ceremony and celebration were held with the community to taste the first water generated by the system. Several other ideas were carried out in tandem with this project: 1) a health curriculum concerning safe water use and hygiene for the children was developed and provided to the teachers at the school; 2) the governance group was trained on use of the system including maintenance; 3) the population residing within the community was taught about bacteria, viruses, and parasites that are common in the water in that region along with the signs and symptoms of water-related illnesses as well as safe water use and storage; and 4) a collaboration was created with the local community health clinic to monitor for any changes in health outcomes. This system has been running now for two years. There have been some issues, predominantly related to communication and the taste of the ground water used by the system as compared with the rainwater which they often drink. The children adapted rather quickly to the taste difference, whereas the adults have been much slower to adjust, with many refusing to drink the water from the system. This was an issue that the university group had not considered and one that we continue

(*continues*)

to address with the community; we are currently collaborating with the community to bring rainwater into the system in addition to ground water.

A great deal was learned by the community, faculty, and students from the completion of the first water system. We continue to learn as we enter our fourth year of the project. This knowledge is being used as we continue with plans to build three more systems at other schools in the region and as we continue to work with the existing system so that it is used to its full capacity. Community members from the original site are collaborating with us as we develop relationships with the nearby communities. It is our hope to build a network of water systems so that these communities can work together to provide access to clean water for all.

We have gained far more than we have given throughout this project. Students and faculty have worked together to obtain awards and grant funding to support travel and purchase of the materials and labor needed to build the water systems. The students have gained grant writing, presentation, teamwork, and leadership skills. They have learned to value the contributions of multiple professions and disciplines to projects such as these, truly working as a team to build and implement these water systems. Above all, we have gained humility and respect for the people of the Dominican Republic who have allowed us to work with them and experience true collaboration with a global community.

Public health nurses are vital to the interprofessional teams to ensure and assure that all people have equitable access to high-quality care and health environments. Their assessment skills, primary prevention focus, and system-level perspectives can assure that programs are coordinated and communities are engaged (APHA, 2013). Nursing education focusing on public health intersects with the emphasis on chronic disease management and behavioral change put forth by the ACA and Institutes of Medicine reports (IPEC, 2011). With public health nurses now embedded within communities, they are well positioned to enact the goals of the ACA, including improving the health of populations and reducing the cost of health care.

Inadequate interprofessional preparation of health professionals has been implicated in many adverse outcomes, including lower provider and patient satisfaction, greater numbers of medical errors and patient safety issues, low workforce retention, system inefficiencies resulting in higher costs, and suboptimal community engagement. Unfortunately, the health, welfare, and social care sectors often have been slow to implement team-based care and interprofessional education that is necessary to support and improve collaboration (IOM, 2015).

The American Association of Colleges of Nursing (AACN) has integrated interprofessional collaboration behavioral expectations into its *Essentials* for baccalaureate (2008), master's (2011), and doctoral education for advanced practice (2006). *Baccalaureate Essential VI* focuses on interprofessional communication and collaboration for improving patient health outcomes (AACN, 2008), emphasizing that communication and collaboration among healthcare professionals are critical to delivering high quality and safe patient care. The *Faculty Tool Kit for the Essentials of Baccalaureate Education for Professional Nursing Practice* suggests strategies and activities for achieving this outcome. **Box 5-2** contains some of these strategies. *Master's Essential VII* focuses on interprofessional collaboration for improving patient and population health outcomes. This *Essential* recognizes that the master's-prepared nurse, as a member and leader of interprofessional teams, communicates, collaborates, and consults with other health professionals to manage and coordinate care. The master's-degree graduate is educated to be a member and a leader of interprofessional healthcare teams, understanding others profession's scope of practice, employing collaborative strategies for patient-centered care (AACN, 2011).

**Box 5-2** Strategies to Address Essential VI Baccalaureate Education: Interprofessional Communication and Collaboration for Improving Patient Health Outcomes

- Case studies with various healthcare and other professionals.
- Grand rounds, community coalition meetings.
- Interprofessional and intraprofessional teams for course assignments and simulation labs.
- Interprofessional community projects.

Modified from American Association of Colleges of Nursing. (2009). Nurse faculty tool kit for the implementation of the Baccalaureate Essentials.

DNP *Essential VI* expands on the master's essential again focusing on interprofessional collaboration for improving patient and population health outcomes. DNP graduates have preparation in methods of effective team leadership to play a central role in establishing interprofessional teams, participating in the work of the team, and assuming leadership of the team when appropriate (AACN, 2006).

Several challenges confront implementation of interprofessional education. Top administrative support is needed to create the experiences essential for interprofessional education. Access to other professional schools interested in integrating interprofessional education into their curriculums is crucial. Scheduling and finding time to bring students together across the professions can be problematic. Health professions faculty need training to become effective interprofessional educators. The content and process of interprofessional learning differ from other academic content they teach. There is also a need for assessment instruments to evaluate interprofessional experience. In addition, there is a lack of regulatory expectations by accrediting bodies for health professions that would reinforce the need to establish interprofessional education within their institutions (IPEC, 2011).

## Community-Engaged Learning

**Community-engaged learning** provides students hands-on, real-life experiences while benefitting the community and its health. Community engagement, or service learning, is experiential learning consisting of mutually beneficial collaboration between institutions of higher education and the communities. It is a teaching and learning strategy that integrates community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities. Community engagement enriches scholarship, research, and creative activities, as well as enhancing teaching and learning, offering community partners opportunities to address significant needs. Students participating in community-engaged learning develop a strengthened sense of civic responsibility with a greater ability to address critical societal issues (New England Resource Center for Higher Education, n.d.; Vanderbilt University, 2016). These community-campus partnership relationships are relationship focused and committed to mutual learning and are based in specific principles outlined in **Box 5-3**.

Outcomes for this relationship must be tangible and relevant, including eliminating health disparities with a greater sense of social justice (CCPH Board of Directors, 2013).

Community-engagement learning occurs within courses through projects that have both learning and community action goals. Projects meet the needs of not only the learner but also the community partner as well, with the design of the project the result of collaboration between faculty, students, and community partners. The project allows students to apply course content to community-based activities. This gives students experiential opportunities to learn in real-world contexts and develop skills of community engagement while offering community partners opportunities to address significant needs (Vanderbilt University, 2016). At the end of this chapter, there is an extensive example of a community-engagement service learning course along with student outcomes.

### *Box 5-3* Principles of Community-Campus Partnerships

1. The partnership forms to serve a specific purpose.
2. The partnership agrees upon goals, measurable outcomes, and processes for accountability.
3. The relationship between partners is characterized by mutual trust, respect, genuineness, and commitment.
4. The partnership builds upon identified strengths and assets.
5. Partners make clear and open communication an ongoing priority in the partnership by striving to understand each other's needs and self-interests, and developing a common language.
6. Principles and processes for the partnership are established with the input and agreement of all partners, especially for decision-making and conflict resolution.
7. There is feedback among all stakeholders in the partnership, with the goal of continuously improving the partnership and its outcomes.
8. Partners share the benefits of the partnership's accomplishments.
9. The partnership values multiple kinds of knowledge and life experiences.

Modified from Community-Campus Partnerships for Health, CCPH Board of Directors. (2013). Position statement on authentic partnerships. Retrieved from https://ccph.memberclicks.net/principles-of-partnership

### *Box 5-4* Faculty Benefits in Teaching Community-Engaged Service Learning Courses

Encourage interactive teaching methods and reciprocal learning between students and faculty.

Add new insights and dimensions to class discussions.

Lead to new avenues for research and publication.

Promote students' active learning; engage students with different learning styles.

Promote students' opportunities to directly apply course content to theory, thus creating a deeper level of understanding.

Boost course enrollment by attracting highly motivated and engaged students.

Foster relationships between faculty and community organizations, which can open other opportunities for collaborative work.

Provide firsthand knowledge of community issues; provide opportunities to be more involved in community issues.

Modified from Center for Civic Engagement at Binghamton University (2015). Benefits of using engaged learning. Retrieved from https://www.binghamton.edu/cce/faculty/engaged-teaching/course-development/benefits.html 2015

Positive student outcomes have been associated with community-engaged learning (Curtin, Martins & Schwartz-Barcott, 2015; Foli, Braswell, Kirkpatrick, & Lim, 2014; Groh, Stallwood, & Daniels, 2011; O'Neill, 2016). These positive findings include an increase in the quality of the students' communication capabilities pertaining to listening, awareness, building community, leadership, stewardship, moral development, and empathy, as well as professionalism, teamwork, collaboration, and problem-solving to name a few. This type of learning positively affects students' ability to work with others. In addition, community-engaged

learning improves cultural and racial understanding, resulting in an increased sense of social responsibility and citizenship skills. Students engaged in this type of learning are more likely to be involved with their communities after graduation and demonstrate an understanding of the complexities of problem analysis, critical thinking, and cognitive development. In addition, community-engaged learning contributes to career development. Students engaged in this type of learning report stronger faculty relationships and improved satisfaction with college; these students are more likely to graduate.

College students participating in community-engaged learning demonstrated increases in their plans for future civic action, assessments of their own interpersonal problem-solving and leadership skills, and social justice. These students also reported greater satisfaction with their courses, reporting higher levels of learning about the academic field and the community than did students not participating in service learning (Moely, McFarland, Miron, Mercer, & Ilustre, 2002). Faculty too benefit from teaching community-engaged learning courses. **Box 5-4** offers a list of these faculty benefits.

## Nursing 499: Community-Engaged Service Learning Course and Student Outcomes

### *Introduction to a Selected Public Health Issue and a Vulnerable Population*

Childhood asthma continues to be a major public health problem for the pediatric population. In 2014, 8.6% of children less than 18 years of age had asthma, with a dramatic increase when looking at the age group of 5–14 years with a 10.3% prevalence. Race and poverty worsen outcomes for this age group, with 13.4% of black non-Hispanic children and 10.4% of people below the poverty level having higher asthma rates compared with 7.6% for white non-Hispanic children and 6.3% not in poverty. For children less than 18 years old with an asthma diagnosis, 48% had one or more asthma attack. More children are hospitalized for asthma, as seen with rates of 18.3 per 10,000 compared with 13 per 10,000 for adults. In 2013, asthma accounted for 13.8 million school days lost (Centers for Disease Control, 2016). These startling statistics highlighted not only the need for expanded asthma education for parents and the children diagnosed with asthma, but also the need for qualified health professionals competent in the knowledge and skill to teach asthma education per the evidence-based guidelines of the Expert Panel Report 3 (National Heart, Lung, & Blood Institute, 2007), which spurred the creation of our course.

### *Overview of Nursing 499*

The title of Nursing 499 is *Asthma Interventions in the Community.* It was developed to: (a) address the major issues associated with asthma; (b) increase undergraduate nursing students' knowledge of asthma and how best to intervene to improve asthma outcomes; (c) foster undergraduate nursing students' interest and confidence in conducting research; (d) increase the number of nursing students who will choose public health nursing as their area of practice upon graduation and successful completion of NCLEX-RN; (e) create interest in pursuing advanced research degrees in nursing with evidenced-based applications, which has the potential to address the nursing faculty shortage.

This course was first offered in the spring 2015 semester after receiving approval to run as a nursing elective. The course targets undergraduate nursing students but welcomes non-nursing students to attend. It was, and remains, the hope that students will enroll in the course each semester until graduation and continue to develop a research trajectory that will propel them to graduate school. While the majority of students enrolled were already admitted into the nursing major, there were several who had other majors and many who were hoping to transfer into the nursing program. Response from these students was overwhelming. Initially with

an enrollment cap of 10, this had to be increased incrementally until the course was closed with 41 students registered. The course has subsequently been offered each semester since, with approximately 50% of the students returning each semester. Presently enrollment is limited to 20.

Students in this course are immersed in the research process. All the students complete the mandated federal training for research investigators. Data is collected with each asthma program implemented. A rigorous training process is conducted for all studies done within the course to make sure all the students deliver the same message to the participants. Additionally, class time is devoted to asthma content. It was vital that the students were well versed in asthma management and understood the medications as well as the underlying pathophysiology. This was challenging as not all of our students were nursing students, and some of those who were had not yet started the nursing program.

An imperative for this course was for students to understand that without dissemination of findings, research becomes a meaningless dead end. To this end, groups of students self-selected a topic pertinent to asthma. Each semester, the students were involved with manuscript preparation. To date, integrated reviews have been completed for five topics; abstracts have been developed and submitted with poster presentations at two local conferences, and students have been introduced to data entry and analysis using SPSS. Several students were accepted for oral presentation at the 2016 APHA Annual Meeting and Expo. Future plans include submitting the integrated reviews for publication. It is the goal of the course and faculty that each student participate in a research study from beginning to end, contribute to a manuscript, and submit for publication.

## Interprofessional Education

Nursing 499 provides interprofessional education and experiences. Students from different undergraduate foci of study work together in the implementation of the requirements for this course. Students must learn to communicate with each other, understand different perspectives to solve problems, learn empathy for each other's knowledge and experience base, and find common ground to work as a cohesive group. Students also worked with the Graduate School of Education in the implementation of the *Wee Breathers* program. Nursing students implemented the asthma teaching; education students provided educational activities for the children while the parents attend the asthma teaching.

## Community-Campus Partnership

This course would not have been possible without **community partnerships**, which includes local elementary schools and Head Start programs. Working closely with these organizations that advocate for children, families, and health optimizes the possibility to implement our asthma intervention and research opportunities. Our activities support the missions of our community partners, allowing for that mutually beneficial relationship that benefits both the community and our students. Children with asthma have the potential for better outcomes, and our students gain valuable hands-on experience with usually vulnerable populations. Self-efficacy, self-confidence, self-awareness, and cultural competence increase for our nursing students throughout the semester. Our local elementary schools and Head Start agencies have been wonderful collaborators, facilitating implementation of our asthma initiatives.

## Specific Course Content

Several research initiatives were carried out since the inception of the course. Each semester, additional projects were instituted to maintain the interest of the students and to encourage re-enrollment. All of the interventions were validated, evidenced-based programs for asthma management for children with asthma and their parents. The following describes the specific programs delivered by students in Nursing 499.

### Open Airways for Schools

The American Lung Association's *Open Airways for Schools* is a program that educates and empowers children through a fun and interactive approach

to asthma self-management. The program teaches children with asthma ages 8 to 11 how to detect the warning signs of asthma, avoid their triggers, and make decisions about their health. It is the most widely recognized asthma management program for children in the nation. It is a proven, effective way to improve asthma self-management skills, decrease asthma emergencies, and raise asthma awareness among families and school personnel (American Lung Association, 2016)

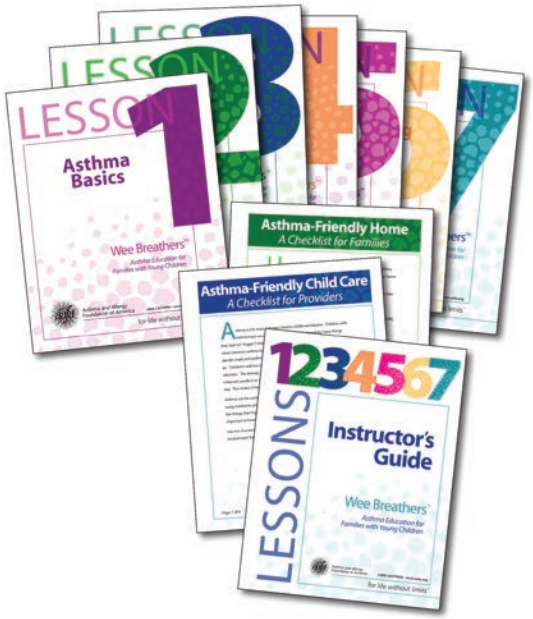
All students were trained as American Lung Association Open Airways for Schools facilitators. This was accomplished through online activities as well as classroom instruction. Students worked in groups to present one of the *Open Airways* modules in class. This allowed further familiarization with all the modules prior to implantation in the schools. Each student was assigned a specific school and a group of children with asthma to present the entire curriculum over a five-week period.

The students enrolled in the course participated in data collection. Asthma knowledge pretests and posttests were administered to determine if participation in this program changed asthma management. In addition, the Asthma Control Test for Children Ages 4–11 years was also completed prior to attending *Open Airways* and at completion of the program. Significant increases in the child's asthma management knowledge were found as well as increases in the level of asthma control. Unfortunately, no differences were found for the parents.

## Wee Breathers

*Wee Breathers* is an interactive program developed by the Asthma and Allergy Foundation of America (AAFA) and the Centers for Disease Control and Prevention (CDC)—Cooperative Agreement EH10-007 764-05 (**Figure 5-1**). This program provides a curriculum for health professionals to teach parents of young children about managing asthma. It is designed to be used during home visits, one-on-one, or in group classes for parents in child care centers. The program as written consists of seven lessons on asthma management, a home asthma trigger checklist, an asthma trigger checklist for child care centers, and an instructor's guide (AAFA, 2016).

**Figure 5-1** Wee Breathers.




Developed by the Asthma and Allergy Foundation of America (AAFA) and the Centers for Disease Control and Prevention (CDC)—Cooperative Agreement EH10-007 764-05

As with the *Open Airways* program, to ensure rigor for data collection, all students presented segments of the program to their fellow classmates. To increase participation of the families in Wee Breathers, the seven original modules were condensed into four sessions. Students were assigned to a family with the intent of implementing the programs. The students from the 499 class were to give the parents pretests and posttests after each module to determine if their level of knowledge about asthma changed with the implementation of the program. Students from the graduate school of education provided educational activities for the children while the family participated in the asthma sessions.

### A is for Asthma

Sesame Workshop developed the project Sesame Street *A is for Asthma* to help children with asthma lead fun and active lives. *A is for Asthma* is geared toward both children and adults, showing children with asthma what to do when they have trouble breathing, and explaining to the adults in their lives what they can do to help. (Sesame Workshop, n.d.). A video highlighting Sesame Street characters delivers the content in a developmentally appropriate manner for young children. The students in Nursing 499 presented the video to Head Start programs in the local area. Content included how to deal with an asthma attack: "sit down, stay calm, and get a grown up to help." The students reinforced the content of the video with the students, then had them listen to their lungs with stethoscopes.

## Challenges with Nursing 499

There were many challenges in the implementation of these initiatives. Coordinating the students' schedule was problematic. Finding a common time when the students in the groups could implement the program took hours of coordination. It was also extremely difficult to match our students' schedules with the schedule that the schools determined would work for their children. In addition, it was very difficult to contact the parents as well as get them to complete the pretests and posttests.

Transportation was also a major obstacle for our course. Many students did not have access to a vehicle. Public transportation was limited to the main city. As we utilized outlying schools, we were constantly negotiating rides, carpools, and taxis. This also added to the expense of running the courses.

Children from Family Enrichment Network attending the *A is for Asthma* program with students from the Decker School of Nursing.

Courtesy of Decker School of Nursing, Binghamton University

## Students' Reflections

Students submitted a reflection paper of their experience in the course. This reflection addressed how Nursing 499 has (or has not) impacted future professional goals, including consideration of obtaining advanced degrees after graduation; feelings about participating in research; and how, if at all, attitudes toward research changed because of participation in Nursing 499. Common themes included a desire for continuing education after graduation, an increased interest in conducting research, and a sense of expertise in working with individuals and groups with asthma. Students also discussed their increased confidence and self-efficacy in providing these interventions in the community. See **Box 5-5** for a reflection from a student enrolled in Nursing 499.

## Course Outcomes

This course embodies the core professional values and competencies of the *Essentials of Baccalaureate Nursing Education for Entry Level Community/Public Health* (ACHNE, 2009). These include community/population as client; prevention; partnership; and health promotion and risk reduction. Also embraced are the assumptions of *The Essentials of Baccalaureate Education for Professional Nursing Practice* (American Association of Colleges of Nursing, 2008): the professional nurse must be able to practice in an evidence-based environment. Nursing 499 fulfills the required essentials for public health nursing practice, specifically

### *Box 5-5* Student Reflections on Nursing 499

When I first heard about the asthma research class in my nursing school, I thought it would be a good way to learn something new about the disease that is the cause of the most missed school days for children. Coming from a family with an asthmatic, I have seen inhalers throughout the house, as well as the occasional use of the nebulizer. Before attending this course, I thought all research happened in a lab with test tubes, but I now understand that research, especially in the realm of public health nursing, largely involves interactions with the community.

Along with a few other classmates, I went to an elementary school and worked with nine children who have asthma between the ages of 8 and 10 years old. We worked with *Open Airways for Schools*, a curriculum that teaches youngsters to manage their symptoms. Each week, we touched on a different aspect of this chronic illness including a brief understanding of the disease, triggers, medications, and ways to prevent attacks and to continue with normal daily activities. Part of teaching each week included taking the concepts I learned in the classroom and translating them into terms that were easily understandable. Throughout all this, my team needed to find a way to communicate effectively so that the children's attention was on the topic at hand and our time together ran smoothly.

Another part of this course involved working with the parents of children with asthma. This experience showed me that there is always more to learn. With a fellow student, I visited the home of a first grader with asthma. We felt we made a difference by suggesting new ways to manage triggers, such as vacuuming the bedroom each night before going to sleep and washing stuffed animals weekly.

For the research portion of this class, I investigated adverse childhood events and their impact on asthma through a literature review. We submitted an abstract and presented a poster at our university and at a local hospital. Working on both aspects of this project introduced me to a realm which was totally unfamiliar—that of researching in the field through interactions, surveys, focus groups, and incorporating this information into already known material. This is how new information becomes something that can be a contribution to the public. This is also how nurses can introduce new topics to the community and to the region.

Community and public health nursing are facets of the profession that were unfamiliar to me prior to taking this course. I learned how to take the content I learned in the classroom and incorporate it into a practical and comprehensible way. This is a way to transmit information to bigger groups of people and to make an impact on both the local area and on the community as part of the population. I look forward to continuing research as part of my education as a student and my practice as a nurse and future nurse practitioner.

Shai Lev, Decker School of Nursing, Class of 2017

Essential III, which states that: "Professional nursing practice is grounded in the translation of current evidence into one's practice" (American Association of Colleges of Nursing, 2008, p. 3). In addition, the course also fulfills Essential VIII, which states: "Professionalism and the inherent values of altruism, autonomy, human dignity, integrity, and social justice are fundamental to the discipline of nursing" (American Association of Colleges of Nursing, 2008, p. 4).

## Conclusion

This chapter highlights the ongoing need for public health nurses, the impact that public health nurses have on the health of populations, and the rigor

intricate to their education. With a changing and challenging healthcare system and a recognition of the multiple and complex determinants of health, public health nurses are well positioned to facilitate the movement from a reactive, sick care health system to a proactive, health promotion and disease prevention agenda. It is essential that all registered nurses are educated with this professional preparation. Public health nursing brings to the table the skills and the expertise to organize all components of our healthcare system (providers, health systems, individuals, families, populations, and the community) to ensure improvement in health outcomes.

## Additional Resources

**American Public Health Association at:** http://www.apha.org/

**American Public Health Association—Public Health Nursing at:** https://www.apha.org/apha-communities/member-sections/public-health-nursing

**Association of Community Health Nursing Educators at:** http://achne.org/i4a/pages/index.cfm?pageid=1

**American Nurses Credentialing Center at:** http://www.nursecredentialing.org/certification.aspx

**National Student Nurses' Association at:** http://www.nsna.org/

**Quad Council Coalition - Public Health Nursing Organizations at:** http://www.quadcouncilphn.org/

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