

Unit I:

Why Nursing?

ENVIRONMENTAL HEALTH IN ALL NURSING PRACTICE

Environment is one of four traditional concepts in nursing: nurse, patient/client, health, and environment. All nurses practice in one or more places that we can call an environment. Patients/clients live, work, learn, play, and worship in various environments. Nurses are to assist in creating healthy environments in which individuals, families, groups and communities can thrive (American Nurses Association, 2010).

This First Unit of the e-text describes environmental health, why nurses are involved in environmental health, and principles of environmental health in nursing. Environmental health nursing in homes/families, schools, communities, and faith communities is introduced. In this Unit, you will be introduced to some contemporary nurse luminaries and pioneers in environmental health. Also, the environmental health competences expected of all nurses are presented. See Unit IV for details of environmental health for nurses in hospital and institutional practice settings.

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WHY NURSES ARE INVOLVED WITH ENVIRONMENTAL HEALTH

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WHAT IS ENVIRONMENTAL HEALTH?

“The environment is one of the fundamental determinants of individual and community health” (Institute of Medicine, 1995, p. 1). The environment along with human behavior, genetics/biology and the health care system contribute to the health and illness among human populations (Dever, 1991).

Environmental health may be defined as that aspect of human health determined by physical, chemical, biological and psychosocial factors in the environment (WHO, 1993, cited in Sattler & Lipscomb, 2003, p. xiii). Others define environmental health as the freedom from illness or injury...[due] to exposure to toxic agents and other [hazardous] environmental conditions” (Institute of Medicine, 1995, p. 15).

Environmental health may be defined also as “the theory and practice of assessing, correcting, controlling and preventing factors in the environment” that negatively affect health (WHO, 1993, cited in Sattler & Lipscomb, 2003, p. xiii). Environmental factors that negatively affect health are often called environmental hazards.

“The environment is everything around us - the air we breathe, the water we drink and use, and the food we consume. It's also the chemicals, radiation, microbes, and physical forces with which we come into contact. Our interactions with the environment are complex and are not always healthy” (Centers for Disease Control & Prevention, National Center for Environmental Health, 2009).

Not only do we come in contact with our environment, our environment becomes us through the air, water, food and other exposures. Obviously, we are dependent upon our environment for our development, growth and survival. For example, food provides nutrients for development, growth, and energy; water composes many of our body fluids. When the physical environment is polluted, pollution is not only around us, but in us! [Watch this video](#) (22 minutes long) from the Environmental Working Group to learn eye-opening information about body burden [of chemicals] in children.

So what are we to do to reduce environmental hazards? How can we reduce human exposure to environmental hazards? What are we to do to promote healthier

environments? We can respond as nurses, workers, students, parents, family members, group members, and citizens. Why are nurses especially equipped to address environmental health?

TOP TEN REASONS THAT NURSES & ENVIRONMENTAL HEALTH GO TOGETHER

1. Nurses provide healing and safe environments for people.
2. Nurses are trusted sources of information.
3. Nurses are the largest healthcare occupation.
4. Nurses work with persons from a variety of cultures.
5. Nurses effect decisions in their own homes, work settings, and communities.
6. Nurses are good sources of information for policy makers.
7. Nurses translate scientific health literature to make it understandable.
8. Nurses with advanced degrees are engaged in research about the environment and health.
9. Health organizations recognize nurses' roles in environmental health.
10. Nursing education and standards of nursing practice require that nurses know how to reduce exposures to environmental health hazards.



Florence Nightingale

Nurses have always been leaders in providing healing and safe environments for people. Nurses protect their patients and their communities. (See Florence Nightingale's [Notes on Nursing](#) published in 1860.) Nurses are everywhere that other people are. We work in hospitals and other health care settings, homes, schools and occupational sites. Each of these places has hazards that can cause illness, injury, or premature death. Nurses work to protect people from hazards and to reduce the hazards. Nurses advocate for environments in which people can not only survive, but thrive (ANA, 2007).

Nurses are trusted sources of information. The most recent [Gallup poll](#) of US residents shows that for the fourteenth year, nurses are ranked the most honest and ethical profession. When nurses speak, people listen. Nurses provide information to patients and the public about healthy and safe environments. These environments promote human health. They help prevent illness, disability and premature death.

Registered Nurses (RNs) are the largest healthcare occupation. (See [Department of Health and Human Services](#), 2010) There are over 3 million RNs out of 323 million Americans ([The Kaiser Family Foundation](#), 2016; [US Census Bureau](#), 2016). One in every one hundred Americans is a Registered Nurse. Therefore, most residents of the United States come in contact with nurses.

Nurses have experience working with persons from various racial, ethnic, cultural and socio-economic backgrounds. We also work with persons across the lifespan, from pregnant women and newborns to those at the end of their life. Nurses build on these deep and broad communication networks to protect and improve human health.

Nurses have the capacity to effect decisions in their own homes, their work settings, and their communities. Nurses influence decisions in work setting---schools, clinics, homes, nursing homes, and hospitals. [Health Care Without Harm](#) is an international coalition of 473 organizations in more than 50 countries, working to transform the health care sector so it is safer for patients and workers. Nurses also help make decisions about health as members of community groups such as PTAs, churches, and other faith-based institutions. The numbers of nurses and their personal influence creates a unique opportunity to make change.

Nurses are uniformly viewed as trusted, un-biased sources of information by policy-makers and the public (Sattler & Lipscomb, 2003). Nurses partner with professional and citizen groups that are addressing a wide range of environmental hazards which affect human health. Some

nurses are actively involved in policy and advocacy work at the state and federal government level. [Safer Chemicals Healthy Families](#) is a campaign led by nurses to improve U.S. federal policies that protect us from toxic chemicals.

Nurses are translators of scientific health literature. Nurses help patients, families, and members of their community to understand studies about environmental health. [The Research Work Group of the Alliance of Nurses for Environmental Health \(ANHE\)](#) is creating a library of nursing research articles on environmental health. This will better identify evidence-based practices that nurses can implement with individuals, families, and communities.

Nurses with advanced degrees are engaged in research about the environment and health. ANHE also is promoting nurse researchers and sharing information about funding sources for research. The Research Work Group of [ANHE](#) has surveyed nurses to explore the priorities for research related to environmental health and nursing. Nurses with a research-focused doctorate usually have a Doctor in Philosophy (PhD) degree and are leading this research.

KEEPING PATIENTS SAFE

Health organizations recognize nurses' roles in environmental health. The World Health Organization states that it is essential for nurses to promote healthy environments, especially homes (Adams, Bartram, & Chartier, 2008). The International Council of Nurses (2007) asserts that nurses should help reduce environmental hazards and promote clean water. In 2004, the Institute of Medicine (IOM) published the report, *Keeping patients safe: Transforming the work environment of nurses*. This report advocates for making hospitals and health care facilities safer for both patients and nurses. Nurses are to "create a safe care environment that results in high quality patient outcomes" (AACN, 2008, p. 31).

In 2010, the American Nurses' Association (ANA) added an environmental standard to *Nursing: Scope and Standards for all RNs*. This standard advocates that "the registered nurse integrates the principles of environmental health for nursing in all areas of practice" (ANA, 2010, p. 57). That means that every nurse should improve his or her knowledge and skills to reduce environmental hazards and promote health. No matter what our level of nursing education, no matter what our nursing experience, each of us needs to keep up with the expanding evidence about environmental health (AACN, 2006, 2008; NLNAC, 2008).

Each of us needs to integrate that information into our nursing practice. (See *Principles of Environmental Health for Nursing Practice* later in this document.)

Nursing education organizations require nurses' roles in environmental health. All nurses are to serve as positive role models within healthcare settings and their community (National League for Nursing, NLN, 2000). All nurses need to know how to reduce exposure to environmental health hazards and provide safe physical environments. "Nurses use evidence-based decisions to deliver client care and [help] move clients toward positive health outcomes" (NLN, 2000, p. 14). Nurses with a diploma or an associate degree are focused primarily on the health of individuals and families (NLN). Every individual and every family has some environmental hazards.

Nurses with baccalaureate education expand their focus to include communities and population health (American Association of Colleges of Nursing, AACN, 2008; Association of Community Health Nursing Educators, ACHNE, 2010). Population health includes health promotion and disease/injury prevention with groups, communities, and populations (AACN, 2008; ACHNE, 2010).

Graduates with Master's degree in a nursing specialty or a Doctor of Nursing Practice (DNP) degree are educated to be leaders in nursing practice. As leaders in the practice arena, "DNPs provide a critical interface between practice, research, and policy" (AACN, 2006, p. 14). "The DNP graduate has a foundation in clinical prevention and population health" (AACN, 2006, p. 15). This foundation includes the nurses' ability to analyze occupational and environmental data to plan, implement and evaluate their practice for clinical prevention and population health.

PRINCIPLES OF ENVIRONMENTAL HEALTH FOR NURSING

All nurses are to be aware of the principles of environmental health for nursing. We are to integrate these principles into our practice, education, and research.

ANA'S PRINCIPLES OF ENVIRONMENTAL HEALTH FOR NURSING PRACTICE

1. Knowledge of environmental health concepts is essential to nursing practice.
2. The precautionary principle guides nurses in their practice to use products and practices that do not harm human health or the environment and to take preventive action in the face of uncertainty. Precautionary Principle
3. Nurses have a right to work in an environment that is safe and healthy.

4. Healthy environments are sustained through multi-disciplinary collaboration.
5. Choice of materials, products, technology, and practices in the environment that impact nursing practice are based on the best available evidence.
6. Approaches to promoting a healthy environment reflect a respect for the diverse values, beliefs, cultures, and circumstances of patients and their families.
7. Nurses participate in assessing the quality of the environment in which they practice and live.
8. Nurses, other health care workers, patients, and communities have the right to know relevant and timely information about the potentially harmful products, chemicals, pollutants, and hazards to which they are exposed.
9. Nurses participate in research of best practices that promote a safe and healthy environment.
10. Nurses must be supported in advocating for and implementing environmental health principles in nursing practice.

Source: ANA's principles of environmental health for nursing practice with implementation strategies. (2007). American Nurses' Association: Silver Spring, MD. (May be purchased in booklet form at nursebooks.org)

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ENVIRONMENTAL HEALTH AND FAMILIES/HOMES

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Environmental Health is important throughout the life cycle. From pre-conception to aging populations, the environment is a contributor in health and illness. Childbearing families are particularly at risk. This is because babies developing in the womb and growing children are quite vulnerable to assaults from air pollution and chemicals present in water, food, and products.

For example,

- Epidemiological studies show that children whose parents work in the farming communities of California have a higher incidence of childhood leukemia (Wigle, Turner, & Krewski, 2009). It is suspected that exposure to pesticides is responsible.
- Air pollution has been linked to a number of adverse health effects such as pre-term labor and most recently autism in children.
- The phthalate DEHP has been eliminated from many newborn nurseries and neonatal intensive care units because of evidence implicating this chemical in male reproductive changes.
- BPA (bisphenol A), a component of many plastic products including children's toys has been described as an endocrine disruptor and linked to cancer and developmental delays.

CRITICAL WINDOWS

Critical windows of vulnerability have been defined in the literature as the following: "Periods during life when an exposure causes a stronger deficit in health later in life compared with other periods when exposure (could have) occurred" (Sanchez, Hu, & Tellez-Rojo, 2011, p. 1).

"Key developmental or reproductive life stages where the body can be more biologically vulnerable or influenced by exposures to chemicals in the environment" (Scott, 2015, p. 395).

Many of these critical windows occur as the fetus develops in utero. In this prenatal environment even small doses of chemicals can cause harm. Exposure to low-doses of chemicals rarely causes gross abnormalities that are obvious at birth. A more likely scenario is that they interfere with the programming that occurs during development, thus creating disease susceptibilities later in life.

According to the American Academy of Pediatrics, children also have unique vulnerabilities to environmental exposures because of their different metabolism, body structure, daily behavior, and lifestyle (Davis, 2007).

During puberty and adolescence the brain is still developing. Chemical exposures during this time can bioaccumulate and be passed to the baby during pregnancy and/or breastfeeding.

HOME EXPOSURES

Exposures to chemicals of concern often occur in the home. It has been estimated that Americans spend 90% of their time indoors. It then becomes important to recognize and decrease environmental stressors in the home environment. Harmful chemicals can be introduced through the foods that we eat, the water we drink, the products that we utilize, and the air that we breathe.

The foods we consume may contain pesticide residues. Plastic food wrap may expose families to phthalates such as bisphenol A (BPA). High fat foods such as meat and dairy may contain chemicals that are lipophilic such as persistent organic pollutants (POPs). Fish may be contaminated with mercury, a known neurotoxin.

Petroleum products, pesticides and fertilizers may contaminate water, especially from wells.

Phthalates are chemicals that appear in personal care products as added fragrance. They are also components of many plastic products and may show up in children's toys. These chemicals are endocrine disruptors (EDCs). EDCs have the capacity to interfere with hormone regulation and this may cause permanent disruption of metabolic processes.

Lead is a heavy metal that was present in interior paints before it was gradually phased out in the 1970's. It may still be detectable in older homes built before 1978. It is a potent neurotoxin and can accumulate in dust.

Indoor air pollution is linked to volatile organic compounds or VOCs. Common sources of indoor VOC exposure include building materials, paints, household cleaning products, furniture made from particle board, and carpets. All of these products have the capacity to "off gas" chemicals such as formaldehyde and benzene.

NURSE RESPONSIBILITIES

Nurses have the potential to protect themselves and their families and to influence others by leading by example. Nurses who work with childbearing families have a special opportunity to educate and influence choices. Evidence

shows that reducing exposures to products that contain toxic chemicals can reduce body burden.

No one can completely eliminate chemicals from their lives. But making small changes especially in the home can reduce exposures. No one can do everything. But everyone can do something.

Studies have shown that making simple changes results in a lower body burden of chemicals of concern. Research results document that when children's diets change from conventional to organic, pesticide metabolites are reduced. Other studies show that avoiding canned foods and other dietary sources of bisphenol A reduces levels of that chemical in the body. And simple dietary changes can also decrease exposure to phthalates.

Changes do not have to be complicated. Take your shoes off at the door to avoid bringing offending chemicals such as lead and pesticides into the home. Keep the house well ventilated and open windows to let in fresh air even in the winter. Purchase fresh foods and buy local and organic when possible to reduce exposure to pesticide residues. Utilize the [Environmental Working Group](#) pesticide ratings of fruits and vegetables to decide where to spend money on organics. For example apples consistently have detectable levels of pesticide residue when tested. This is a fruit to consider buying organic or locally grown. Consider planting a "kitchen garden" or favorite vegetables and herbs. This will have the added benefit of teaching children where their food comes from. Children who are assisting with the garden will enjoy partaking of the produce as well. Eat foods with less animal fat since harmful chemicals are stored in fat. This means eating more fruits and vegetables and less meat and dairy.

Because household cleaning products can be sources of indoor air pollution it is best to avoid those that contain bleach and ammonia. Many green cleaning products are plant based or you can make your own using such common items as baking soda and vinegar. Vinegar is a natural bacteriostatic as well.

Consider purchasing furniture and flooring composed of real wood. Wood composite off-gasses VOC's as it is held together with toxic glues. Wood floors such as bamboo are also more environmentally friendly than composite or vinyl flooring and are economical as well. Purchase paints that are labeled "low VOC" and use water based glues.

To reduce mercury exposures, refer to the [EPA/FDA guidelines](#) which suggest eating smaller fish which contain less mercury like salmon, light tuna, and shellfish .

Because chemicals such as lead accumulate in dust, be sure to damp clean regularly.

Don't use pesticides in your home or garden. Keep out pests by sealing cracks and holes around doors and windowsills and baseboards. Choose plants that grow well where you live so you won't need harmful chemicals and learn about organic gardening.

Re-think your personal care products and learn to read labels. Some toothpaste contains triclosan, a chemical that is actually in the pesticide family. This chemical is added as a preservative. Formaldehyde and toluene are often added to nail polishes and both are linked to cancer. Buy nail formulations that are free of these additives. Avoid cosmetics that contain added fragrance. Fragrance generally contains phthalates which are known to be endocrine disruptors. There are many "green" personal care products on the market that are cost effective. This is especially true in baby care products.

Nurses are powerful. We have the potential to change exposures for ourselves and those we care for.

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ENVIRONMENTAL HEALTH IN THE SCHOOL SETTING

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“Physical environmental stressors in schools measurably and significantly affect children’s achievement” (Healthy Schools Network, 2013, p.6). Although asthma and attention deficit disorder have increased, capital budgets to maintain healthy schools have decreased in the United States (Healthy Schools Network, 2013).

School nurses can play an important role in reducing environmental stressors and improving school environments (National Association of School Nurses, 2014). The school nurse’s role includes assessment and education. In the assessment role the school nurse might uncover issues in the home and school environment that need to be addressed. Such stressors can include allergens, bites and need for integrated pest management, toxic paints and solvents, and carbon monoxide, among others. Education about reducing these stressors can be directed to school teachers and staff, parents, students, and the larger community.

School nurses also monitor healthy school environments. They can support interest in environmental issues and bring pressing student health concerns to the attention of other parties who can help to address them. A good reference for sources of pollutants in schools is published by the Children’s Environmental Health Network (n.d.): [Environmental Health in Schools](#). School nurses can stay informed about best practices around issues such as indoor air quality, asthma management, pesticide use, and neuro-toxins causing learning disabilities. The school nurse has the knowledge level to advocate for preventive environmental measures to help keep students and employees healthy and in school. Environmental health is a very important aspect of school health that tends to get overlooked, partly because the school nurse is typically the only one in the school setting with a health background. Promoting healthy school environments can help ensure that students are healthy and ready to learn.

REDUCING ASTHMA IN SCHOOLS

Data demonstrating a link between school environment and asthma has been part of the focus in the implementation of [Indoor Air Quality Tools for Schools](#). An unhealthy school environment consisting of mold, vermin, dust, chemicals from cleaning supplies, poor air quality, or other such hazards can trigger asthma symptoms in students and staff (Sampson, 2012). Healthy schools can reduce asthma almost 40% and upper respiratory

infections nearly 70% by adopting proven best practices to improve indoor air quality (IAQ) while also reducing absenteeism and increasing productivity (Kats, 2006). Intervening in the school environment can be instrumental in decreasing the impact of asthma by reducing student suffering and absenteeism, parental stress, and cost of medical care for acute asthma attacks.

The US Environmental Protection Agency (EPA) has focused on creating healthy school environment in schools across the nation and developed the *Tools for Schools* framework that schools can implement to improve indoor air quality (EPA, 2012). A study published in 2011 demonstrated the effectiveness of *Tools for Schools* (TfS) when implemented as part of a collaborative approach to improving the health of schools (Foscue & Harvey, 2011). Creating a healthy school environment may be able to prevent or help mitigate symptoms of illness.

SCHOOL NURSE ROLES IN ENVIRONMENTAL HEALTH

The school nurse can address environmental health issues by encouraging schools to utilize the EPA’s [Indoor Air Quality Tools for Schools](#) action kit (TfS). TfS was developed by the EPA to provide Indoor Air Quality (IAQ) guidance for schools to make voluntary changes that will reduce exposures to indoor environmental contaminants in schools. Indoor air quality TfS recommendations are based on research and best practices and more information can be located on the [tool kit website](#).

Green cleaning is another way to help students stay healthy and in school (Balek, 2012). Green cleaning is cleaning that uses less toxic products to protect the health of students and staff without harming the environment. It also increases the lifespan of facilities, preserves the environment and ultimately saves the school money. The biggest priority with green cleaning is implementing a green cleaning program that eliminates harmful chemicals, manages volatile organic compounds (VOCs), and reduces harmful bacteria keeping students and staff healthier.

Another role of a school nurse is that of advocacy. The school nurse can advocate for environmental health needs and concerns in the school setting in different ways. Some examples of this may be walking through the school on a routine basis looking for any concerns, addressing those within the nurse’s scope, and then following up with school administrative personnel to ensure that those concerns are addressed routinely. Reaching out to your local, state or federal legislators with your concerns is another way to advocate for environmental health policy in schools. For example, this can occur by making a

request to a local legislator to submit legislation around green cleaning in schools. Asthma awareness month in one state was recognized by a U.S. senator from that state by holding a field hearing to bring awareness around asthma in schools and the impact the school environment has on students and staff (J. Leffers, personal communication, 2015). As a school nurse you have the knowledge and field experience to testify at such hearings.

RESOURCES FOR IMPROVING SCHOOL ENVIRONMENTS

There are a number of tools and resources to help support this work. Working together with facilities managers, custodial staff and administrators using these resources is a great place to start. A list of Web resources for school nurses can be found at the Alliance of Nurses for Healthy Environments (ANHE) [Web Resources for School Nurses](#). Additional environmental health tools can be found at the [National Association of School Nurses \(NASN\)](#).

Healthy Schools Campaign is an independent nonprofit that believes each child deserves a healthy school. The Campaign is supported by industry leaders in the manufacture and distribution of green cleaning products and services. The following table lists resources from the Healthy Schools Campaign.

Quick + Easy Guide to Green Cleaning in Schools (2006)	greencleanschools.org
Blog on How School Nurses Can Lead the Way for Green Clean Schools	healthyschoolscampaign.org/blog/how-school-nurses-can-lead-the-way-for-green-clean-schools
Information on promoting diligent handwashing	healthyschoolscampaign.org/?s=handwashing
Resources on improving Indoor Air Quality	www.healthyschoolscampaign.org/programs/indoor-air-quality-in-schools/

CONCLUSION

Environmental health brings nurses back to the basics as Florence Nightingale writes in her memoirs. It is important that all nurses regardless of their type of nursing practice must be able to incorporate environmental health principles. The school setting is no exception and environmental issues should be part of every school nurse's practice on a daily basis.

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ENVIRONMENTAL HEALTH NURSING AT THE COMMUNITY LEVEL

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INTRODUCTION

Human health is influenced by an interconnected dynamic of factors from the individual's biology and genetics to the public policy that establishes access to health services. The Socio-Ecological Model (Figure 1) depicts the context of individual health within interpersonal, organizational or institutional, community, and public-policy factors (McLeroy, Bibeau, Steckler, & Glanz, 1988; Stokols, 1996).

Nurses are engaged in applying the nursing process to improve environmental health at all levels of the Socio-Ecological Model. For example, at the individual and interpersonal level, the nurse may assess a patient and family's environmental exposure history. Based on the assessment, the nurse may provide individualized education and strategies to enhance a family member's asthma control by reducing personal environmental exposures. At the organizational level, nurses may work to reduce medical waste burning practices in their employing agency. This section introduces environmental health nursing at the community level

COMMUNITY

A population is a group of people who share at least one common characteristic. Communities include one or more populations and their shared goals over time (Maurer & Smith, 2013). Most commonly, communities refer to people living in the same geographical location, like a town or county. However, communities can be formed around a purpose or profession (e.g. medical community), education (e.g. online learning community), economic interest (e.g. small business community), a faith community (e.g. Catholic community), or other common characteristics or special interests (e.g. lesbian community). More information on describing and understanding the community can be found at the Community Toolbox Website. The community health nurse applies the nursing process to the overall aggregate health of their community of focus (ANA, 2013). Most nurses who provide nursing care at the community level are educated at the baccalaureate level of nursing or higher.

Community health nurses have a focus on the systems context that is broader than direct delivery of care to patients and families alone. One of the key determinants of health at the community level is the physical environment, including environmental pollution. Often,

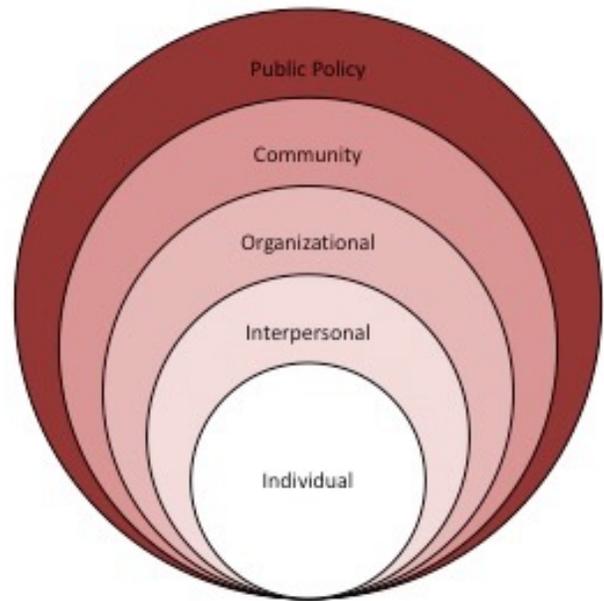


Figure 1: The Socio-Ecological Model

exposures to pollutants in the water, air, soil, and food supply are beyond the control of any one individual. In these circumstances, applying the nursing process at the community-level is necessary to improve health. The Sustainable Communities Unit of this eTextbook has more information on applying the nursing process at the community level.

The following video is a case example of environmental health nursing at the community level, entitled *Holding Polluters Accountable: A Community-Nurse Collaboration* (2014)



Holding Polluters Accountable: A Community-Nurse Collaboration Success Story

<https://www.youtube.com/watch?v=HGzBLpZmGyM>
(63:07 minutes)

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FAITH COMMUNITY: AN ENVIRONMENTAL PARTNER

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“Creation is not a property, which we can rule over at will; or, even less, is the property of only a few: Creation is a gift, it is a wonderful gift that God has given us, so that we care for it and we use it for the benefit of all, always with great respect and gratitude.” Pope Francis, May 21, 2014.

Partnering with the faith community is a natural fit for nurses when educating community members about environmental health risks and advocating for improved environmental regulations with policy makers. The faith community and the nursing profession share several environmental interests that could be developed into mutual programs to improve the health of individuals, families and communities. Some of the shared interests are:

- [Stewardship of the earth](#)
- [Common good](#)
- [Climate change](#)
- [Justice/ Environmental Justice](#)
- [Sustainable practices](#)
- [Food security](#)
- [Solidarity with vulnerable groups](#)
- [Care of creation](#)
- [Workers’ rights](#)

While the scope of this text does not permit covering each faith practice in detail, a general description of faith practices relative to the environment offers the nurse a basic understanding. The Abrahamic faiths of Judaism, Christianity, and Islam include an imperative to care for the earth and also acknowledge that the earth’s resources are a gift from the Creator that must be appreciated (Green Prophet, 2008). Eastern religions, such as Hinduism and Buddhism, do not make a distinction between the person and the natural environment; people and the natural environment are all part of an interconnected web of life that must be cared for (Green Faith, n.d.). Like Eastern religions, Native American and indigenous peoples view themselves as part of the earth and their connectedness to the earth has influenced their survival throughout history (Sherrer & Murphy, 2006). The list of faith based environmental organizations later in this

section provides web links so you can learn more detail and perspectives of specific faith traditions related to the environment.

Some churches and other faith groups enlist the services of a parish nurse to meet the spiritual and health needs of their congregation (Whisnant, 1999). The parish nurse could be a valuable partner in collaborating to develop congregation wide environmental initiatives. If a faith community does not have a parish nurse, nurses could volunteer within their own faith communities to influence the environmental health of the congregation as well as the faith community’s environmental impact. Partnering with the clergy and the leadership of the faith community can promote trust of the nurse within the congregation. Most faith communities also have resources that can assist them in serving as a center for environmental health outreach. For example churches, synagogues, mosques, and temples have meeting rooms, office space, and frequently volunteers to support environmental health initiatives. Furthermore, the faith community has a moral structure from which nurses can frame an environmental discussion (Green Prophet, 2008) to the congregation, the larger community, or policy makers.

There are many environmental faith based organizations. Some are single faith and others are multi-faith organizations. On the following page is a list of some faith based environmental organizations and their web sites.

Organization Name	Web Site	Organization Purpose
Catholic Climate Covenant	catholicclimatecovenant.org/about-us/	Catholic teaching related to care for creation and climate change
Coalition on the Environment and Jewish Life (COEJL)	www.coejl.org/	Strengthening stewardship of the Earth through outreach, activism and Jewish learning
Green Faith	greenfaith.org	Teach & mobilize people of diverse religious backgrounds for environmental leadership
Interfaith Power and Light	www.interfaithpowerandlight.org/	Interfaith group with a focus on climate change
Islamic Foundation for Ecology & Environmental Sciences	www.ifees.org.uk/green-guide-for-muslims	U.K. based organization. Provides a “Green Guide for Muslims”
National Religious Partnership for the Environment	www.nrpe.org/	Partnership of faith based environmental organizations. Good resources for various religions’ environmental perspective
Pachamama Alliance	www.pachamama.org/	Influencing society to have environmentally sustainable partnerships with indigenous people
Quaker Earth Care Witness	www.quakerearthcare.org/	Network of Quakers addressing ecological and social world crises
Tribal P2: Pollution Prevention Network	tribalp2.org/	Collaborates with U.S. tribes to reduce environmental & health risks on tribal lands
Evangelical Environmental Network	www.creationcare.org/	A ministry for Evangelical Christians in the U.S. that educates, inspires, and mobilizes them in their effort to care for God's creation

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SPOTLIGHT ON NURSES

THE LUMINARY PROJECT

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The Luminary Project was developed in 2005 as a collaborative effort by the Health Care without Harm Nurses Workgroup as well as nurses and nursing organizations that support environmental health nursing. The Luminary Project was developed to share the stories of how nurses strategically address environmental health problems to improve environmental safety in hospitals; improve air, water and land quality; and reduce exposures to harmful chemicals across the life span. The name Luminary was chosen to reflect how nurses illuminate the way to a healthier environment through nursing practice, education, research and advocacy.

By reading about the nurse luminaries, nurses can be inspired to launch their own efforts to improve health through healthier environments. Each story shows not only what the luminary has accomplished but also who inspired the luminary, and what impact their work has made to advance environmental health nursing.

Follow this link in order to learn the many ways that nurses are involved in environmental health and to see the impact of this work: [About the Luminary Project](#)

MY ROAD TO ENVIRONMENTAL HEALTH

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When I am asked how I got involved in environmental health, my first impulse is to talk about the day in 1993 when Lewis Shaw, the engineer in charge of Environmental Quality Control (EQC) at the South Carolina Department of Health & Environmental Control (DHEC) approached me. We had been colleagues on the State Health Commissioner's Executive staff for several years where he was a Deputy Commissioner and I was Assistant Commissioner and State Director of Public Health Nursing.

I will never forget his words: "I think we need a nurse." He was asking me to transfer into his deputy area which carried responsibility for the state and federally-delegated programs of Air Quality, Water, Solid & Hazardous Waste, and the Environmental Laboratory. He saw the need for someone who could be a bridge between his staff of

environmental scientists and engineers and communities that were impacted by environmental events and hazards.

At that time I had been a public health nurse for more than 20 years and from my position on the Commissioner's staff had a broad understanding of the interconnectedness of the agency's responsibility for public health and environmental protection. I also had working relationships of long-duration in most of the working units of the agency. The thought of creating a new job that would strengthen the link between health and environment as well as letting me spend time in local communities was very appealing.

For the next eight years, calls were directed to my office from citizens who were concerned about something in their environment:

- something looked unusual, smelled strange, tasted odd
- too many people around them were ill, especially with cancer
- they were uneasy about the industry nearby
- there were rumors that a landfill was coming to their neighborhood.

The list was long, and my job was to listen, to go and let them show me and talk with me about their worries. I spent a lot of my working hours at kitchen tables, country churches, and neighborhood meetings all across the state. Then I was to follow-through to assure that our staff made an appropriate response.

Sometimes the follow-up was supplying them with information we had and they did not, and providing for interpretation of data unfamiliar to them. Sometimes the problem called for an environmental investigation, often combined with analysis of health data for the area, particularly data from the cancer registry. Sometimes we provided public forums, with participation of experts in their issues of concern, to discuss and clarify and decide on a course of action. In these situations, I worked with the community to plan for where and when to meet and how to keep them informed over the course of resolving the issue.

Often my calls were from front-line staff in our environmental programs and district offices. There may be need to let a community know of an industry's application for an environmental permit. We may be involved in cleaning up a spill or other source of environmental contamination. In that case, my job was to alert the community, with the necessary information for them to protect themselves and/or become actively involved in the permitting or enforcement process. Sometimes the staff

just wanted me to go with them to meet with some upset citizens.

My job also carried responsibility for risk communication—helping staff to understand that risk was a combination of “hazard and outrage” and our job included addressing both! (Peter Sandman’s work in this area was invaluable to me.) Over time, our staff came to understand how people react to risk and how we can prevent and allay fears by how we respond and communicate. Community meetings, which I often moderated, went from being situations filled with angry crowds where our staff felt they deserved “hazardous duty pay”, to collaborative events. We all learned what valuable assets watchful citizens, who care about their environment, are to our work of surveillance and protection.

I was involved in planning and delivering continuing education for staff—in orientation sessions, in workshops, in immersion environmental learning experiences for local health department professionals, and in developing materials to aid the staff in responding to frequently occurring questions.

My work began to extend from a focus on our agency staff to lecturing to University classes in schools of nursing and public health. I was asked to chair the Institute of Medicine Study of Nursing, Health & Environment (1995) and then was often invited to speak about the resulting report to numerous groups in many states. With some pioneering colleagues at the University of Maryland, we developed a chapter on Environmental Health for Stanhope & Lancaster’s Public Health Nursing text. Diana Mason asked that I contribute an environmental vignette for her book on Policy and Politics in Nursing and Health Care. I served on the Enforcement Subcommittee for EPA’s National Environmental Justice Advisory Council, and that led to involvement with other EPA and environmental justice initiatives, including organizing and implementing a Future Search conference in South Carolina. Being a part of the Alliance of Nurses for Healthy Environments (ANHE) has been an exciting and joy-filled experience, with new opportunities and relationships.

My career and world expanded in ways I had never imagined. I realize that my environmental health journey did not really begin with that conversation with Lewis Shaw. I began heading in this direction from my days as a nursing undergraduate when my public health nursing professor and life-long mentor, Virginia Phillips, taught me the multi-disciplinary nature of public health, modeled it in her practice and made it an integral part of my concept of the breadth of public health and my approach to solving public health problems. My graduate program in the

School of Public Health at the University of SC included required course work in environment as well as multi-discipline practice seminars addressing real issues in our state. The connections between health and environment and the necessity of a variety of expertise to prevent and address problems in each domain were cemented into my DNA!

My commitment to protecting and improving our environment did not end with retirement. I am still actively involved, especially in issues of the built environment—public transportation, more livable communities with safe spaces for walking and biking, community design and development that considers access to goods and services for all of the population—and public policy decision-making that supports community involvement and sustainable living. I am active in my church’s efforts to be a more “green congregation”, rooted in our calling to “tend and care for all of creation.”

My community knows me as an avowed “tree-hugger”, and I have confirmed that again with the wonderful opportunity to work with high school students planting sequoia trees!

The first principle I learned in environmental health is that “everything is connected to everything else.” That is a basic principle for the environment and health and for life itself.

ADVOCATING FOR ENVIRONMENTAL JUSTICE

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I grew up in a small southern town in Vance County, North Carolina in the 1950s and 60s. My family lived within the city limits about 100 yards from the city dump where the town’s trash was burned in open space each afternoon. I vividly recall the dark smoke that would rise and the darkness and ash that would float overhead and descend over neighboring communities of African-American families. On wash day, we had to be sure to get the clothes off of the line before the tall pile of trash was ignited. In the summer time, it was difficult to sit outdoors because of the dust and dirt on our street. Occasionally, a city truck would drive by and spray a solution on the street, giving us temporary relief from the dusty particles.

As a young child I did not understand the nature of these problems, This was the way of life, and like my family, I adapted and co-existed with these environmental assaults. As I grew older and learned about the environment in secondary school, college, and beyond, I would revisit these childhood memories and be appalled by how our

health and well being had been threatened by such exposure.

During the 1970s, the State of North Carolina routinely dumped polychlorinated biphenyls (PCB)-laced oil, a highly toxic carcinogenic compound, on the roadbeds in certain areas of the state. After many years of protests and court action, the state removed the worn PCB-laced residue with the intention of burying it in a landfill in Warren County, NC, adjacent to Vance County. Opponents of that plan argued that Warren County was selected because the area was rural and the majority of the residents were poor, black and politically unable to determine their fate. My uncle, a well-regarded civic-minded local leader, joined other local and national civil rights leaders, community activists, and environmental groups from around the nation in protesting the intended burial of the toxic waste in the Warren County landfill. His accounts of this environmental injustice stimulated my personal and professional ambitions. My interest in community health nursing and the impact of environmental, economic, political, and racially-linked exposure of toxic substances on vulnerable populations was the stimulus that increasingly matured my interest and commitment to environmental and population health.

I served as Dean of the Howard University College School of Nursing for 18 years. During that time, a small group of public/community health-minded faculty and I became involved in the Mississippi Delta Project, funded by Agency for Toxic Substances and Disease Registry. The aim of the project was to increase awareness of environmental health concepts and practices in nursing curricula in schools of nursing in the Mississippi Delta. The Delta is a geographical area comprised of 219 counties over seven states where a plethora of corporate farms, industrial factories, petroleum refineries, and other “dirty industries,” posed hazardous exposure to the area’s residents, who were largely poor, under-educated, African-American and politically unengaged. Our work led to the development of a modular curriculum, *Environmental Health and Nursing: The Mississippi Delta Project (1999)*, comprised of six modules: demographics of the Delta, culture, toxicology, environmental justice, community assessment, and community engagement and advocacy. I authored the environmental justice module which, along with other modules, continued to evolve and opened doors for collaboration with other schools of nursing, invited presentations around the county with nursing and non-nursing groups, and led to other publications and to my appointment to the EPA National Environmental Justice Advisory Committee.

MY JOURNEY AS AN ADVOCATE FOR ENVIRONMENTAL HEALTH IN NURSING

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It takes a village to get good things done. I have been one of many nurses who have discovered environmental health and decided to do something about it. My particular strengths are that I am enthusiastic, creative, and persuasive. That alone would never be enough to sustain forward motion - that required a great many patient, detail oriented, highly organized, and dedicated colleagues who followed through with the sometimes tedious efforts required to integrate environmental health into nursing education, practice, research and policy/advocacy. I salute us all.

There are a couple of things that have been motivators to me for as long as I can remember – social justice, the environment, learning, and having fun. My interest in human health was something that developed later in my 20s when I entered nursing school. I went to a hospital-based diploma nursing program that no longer exists and early in my nursing career I was a critical care nurse first in San Francisco and then in Baltimore – ICU, CCU, ER, and Burn Unit which I really loved. At the same time, I also was very involved in my nursing union and became part of the contract negotiation team. I learned a lot about the importance of collective action, the power of organizing, and how to work strategically to accomplish goals.

I don’t actually have any degrees in nursing, just my Diploma that allowed me to sit for the Boards and become a Registered Nurse. My degrees are BS in Political Science, and both a Masters and Doctorate in Public Health from the Johns Hopkins School of Public Health. In between my two graduate degrees, I was the Executive Director of a small non-profit, MaryCOSH (Maryland Committee on Occupational Safety and Health) that worked on a variety of occupational health issues. My main focus was helping to pass a statewide worker right to know law so that workers could find information about the toxic chemicals that they were working with. Our success was largely a function of the diversity of the coalition that we created which included unionized workers, firefighters, health professionals and non-profit organizations like Clean Water Action and the American Lung Association. Learning to play with folks who have different agendas and yet finding a common one that we could all agree upon was a critical skill for future work.

Then I worked for the United Steelworkers Union. During that time I went to many different kinds of worksites where I began to understand how poorly we were

protecting workers from toxic exposures and, by extension, their families and communities.

My first job after grad school was directing the National Center for Hazard Communication where I did research and worked with labor, industry, and the government on developing the best tools to train and educate people (workers, community members, health professionals) about hazardous chemicals. As early as 1991, we developed a completely on-line degree on environmental management.

I left that Center, which was at the College Park Campus of the University of Maryland, and joined the faculty at the School of Medicine in the Baltimore Campus where I started the Environmental Health Education Center. My first center grants were from the US Environmental Protection Agency to work on lead poisoning prevention. This work expanded into a more comprehensive healthy homes initiative and continued to grow into healthy schools and then healthy hospitals.

I was struck by a 1985 report by the Institute of Medicine (IOM) that showed how physicians did not learn about occupational and environmental health – which was equally true for nurses. Two colleagues and I made an appointment and met with Andrew Pope at the Institute of Medicine to ask for a similar study to be created to look at what nurses learned about occupational and environmental health. We were able to compel him and the IOM. A committee was created that was chaired by Lillian Mood, a brilliant public health nurse from South Carolina who continues to do great environmental health work in her retirement.

The report, *Nursing, Health and the Environment*, created a framework for thinking about how to integrate environmental health into the nursing profession. This framework has consistently guided my environmental health and nursing work ever since. It calls for nursing to integrate environmental health into nursing education (our own education and our patient/community education), practice (by both integrating environmental assessments into our clinical care and attending to the environmental healthiness of our health care settings), research, and policy/advocacy. Later, when we created the Alliance of Nurses for Healthy Environments (ANHE), these four domains became our standing committees. An overarching value that is applied to all four domains is environmental justice.

After 6 or so years on the faculty at the Medical School, the Dean of the University of Maryland, School of Nursing asked me to bring the Environmental Health Education Center to nursing and help to develop the first

environmental health and nursing program in the country. I did this with the help of Brenda Afzal, who was my associate and “partner in crime” for many years. There were also a great many other key players at Maryland like Claudia Smith who is an active member of ANHE’s Education Work Group, Robyn Gilden who now heads up the Center, and Katie Huffling who is now the Director of Programs for ANHE.

At about the same time, I was able to secure a very generous grant (\$1.4 million) from the Kellogg Foundation to work with nursing faculty from Howard University to develop and deliver faculty development training on the integration of environmental health into nursing education. We trained over 200 faculty in 17 states and then provided them with 2 additional years of support. This helped to seed a new crop of environmental health champions within schools of nursing. Pat Butterfield did similar workshops in Montana with funding from the Agency for Toxic Substances and Disease Registry (ATSDR). [At the time, ATSDR was a big supporter of nursing. It has since then essentially dropped its nursing efforts.]

While the IOM report was clear that all nurses should learn about environmental health, it became clear to me that some nurses needed to dig deeply into this area. With a grant from the Health Services Resources Administration (HRSA), I started the first Masters Degree Program in Environmental Health and Nursing. This was a fabulous program that helped to train some of today’s nursing leaders. The nursing students who studied with me over the years went on to become executive sustainability officers in hospitals, directors in non-profit organizations, and faculty in environmental health nursing. Many of them expressed their leadership within their nursing specialty professional organizations, helping to bring educational programs and presentations to their national meetings. Though the program was a generalist program, the students often gained significant expertise in environmental topics, for example, Brenda Afzal on drinking water and Robyn Gilden on pesticide use and children’s health.

In the late 1990s I was involved in the creation of a national campaign called Health Care Without Harm (HCWH). In one of the early meetings in California, we gathered environmentalists from a variety of organizations – Greenpeace, Environmental Working Group, the Center for Environmental Health, and others – along with a couple of physicians and a small group of nurses, including Charlotte Brody who is a brilliant strategist. It was brought to our attention that one of the biggest contributors to mercury in our air was medical waste

incinerator emissions. There were over 3,000 of them in the country at the time. Together, we ran a successful campaign that eliminated mercury thermometers in health care (and essentially everywhere else in the U.S.) and we closed down all but fewer than 100 medical waste incinerators.

For a few years I chaired the HCWH Nurses Work Group with my good friend and nursing colleague Susan Wilburn who was then a senior staff at the American Nurses Association in the Center for Occupational and Environmental Health. (The ANA closed that center down and changed their focus to nurses' wellness. I think they should have added wellness instead of eliminating health and safety.) We organized workshops all over the country called RN-NoHarm, helping to launch another cadre of nurses. In this case they were often focused on greening their hospitals. The HCWH campaign morphed into a non-profit organization that spawned a range of exceptional programs like Practice Green Health and the Global Green and Healthy Hospitals for which Susan now works (after an 8 year stint with the World Health Organization doing occupational and environmental health).

For several years, the Beldon Fund supported a collaborative nursing approach to green hospitals and address chemical policies in the U.S. The key players were the ANA's Center for Occupational and Environmental Health, HCWH's Nurses Workgroup, and the Environmental Health Education Center at the University of Maryland. This work included educational efforts and training of nurses in advocacy skills. Nurses worked closely with environmental and public health organizations in their state houses and capitals to advocate for sorely needed comprehensive chemical policy reform. Nurses also worked on many policies that addressed individual chemicals such as bisphenol A (BPA) and categories of products such as safe cosmetics. We worked with staff at the National Library of Medicine to include training on searching their databases for the best evidence regarding toxic chemicals. We remained scrupulous about being evidence-based in our assertions and in our writings.

We sponsored a half dozen writers' retreats/workshops for nurses who wanted to write articles about environmental health. These were both great fun and very productive and continued to build a "community" of nurses from around the country who were interested in and working on environmental health. These retreats often took place in extraordinary locations like the Northern California Coast and Martha's Vineyard. Some were at retreat centers but many of them were in nurses' homes.

With Beldon Funds, we organized a group of unions that represent nurses around the country to talk about how to use collective bargaining to better protect nurses from potentially toxic chemicals in hospital settings. The result was a compendium of model language that could be negotiated and inserted into contracts, thus adding another legal framework for protecting nurses (and by extension other employees and patients) from unnecessary harmful exposures in health care.

In 2008, there were a number of nurses around the country that were doing environmental health activities but they were poorly coordinated. We were not yet building a movement. With funding from the Kendeda Fund, we organized a 4-day retreat in Oracle, AZ, with 50 nursing leaders from around the country. At the end of the retreat we decided to create a national organization, which became an official non-profit organization, called the Alliance of Nurses for Healthy Environments (ANHE). I was a founding Board member and have since then been on and off the Board. This organization has created a wealth of resources, workshops, webinars, a website, a virtual "e" Textbook, and has effectively engaged in political advocacy. And it has helped to support the community of nurses who are interested in environmental health.

There are many ways that ANHE is now seen as the voice of environmental health nursing in the country. The ANA defers environmental health questions and efforts to ANHE. We helped to get the first "Environmental Standard" into the 2010 Scope and Standards of Professional Nursing Practice. After ANHE members visited with the head of the National Institute of Nursing Research and the National Institute of Environmental Health Science, these two NIH institutes put out a joint request for nursing research in environmental health. The major national and state environmentalist organizations seek ANHE to help support policy efforts in our state houses and capitals.

Until 2014, ANHE was a US and Canada-based organizations. After a working trip to Australia to meet with nursing unions there on greening their hospitals and on "fracking", I realized that they were wrestling with the same issues we were in the U.S. and that we should communicate with each other and share resources. We expanded ANHE's scope and created an international Climate Change Committee that incorporates work on fracking and other fossil fuel issues, with monthly calls and nurses from the UK, Australia, Canada and the US. We started with English-speaking countries but are committed to expanding to a great many other countries in the near future.

After retiring from the University of Maryland in 2012, I moved to California, where I am currently a full-time Professor at the University of San Francisco. I continue to be a Board member of ANHE and am the primary grant writer/fundraiser for the organization. I am working with the Jonas Nursing Center to develop a scholarship program for doctoral (PhD and DNP) students who are interested in environmental health. With colleagues in Australia and with Susan Wilburn of Global Green and Healthy Hospitals, I am developing a Global Environmental Health Nursing Certificate.

There are some things that “I” did regarding environmental health and nursing, but the vast majority of things “we” did. We have had some very generous funders over the years and a great many supporters. We have helped to birth nursing environmental health champions. I’ve been involved in 3 decades of work that is helping to form the next generation of nurses who we hope will consider environmental health a critical component of the nursing profession.

"The best way to predict the future is to design it."
Buckminster Fuller

DESIRED ENVIRONMENTAL HEALTH COMPETENCIES FOR REGISTERED NURSES

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The Alliance for Nurses for Healthy Environments (ANHE) met in June 2009 to develop competencies for environmental health nursing for both the nurse at the basic level of education and for the nurse with advanced knowledge for practice. These competencies would serve as a guide for the development of ANHE educational tools such as the electronic textbook and curriculum recommendations for all levels of nursing education. During the fall of 2009, ANHE members collaborated with the American Nurses Association in ANA's development of Standard 16 Environmental Health (below).

ALLIANCE OF NURSES FOR HEALTHY ENVIRONMENTS - ENVIRONMENTAL HEALTH (EH) COMPETENCIES FOR NURSES (2009)

The registered nurse:

- Applies knowledge of basic EH concepts to nursing assessment, prevention, and control strategies.
- Incorporates environmental risk factors across the lifespan when assessing individuals, families, and/or communities.
- Utilizes scientific evidence and is guided by the precautionary principle.
- Reduces EH risks in the health care setting (chemical, biological, and radiological).
- Participates in creating environments that promote health and healing which include attention to sound/noise, light, and use of/access to nature.
- Collaborates with others to create and implement strategies that promote healthy environments.
- Promotes a healthy environment that respects the diverse values, beliefs, cultures, & circumstances of patients, their families, and communities.
- Advocates for healthy environments that include issues associated with air, water, soil, food/agriculture, the built environment and chemicals/products.
- Promotes one's right to know about potentially harmful products, chemicals, pollutants and hazards to which people may be exposed.
- Communicates EH risks and exposure reduction strategies with patients, families and /or communities.

- Advocates for environmental justice, including a commitment to the health of vulnerable populations and the elimination of health disparities (AACN 2008, Baccalaureate Competencies, pg 25, line 12).

Additional Competencies for the Advanced Practice Registered Nurse:

- Evaluates outcomes related to the implementation of EH strategies.
- Explains the impact of social, political, and economic influences upon the environment & human health exposures.
- Analyses information on human exposure to environmental hazards & their implications for practice, such as biomonitoring and geographic information systems (GIS).
- Critically evaluates the manner in which EH issues are presented by the popular media.
- Supports nurses in advocating for and implementing environmental principles in nursing practice.
- Establishes partnerships that support the creation and implementation of strategies promoting healthy environments.
- Demonstrates leadership in promoting environmentally healthy, safe, and sustainable policies & conditions.

The Alliance of Nurses for Healthy Environments (ANHE) has partnered with the American Nurses' Association (ANA) in the development and inclusion of an Environmental Health standard in the ANA's Scope and Standards of Practice for nurses (2010). ANHE also has developed the website (<http://envirn.org>) to assist you in developing competencies in Environmental Health. Read on to learn about what is expected of you as a nurse.

AMERICAN NURSES' ASSOCIATION (ANA) STANDARD FOR ENVIRONMENTAL HEALTH

This is an exciting time for nursing! The American Nurses Association (ANA, 2010) has released its new Scope and Standards for nursing practice that includes a standard for Environmental Health! These standards form the baseline for every practicing registered nurse in the United States. The concepts are not new to nursing; even Florence Nightingale recognized the environment as crucial to the health of patients and communities. However, Florence did not have as many challenges as we face today. For example, there are toxic chemicals all around us: at home in our personal care products, cleaning products and food; in schools and workplaces; and in the community. Pesticides are on our lawns and playing fields and in the food we eat.

Chemicals are linked to cancer, reproductive effects, immune systems effects, developmental delays, and endocrine effects. These chemicals are on the rise in our environment and inside our bodies as well.

ANA acknowledges that environmental health is important enough to include in the Scope and Standards. This environmental health standard helps raise awareness of nurses and others that nurses have a significant role to play. From gaining knowledge about EH concepts to creating changes in practice and policy, the 3 million RN's will have the tools they need to create a safer, healthier environment for all.

The following ANA (2010) Environmental Health standard identifies desired competencies for every registered nurse. This standard can guide every RN in developing his or her own competencies in environmental health. Use this standard to reflect on your own knowledge, skills and experiences. Identify examples from your own practice that demonstrate your Environmental Health competencies. Identify those competencies for which you require further development.

STANDARD 16. ENVIRONMENTAL HEALTH

- The registered nurse practices in an environmentally safe and healthy manner.

Competencies:

The registered nurse:

- Attain knowledge of environmental health concepts, such as implementation of environmental health strategies.
- Promotes a practice environment that reduces environmental health risks of workers and healthcare consumers.
- Assesses the practice environment for factors such as sound, odor, noise and light that negatively affect health.
- Advocates for the judicious and appropriate use of products used in health care.
- Communicates environmental health risks and exposure reduction strategies to healthcare consumers, families, colleagues and communities.
- Utilizes scientific evidence to determine if a product or treatment is a potential environmental threat.
- Participates in strategies to promote healthy communities.

Additional Competencies for the graduate-level prepared specialty nurse and the Advanced Practice Registered Nurse:

- The graduate-level prepared specialty nurse and the advanced practice registered nurse:
- Create partnerships that promote sustainable environmental health policies and conditions.
- Analyze the impact of social, political, and economic influences upon the environment and human health exposures.
- Critically evaluate the manner in which environmental health issues are presented by the popular media.
- Advocate for implementation of environmental principles for nursing practice.
- Support nurses in advocating for and implementing environmental principles in nursing practice.

Source: American Nurses Association (ANA). (2010). *Nursing: Scope and Standards of Practice, Second Edition*. Silver Spring, MD: Nursebooks.org.

Standard 16 became Standard 17 in 2015 when ANA published the third edition of *Nursing: Scope and Standards of Practice* (available for purchase through ANA). Although specific language has changed, the principles underlying the Standard remain the same. All nurses are to assess, communicate and reduce environmental health risks and participate in “promoting healthy communities and practice environments” (page 84). Graduate level prepared nurses, including APRNs, are to create “partnerships that promote sustainable global environmental health policies and conditions that focus on prevention of hazards to people and the natural environment” (page 84).

REFERENCES

American Nurses' Association (ANA). (2015). *Nursing: Scope and standards of practice, 3rd ed.* Nursesbooks.org: Silver Spring, MD.

THE ALLIANCE OF NURSES FOR HEALTHY ENVIRONMENTS (ANHE) ASA RESOURCE

The Alliance of Nurses for Healthy Environments (ANHE) has developed its website and this e-text to assist you in developing competencies in Environmental Health. Here you can attain knowledge regarding Environmental Health in Nursing and network with other nurses who have similar interests. The website enables you to exchange information and ideas, as well as collaborate, to promote healthy people and healthy environments.

This e-text is a good place to start if you want the basics. The e-text is being developed as a virtual “textbook” on environmental health in nursing. The writings are peer-reviewed and written by leaders in environmental health nursing. The e-text provides the latest information and

resources for use in academic, clinical, and public arenas. Other resources at [EnviRN](#) include teaching strategies and links to other outstanding topics for environmental health and nursing.