

Report 50: Integrating Environmental Health into Medical and Nursing Curricula

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Brief History: Concepts in environmental health, such as history taking, screening, anticipatory guidance and treatment of environmental exposures, are notably lacking in the basic training of doctors and nurses. Core content within the entry level curricula on environmental exposures mainly focuses on classic examples of toxicants, such as lead poisoning in children, indoor air quality and asthma, and avoiding a limited number of substances during pregnancy: alcohol, tobacco, and mercury exposure through fish consumption. A handful of universities across the US that provide entry-level training in medicine and nursing have electives in environmental health.

At the graduate and post-graduate level, more options for specializing in environmental health exist, but by definition, these programs are populated with students who already have an interest in environmental health issues. The general practitioner and the bedside nurse do not receive adequate preparation in environmental health to care for their patients. Patients are coming to their healthcare provider with questions about substances such as BPA, phthalates, VOCs and pesticide that the provider is not equipped to answer. Patients are needlessly being exposed toxicants and suffering from acute and chronic diseases as a result.

NIEHS needs to address the integration of environmental health content into basic medical and nursing curricula now, so that health care providers can focus on the prevention of chronic and acute diseases associated with environmental exposures. In addition, NIEHS needs to provide opportunities for post-graduate training of doctors and nurses, to strengthen and solidify the pipeline of environmental health researchers for the future.

Discussion Highlights:

In discussion the basic training of doctors and nurses, we agreed that our own initial professional training provided minimal opportunities to learn about environmental health. For example, physicians are not adequately trained to recognize and address chronic diseases that are caused or exacerbated by environmental factors. Training in emergency situations, such as a community oil spill, is also lacking.

Nursing is a discipline that has strong roots in environmental health. Florence Nightingale improved conditions of sanitation, air, water and food quality in army hospitals during the Crimean War. But current nursing education is more focused on treatment, with less emphasis on prevention.

There is a need to make basic training in environmental health a mandatory part of initial training for health professionals. How can we encourage and facilitate the adoption of environmental health contact into medical and nursing curricula? One effective strategy is to work with the licensing bodies that administer the RN and MD certification exams, to insure the inclusion of environmental health questions of the tests. Another strategy is to work with pertinent professional organizations, to integrate environmental concepts as core competencies for doctors and nurses. NIEHS can act as a resource for content development.

In addition to integrating environmental health into entry level training, there is a need to attract healthcare professionals to pursue further training in environmental health. The question becomes: how do we generate interest in environmental health? Currently, environmental health is seen as something tangential to the main functions of nursing and medicine. We need to bring environmental health to the forefront of clinical practice, and to highlight for clinicians the risk reduction messages they are already providing, to redefine their concept of environmental health. For example, if a healthcare provider asks a patient with atopic dermatitis about products around the home that may be exacerbating the condition, that screening and the subsequent recommendation to avoid exposures falls under the purview of environmental health.

Recommendations: We recommend that NIEHS take the following steps to achieve the two goals of basic and specialty training in environmental health for healthcare providers:

1. **Integrating environmental health into entry level training of doctors and nurses**

- Convene a group of experts in environmental health in nursing and in medicine, as an expert committee to make recommendations for curriculum development.
- Look at lessons learned from the NIEHS worker training program, and apply similar principles to the development of a health care provider training program.
- Form public/private partnerships with groups appropriate for the creation and dissemination of environmental curricula. For nursing, that may include: American Association of Colleges of Nursing (AACN), American Nurses Credentialing Center (ANCC), American Nursing Association (ANA), Alliance of Nurses for Healthy Environments (ANHE). For medicine, that may include: American Association of Medical Colleges (AAMC), American Medical Association (AMA), Council on Graduate Medical Education (COGME), American College of Preventative Medicine (ACPM), Physicians for Social Responsibility (PSR).
- Make a recommendation to colleges of nursing and medicine to integrate environmental health into entry level training.
- Provide opportunities to 'train-the-trainer', in order to bring existing faculty up to speed on environmental health.
- Create a PR campaign to promote incorporating environmental health into practice. This might include re-framing the existing curriculum content on environmental issues, to highlight the importance of the work. Another strategy may be to link concepts clinicians can relate to with concepts in environmental health that may be new. Examples are: "Heart disease is not just about cholesterol- it's air pollution. Diabetes is not just sugar- it's about endocrine disrupting compounds."

2. **Providing opportunities for post-graduate training in environmental health**

- Partner with local area universities such as UNC or Duke, to offer an environmental health rotation at NIEHS.
- Sponsor a post-doctoral elective course in environmental health, to generate interest in the field.
- Create an NIEHS Fellowship program for doctors and doctorally prepared nurses, to increase future research capacity. A mechanism similar to the T32 may be useful.
- Promote NIEHS funding opportunities to schools of medicine and nursing. A persuasive way to frame the opportunities might be: “Apply to two agencies- double your chances”. A direct communication from the NIEHS director to the Deans would be especially effective.
- Write editorials in professional journals, to highlight environmental health as an emerging subspecialty within traditional medical fields. Pertinent groups to target include preventive cardiologists, pulmonologists, immunologists, and allergy specialists.

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