An upstream exploration of occupational and environmental health disparities

Western Institute of Nursing
April 2018

Patricia Butterfield, PhD, RN, FAAN, Associate Dean for Research
Elson S. Floyd College of Medicine, Washington State University
2 reasons; take stock. examine societal context.
advance a culture of research and discovery
our state in freefall
implemented the PhD in nursing program...and the requisite science to assure a quality program
appreciation for both medicine and nursing has been sharpened
Science of occupational & environmental health disparities
woodstoves & wheezing
thinking upstream
old library at OHSU

...whiffs of papermill effluent, power coffee, & book mildew...
thinking upstream
Center for Research on Occupational & Environmental Toxicology (aka CROET)
Goal: Explore associations between occupation and environmental exposures and Young-onset Parkinson’s disease (YOPD)
Method: Case control study (63 subjects w YOPD, 68 controls)

<table>
<thead>
<tr>
<th>Exposure</th>
<th>Odds Ratio (OR)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insecticide exposure*</td>
<td>5.75</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Past residency in a fumigated home*</td>
<td>5.25</td>
<td>&lt;0.046</td>
</tr>
<tr>
<td>Herbicide exposure*</td>
<td>3.22</td>
<td>&lt;0.033</td>
</tr>
<tr>
<td>Rural residency at time of diagnosis*</td>
<td>2.72</td>
<td>&lt;0.027</td>
</tr>
<tr>
<td>Nuts/seeds eating 10 yrs. prior to dx*</td>
<td>1.49</td>
<td>&lt;0.021</td>
</tr>
</tbody>
</table>

* Adjusted for race, educational level, sex, age, age at diagnosis, and family history of Parkinson’s disease
February 1992

Occupational and environmental antecedents of young-onset Parkinson's disease

Patricia G. Butterfield

Left: Lillian Wald, Above: Nancy Milio
lessons learned
sentenced to workers compensation
trajectories of recovery from occupational low-back, knee, and wrist injuries among Oregon workers’ compensation recipients
...that activity was essential to recovery....and that the absence of it amplifies every other problem... or as Ms. Nightingale noted, “you have no idea the relief which manual labor is to you” (Nightingale, 1860).
need to consider multifaceted risks such as work-related fatigue, low wages, & worksite violence from an occupational health equity perspective
trading places & working without a net
moving upstream evidence-based environmental health short courses for nurses
wonderful collaborative of participants from diverse fields of practice, but sharing a common commitment to environmental health
CDC public health training network
TERRA and upstream reflections papers

being explicit about policy change

differentiating between distributive actions and strategic actions
Figure 1. TERRA framework: Key concepts and examples. Abbreviations: EH indicates environmental health; ERR, environmental risk reduction; and TERRA, translational environmental research in rural areas.
Effectiveness of a Household Environmental Health Intervention Delivered by Rural Public Health Nurses

Objective. Parents need meaningful and actionable information if they are to reduce household environmental health risks to their children. To address this issue, we tested the effectiveness of a multi-risk social cognitive intervention on rural low-income parents’ (1) environmental health self-efficacy and (2) stage of environmental health precautionary adoption.

Methods. Biomarker (lead, cotinine) and household samples (carbon monoxide, radon, mold/mildew, and drinking water contaminants) were collected from 236 families (369 adults, 441 children) in Montana and Washington states. Families were randomly assigned to intervention or control groups; intervention families received 4 visits from public health nurses who provided tailored information and guidance to parents; controls received usual and customary public health services.

Results. At 3 months, the intervention group had significantly higher scores on (1) all risk-specific self-efficacy subscales (P < .01), (2) general environmental health self-efficacy (P < .001), (3) 5 of 6 risk-specific precaution adoption subscales (P < .05), and (4) general environmental health precautionary adoption (P < .001).

Conclusions. The intervention yielded significant improvements in both outcomes. This evidence supported the need for policy discussion addressing the added value that broadband public health nurse interventions might bring to children’s environmental health. (Am J Public Health, 2011;101:5262-5270. doi: 10.2105/AJPH.2011.300164)
Learn more about helping future generations

How the U.S. Government Botched Its Multibillion-Dollar Plan to Beat Childhood Disease

The U.S. government spent 14 years trying to design the National Children’s Study, broad research that would answer medicine’s toughest questions about child health. Here’s why it failed

By John Tozzi and Alex Wayne
December 23, 2014 6:21 AM PST
“the future will ask; what did you do?”
Is power the fundamental cause of health inequities? The future will ask, what did you do?

Figure. Butterfield Upstream Model for Population Health (BUMP Health).
Is power the fundamental cause of health inequities?

The future will ask, what did you do?

---

**Figure.** Butterfield Upstream Model for Population Health (BUMP Health).
thank you