



Bridging the Gap Between Medicine and Public Health: Teaching Medicine Residents How to Assess and Mitigate Occupational and Environmental Exposures



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W.H.O. DEFINITION OF HEALTH

"Health ... connotes rather a way of functioning within one's environment (work, recreation, living). It not only means freedom from pain or disease, but also freedom to develop and maintain one's functional capacities."

OBJECTIVES

Develop, implement, and assess a skills-based curriculum which includes:
a) an overview of the major environmental and workplace health exposures
b) skill development in occupational and environmental history-taking
c) resources to help residents mitigate their patients' environmental and workplace health exposures.

BACKGROUND

The Institute of Medicine has called on primary care physicians to enhance their roles in occupational and environmental medicine (OEM), noting that training in OEM is lacking at all levels of medical education.¹

Work conditions are an important and often overlooked risk factor in obesity, sleep disorders, cardiovascular disease, asthma and depression among many other diseases.²

The environment is one of the major determinants of health, and pollution is the largest environmental cause of disease in the world today – accounting for three times more deaths than from AIDS, tuberculosis, and malaria combined.³

Taking an accurate exposure history enables physicians to make more accurate diagnoses, influence the course of exposure-related disease, prevent disease in others by preventing future exposures, and can prompt workplace and community safety evaluations.⁴

METHODS

-Half-day educational curriculum for primary care residents (YPC-MP) formulated with input from residents and faculty.

-OEM fellows led sessions with faculty observation. Faculty and fellows met regularly to refine curriculum.

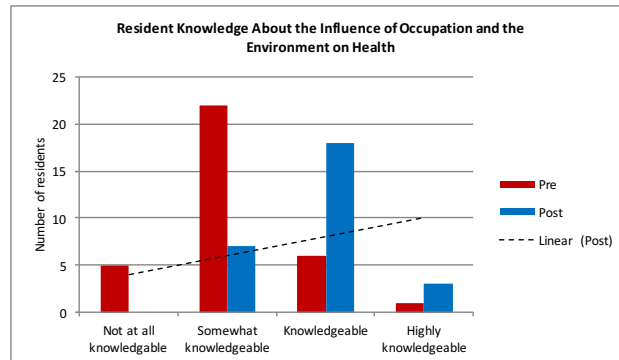
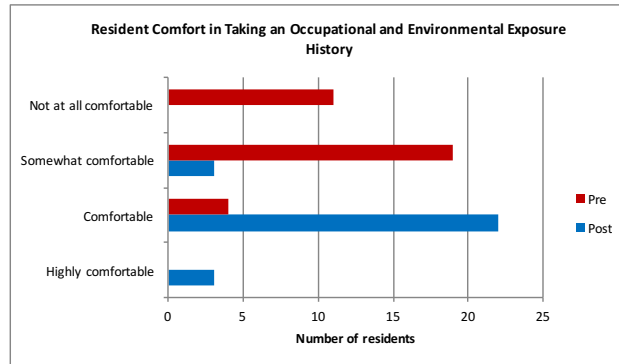
-Introduction to OEM highlighting environmental health impacts of climate change and air pollution, and common target organs of occupational exposures.

-Skill building exercise in exposure history taking (using common asthma case stem with modifiable exposure scenarios).

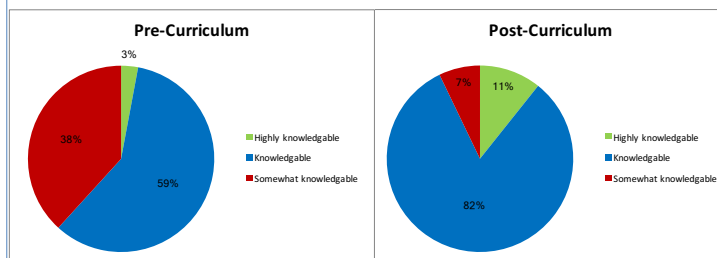
-Overview of key clinical and public health resources for managing exposure related health concerns.

-Pre- and post-course assessment surveys measuring knowledge, skills, and attitudes in OEM competencies completed by participants.

-As of May 16th, three of the four YPC-MP ambulatory groups have completed the session (34 residents).



Resident Knowledge of Resources to Address Patient Occupational and Environmental Health Concerns



RESULTS

All 34 residents completed the pre-assessment survey and 28 completed the post-assessment survey.

Only 12 of 34 residents (35%) reported prior training or experience in OEM.

Resident knowledge of OEM, comfort in taking an OEM history, and knowledge of resources all improved (see charts).

96% of residents reported being likely or very likely to change their practice as a result of the curriculum.

All of the residents who completed the post-course assessment found the session valuable, with 64% finding it highly valuable.

CONCLUSIONS / NEXT STEPS

The well-established educational gap in occupational and environmental medicine among front line providers appears to be true in our institution as well.

Implementation of a half day ambulatory curriculum in OEM that offered an introduction to the field, skill building in taking an exposure history, and overview of key clinical and public health resources successfully increased resident knowledge and comfort in these areas.

Future iterations of this curriculum will address additional knowledge gaps identified by our pre-course assessment such as establishing work-relatedness of a health condition and writing effective work restrictions.

Point-of-care, electronic health record tools to facilitate ongoing use of the knowledge and skills highlighted in the curriculum are being developed and will enable longitudinal assessment of curriculum impact.

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