

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PEDIATRICS AND COMMUNICABLE DISEASES
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES
DEPARTMENT OF HEALTH BEHAVIOR AND HEALTH EDUCATION

Toby C. Lewis, M.D., assistant professor of pediatrics and communicable diseases, Department of Pediatrics and Communicable Diseases, Medical School, assistant professor of environmental health sciences, Department of Environmental Health Sciences, and assistant professor of health behavior and health education, Department of Health Behavior and Health Education, School of Public Health, is recommended for promotion to associate professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School, associate professor of environmental health sciences, without tenure, Department of Environmental Health Sciences, and associate professor of health behavior and health education, without tenure, Department of Health Behavior and Health Education, School of Public Health.

Academic Degrees:

M.P.H.	1999	University of Washington
M.D.	1993	Cornell University
B.A.	1988	Harvard University

Professional Record:

2003-present	Assistant Professor of Pediatrics and Communicable Diseases, University of Michigan
2007-present	Assistant Professor of Environmental Health Sciences, University of Michigan
2010-present	Assistant Professor of Health Behavior/Health Education, University of Michigan
2001-2010	Assistant Research Scientist, Department of Health Behavior/Health Education, University of Michigan
1999-2003	Clinical Lecturer, Department of Pediatrics and Communicable Diseases, University of Michigan

Summary of Evaluation:

Teaching: In addition to providing bedside teaching and didactic lectures to medical students, house officers and fellows in the context of her clinical work, Dr. Lewis organizes and directs monthly joint pediatric pulmonary/pediatric radiology conference. She has also provided mentorship to two medical students, three pediatrics house officers, one pulmonary fellow and two post-doctoral Robert Wood Johnson Scholars. As one of the few medical school faculty

with a joint appointment in the School of Public Health, she is uniquely qualified to teach medical students the principles of public health and how they relate to medical practice.

Research: Dr. Lewis' current work is quite ambitious and important. She is testing the general hypothesis that traffic-associated air pollution, specifically diesel exhaust, and respiratory viral infections combine to induce exaggerated asthmatic responses in children with asthma. She will determine whether traffic-associated air pollution increases susceptibility to viral upper respiratory tract infections, and whether combined exposures to pollutants and upper respiratory tract infections elicit augmented inflammatory and oxidative stress responses, leading to worse clinical asthma outcomes. This work will enhance previous approaches by including the direct measurement of biomarkers needed to establish physiologic mechanisms, thereby moving the field forward at a rate significantly faster than previous epidemiologic studies. Based on her rapidly increasing experience in obtaining and analyzing clinical specimens from children with asthma, it is anticipated that Dr. Lewis will become a departmental leader in the conduct of mechanistic clinical research. This type of research will be critical to overall research enterprise in the coming years. Based on her ability to accomplish this work, Dr. Lewis can assist basic scientists and increase the impact of their work and accelerate the translation of research findings to clinical practice. It is expected that Dr. Lewis will lead (rather than simply participate in) large epidemiologic studies on childhood asthma. Indeed, she has recently been appointed principal investigator of a grant previously held by Dr. Edith Parker from the School of Public Health.

Recent and Significant Publications:

Parker EA, Israel BA, Robins TG, Mentz G, Lin X, Brakefield-Caldwell W, Ramirez E, Edgren KK, Salinas M, Lewis TC: Evaluation of community action against asthma: a community health worker intervention to improve children's asthma related health by reducing household environmental triggers for asthma. *Health Behavior Education* 35:376-395, 2008.

Lewis TC, Robins TG, Dvonch JT, Keeler GJ, Yip FY, Mentz GB, Lin X, Parker EA, Israel BA, Gonzalez L, Hill Y: Air pollution associated changes in lung function among asthmatic children in Detroit. *Environ Health Perspect* 113:1068-1075, 2005.

Eggleston PA, Diette G, Lipsett M, Lewis TC, Tager I, McConnell R, Chrischilles E, Lanphear B, Miller R, Krishnan J: Lessons learned for the study of childhood asthma from the Centers for Children's Environmental Health and Disease Prevention Research. *Environ Health Perspect* 113:1430-1436, 2005.

Edgren KK, Parker EA, Israel BA, Lewis TC, Salinas MA, Robins TG, Hill YR: Community involvement in the conduct of a health education intervention and research project: community action against asthma. *Health Promotion Practice* 6:263-269, 2005.

Lewis TC, Robins TG, Joseph CLM, Parker EA, Edgren KK, Salinas MA, Rowe Z, Brown RW, Israel BA: Identification of gaps in the diagnosis and treatment of childhood asthma using a community-based participatory research approach. *J Urban Health* 81:472-488, 2004.

Service: Dr. Lewis serves as an attending physician on the inpatient pulmonary service at C.S. Mott Children's Hospital six weeks per year and staffs one half-day clinic session per week at the Taubman Multispecialty Clinic. Her efforts are critical to the division, where the demand for clinical services outstrips the supply of faculty. In addition, Dr. Lewis recently led the division's efforts to standardize physician and nursing responses to the recent H1N1 influenza outbreak. As an associate professor, Dr. Lewis will continue these vital clinical efforts.

External Review:

Reviewer A: "Her CV indicates evidence of an independent research program with a reasonable assurance of continuity as well as a national reputation in her area of research....CBPR is of utmost importance to public health objectives in that it begins with a research topic of importance to the community and combines knowledge with action to achieve social change and improve health outcomes....Dr. Lewis demonstrates a well-established area of scholarship with national recognition."

Reviewer B: "Dr. Lewis has made a positive impact not only in her specialty of pediatric pulmonology through her studies of the effects of ambient particulate matter and viral infections on the severity of asthma symptoms in children, but also speaks with authority on the community-based participatory research (CBPR) model in the area of health education, intervention and implementation....The potential for innovative work in CBPR is real, and Dr. Lewis has the experience (and resumed commitment) to make meaningful contributions in this neglected area of endeavor."

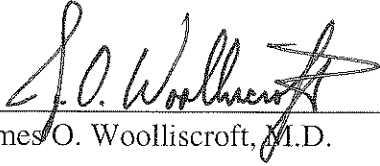
Reviewer C: "She has made significant contributions to the literature already and seems very likely to continue to develop in an area that should remain vital for many years to come. Her accomplishments place her clearly in the top rank of faculty members in pediatric pulmonology at her stage in the country."

Reviewer D: "...there is little doubt that she has achieved national recognition for her interdisciplinary work on the relationship of air pollution, viral infection lung inflammation and lung function."

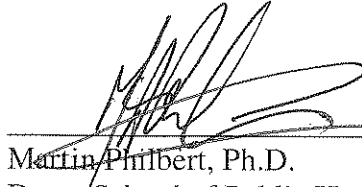
Reviewer E: "Dr. Lewis has clearly been a very valuable contributor to several important multidisciplinary research efforts and has served as PI on smaller studies. She has regularly presented her research at the national scientific meetings of several professional associations. Importantly, she recently obtained her first R01 as principal investigator, pursuing her interest in the effects of diesel exhaust and respiratory viruses in asthmatic children."

Summary of Recommendation:

Dr. Lewis is a valued faculty member making important contributions to our understanding of environmental effects on childhood asthma. We are pleased to recommend her for promotion to associate professor, with tenure, in the Department of Pediatrics and Communicable Disease, Medical School, and associate professor, without tenure, in the Department of Environmental Health Sciences and the Department of Health Behavior and Health Education, School of Public Health.



James O. Woolliscroft, M.D.
Dean
Lyle C. Roll Professor of Medicine



Martin Philbert, Ph.D.
Dean, School of Public Health

May 2011