

**THE HARVARD EDUCATION AND RESEARCH CENTER FOR  
OCCUPATIONAL SAFETY AND HEALTH**

**SUMMARY ANNUAL REPORT**

**July 1, 2007– June 30, 2008**

**NIOSH Training Grant**

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**A. SUMMARY**

The period from 2007–08 has been a very productive period for the Education and Research Center (ERC) at Harvard School of Public Health (HSPH). Despite the tight federal funding for biomedical and public health research, the Harvard ERC faculty has continued to expand its research portfolio in occupational safety and health (OSH) projects. Moreover, we have maintained our academic programs' quality and enrollment. At the conclusion of the year, we submitted a competing renewal that received excellent peer reviews. We look forward to educating and training the next generation of OSH professionals – practitioners, professors, researchers in the coming 5-year period.

**B. OCCUPATIONAL AND ENVIRONMENTAL MEDICINE CORE**

For the Occupational and Environmental Medicine (OEM) Core, changes in the practicum year were made to address the residents' responses on the incoming assessment and more particularly their scores on the in-service exam given every August to residents in both years. Although many residents enter with more than the required 1 clinical year, those who had not had a residency experience were found to be less skilled in the area of suturing, and on the in-service exam their scores were low in the area of infectious disease. For our quality improvement plan, we now arrange a "bioskills" class, when needed, to provide additional suturing practice, and we have added a rotation in

Travel Medicine at Tufts-New England Medicine Center that provides experience with diseases such as tuberculosis, HIV/AIDs, cholera, Asian flu, and to emergent diseases such as avian influenza. In addition, research opportunities for practicum-year residents have allowed those interested in research to participate in state-of-the-art research. The OM Core had 7 trainees this academic year. One trainee received their MPH degree and 2 trainees entered as special students because they received their MPH degree from other institutions. There were 4 trainees who continued onto their practicum year, of which 3 graduated.

### **C. INDUSTRIAL HYGIENE CORE**

In the Industrial Hygiene (IH) Core, our goal is to train leaders who will rise to the top of the field and have a broad impact. Our second strategy is to “train the trainers” by encouraging our MS graduates to obtain doctoral training. More than half of our graduates have earned doctorates from HSPH and other schools, and many of those have taken faculty positions in other IH programs, noted earlier. They have predominantly obtained doctorates in industrial hygiene and in occupational epidemiology. One of the major critiques of epidemiology is the weakness of its exposure assessment. Epidemiologic researchers with an MS in IH have strong training in exposure assessment. We graduated three doctoral students in Occupational Epidemiology with previous MS degrees in IH. This is consistent with our philosophy to have an important impact on a closely related discipline, and the commitment to true interdisciplinary education and training. The IH Core had 9 trainees this academic year, of which 4 graduated.

From 2007 to 2008, the **HSAT** program had 3 trainees and graduated two master’s level students. One is now an Industrial Hygienist at the University of Santa Cruz. The other graduate is an Officer at the EPA.

### **D. OCCUPATIONAL HEALTH NURSING CORE**

The Occupational Health Nursing (OHN) Core is entering its 16th year of NIOSH funding and 19th year of existence. The program has been successful in recruiting and retaining highly qualified nursing students and has graduated a diverse range of talented advanced practice nurses who have gone on to become academics, researchers, nurse practitioners, administrators, consultants, and advocates for worker populations. The OHN Core is a collaborative program of the Harvard ERC with Simmons College in Boston.

The past year has been marked by difficulty recruiting eligible nurses into the program. This is due to many factors but primarily the market forces at work. Bedside nurses are enjoying record high salaries, resulting in little incentive to leave work and pursue an academic degree where tuition costs have outpaced the return on investment, especially for the older nurse. As the average age of nurses continues to rise into the 50s, it becomes even more difficult for nurses to consider making a career change. Additionally, the popularity of the associate degree program for entry into practice has changed the

demographics of the workforce. Almost 60% of new graduates come from associate degree programs where there is virtually no exposure to specialty practices or leadership and research content. Without this exposure, it is hard to impress nurses that occupational health may be a viable career choice. Despite these barriers, we have been able to recruit talented nurses, but will re-evaluate our program in the coming year. The OHN Core had 4 students this academic year and graduated 2.

## **E. OCCUPATIONAL EPIDEMIOLOGY CORE**

The Occupational Epidemiology academic training program has the largest concentration of doctoral trainees in the ERC. It has enjoyed growth and is quite large, due to our success in leveraging other training grants (such as the NIEHS-funded Environmental Epidemiology T32 grant), utilizing National Occupational Research Agenda (NORA) supplement research support, and accessing scholarship resources available at Harvard. As of June 30, 2008, we had 18 trainees in the academic program, with 7 receiving ERC support. A total of 5 students graduated. Four 2008 graduates are pursuing postdoctoral training. The Occupational Epidemiology academic program has expanded its faculty with the addition of Dr. Marc Weisskopf, who has a PhD in neurophysiology as well as an ScD from HSPH in epidemiology; he has a joint appointment in the Department of Epidemiology. We also have welcomed Dr. Robert Wright, an assistant professor at Harvard Medical School (HMS) and HSPH, who has taken over most of Dr. Hu's research portfolio after his departure. Even in these trying times, the faculty's funded research has peaked, with \$13 million dollars in NIH- and NIOSH-sponsored grants.

## **F. OCCUPATIONAL INJURY PREVENTION PROGRAM**

The Occupational Injury Prevention Research Training Program continues to be directed by Jack T. Dennerlein, PhD, associate professor of ergonomics and safety, and Melissa J. Perry, ScD, associate professor of occupational epidemiology. We continued and renewed collaborative training efforts with the Liberty Mutual Research Institute for Safety, the Harvard Injury Control Research Center, Massachusetts Institute of Technology (MIT), and the Massachusetts Department of Public Health. In 2005 we expanded our program faculty with the addition of Drs. Ian Noy and Mary Bouxsein. Dr. Noy is the new director of the Liberty Mutual Research Institute for Safety with a strong research record in traffic safety, and Dr. Bouxsein is an instructor at HMS, a researcher in the Orthopedics Biomechanics Laboratory, and an expert in fracture mechanics and epidemiology. The OIPRT core had 8 students this academic year, of which 4 graduated.

**G.** The Harvard ERC **Continuing Education** program has been updated and now is financially in the black for the first time in 30 years. The program works collaboratively with the Center for Continuing Professing Education (CCPE), which has created a "New

Program Development Fund” to promote new relationships and programs by offering \$2,000-\$5,000 to HSPH faculty to develop new programs with CCPE. This initiative, launched in October 2004 with an e-mail sent to all HSPH faculty, is managed by Lynn Fitzgerald, associate director of programming and finance for the CCPE and director of continuing education for the ERC. In recent months, the CCPE Policy Committee has discussed the possibility of increasing the development awards. For this academic year, our continuing education program offered 52 courses. The total number of trainees enrolled was 1,140.

**H.** Our acclaimed **Outreach Program** has continued to expand the Visiting Scholars Program for area college faculty and stakeholders. In addition, outreach to an underserved population — New England’s fishing communities, which have suffered severe loss of life in recent years — is a priority for outreach and research-to-practice activities led by the Outreach Director, Ms. Ann Backus. The Outreach program has continued to enhance interactions of faculty with labor unions and professional organizations such as the New England College of Occupational and Environmental Medicine (NECOEM) and the American Association of Occupational Health Nurses (AAOHN), organize health fairs, photographic exhibits, and NORA Town Hall Meetings 2006, participate in the Maine Occupational Research Agenda (MORA), and conduct a Professional Workforce Needs Assessment, the results of which are utilized by the academic core programs . Finally, the Outreach program worked with the CCPE to offer a highly successful “Acute and Chronic Noise Exposure” CE course in 2008.