Supervised Practicum Residency in Occupational and Environmental Medicine
University of Pennsylvania Health System

Program Overview

The University of Pennsylvania Occupational Medicine Residency Program is a two-year, ACGME accredited, NIOSH and HRSA-supported practicum residency program. It was created in 1997 to help address the shortage of formally trained OEM physicians in the United States noted by the Institute of Medicine in 1991 and has graduated 95 residents to date. Housed at the Thomas Jefferson Medical Center for the first two years, the program is currently based in the Division of Occupational and Environmental Medicine, Department of Emergency Medicine, Perelman School of Medicine at the University of Pennsylvania. The program is designed to provide structured, supervised training and experiences to ensure that the resident achieves competency in all areas required for the American Board of Preventive Medicine Examination in Occupational Medicine (ABPM-OM) and for the specialist practice of Occupational and Environmental Medicine. The program also addresses the competencies specified by the Accreditation Council for Graduate Medical Education for Residency Training in Preventive Medicine - Occupational Medicine and the core competencies identified by the American College of Occupational and Environmental Medicine. In addition, there is emphasis on the acquisition of knowledge, skills, and attitudes in leadership and organizational management. Strong clinical skills, beyond those expected from the minimal one required year, are necessary for admission to the program.

The goal of this competency based Occupational Medicine Residency is to prepare residents for the comprehensive practice of occupational medicine in a variety of settings including academia, hospital based clinics, free-standing occupational medicine practice, private practice, corporate settings, public health programs, governmental agencies and legal or regulatory authorities. The program consists of two interrelated components, a didactic component and an applied component. The program trains experienced physicians making a mid-career change to full-time practice in Occupational and Environmental Medicine (OEM) as well as physicians new to the field of OEM and as such there are two tracks: an Internal track and an External track. At the completion of this program the resident is expected to meet the general competencies for the program as well as the specific competencies related to each course.

Specific Educational Objectives

- To train OEM primary care specialists as preventionists equipped to empower individuals and populations to achieve high-quality, longer lives free of preventable disease, disability, injury and premature death as well as educate them toward promoting adoption of health behaviors across all life stages
• To facilitate acquisition of knowledge and ability to apply the core sciences of preventive medicine and population health namely epidemiology, biostatistics, health care organization and administration, occupational and environmental health, behavioral sciences and toxicology to identifying and solving the health problems in occupational groups
• To prepare physicians for leadership roles in academia, industry, public health, university or community based clinics, multi-specialty group clinics, private and government consultancy, research and other relevant domains influencing individual and population health and safety
• To develop residents in independent research skills with the use of appropriate analytical techniques in the prevention of occupational diseases and injuries and in the evaluation of occupational health care programs
• To facilitate acquisition of knowledge and skills in toxicology, environmental monitoring, and safety evaluation as they apply to individuals and populations
• To enhance ability of residents to competently care for and advise individuals with occupational and/or environmental exposures
• To teach residents about planning, managing, and evaluating of occupational health programs in clinical practice and corporate settings
• To develop an understanding in residents of the policy-making process in occupational medicine with respect to law, regulation, and workers’ compensation
• To create in residents an understanding of the roles and expertise of other occupational health professionals and stakeholders such as industrial hygienists and safety professional and EAP and enable them to collaborate with these professionals effectively to promote health, wellness and productivity of working populations
• To provide residents with a comprehensive clinical and research experience and prepare them to address complex problems in Occupational and Environmental Medicine
• To enable residents’ eligibility for the American Board of Preventive Medicine-Occupational Medicine

**External Track**

The External Track is designed to train clinical and professional leaders in occupational and environmental medicine. The program takes advantage, not only of the superb resources of one of the nation’s top five Schools of Medicine, but also of other schools at the University of Pennsylvania, such as the Wharton School of Business and the School of Engineering and Applied Science. During the first year there are five two-month **subject-area rotations (SAR)** nested within the program addressing specific competencies, which run concurrently with **clinical training rotations (CTR)**. The subject-area rotation competencies are: The Workplace: Hazard Recognition, Evaluation and Control; Environmental Health, Risk Assessment and Risk Communication; Organizational and Health Care Management; Population-Based Occupational Medicine; and The Worker: Disability and Work Fitness. Rotation directors are diplomates of the ABPM and national experts in the area covered by the rotation for which they are responsible. The clinical rotation competency objectives are arranged into six sets of clinical core competencies as required by the ACGME. They
are achieved through supervised clinical training at an approved site and didactic sessions. CTRs are directed by Site Supervisors who are also diplomates of the ABPM. The Residency Director, Associate Director or Core Faculty conducts quarterly visits to each clinical site to ensure educational quality. Successful completion of the program requires the active demonstration of competency in both the didactic and applied components through completion of required reports and projects and practical demonstration of required skills.

An appropriately qualified physician in full-time employment may participate in the external track of the residency provided that a practicum experience can be arranged with the employer that meets University of Pennsylvania program requirements and includes satisfactory supervision of the resident's clinical work. The external track requires a comprehensive written understanding with the employer, and time release for executive development programs. Depending on the experience available through employment additional arrangements may be necessary to provide sufficient breadth of experience, including experiences at the University of Pennsylvania Health System.

Candidates for the external track will generally be employed full-time in an occupational medicine practice in a clinical, corporate, military, or governmental setting as a staff physician, assistant medical director, associate medical director, or equivalent and will have continuing access to one or more senior physicians who can act as site supervisors for the purpose of the training. UPENN Occupational Residency program faculty will also make four visits to each resident's worksite over the course of the year.

Prior to admission applicants will need to establish and document that there are sufficient resources and variety of work to ensure the quality and comprehensiveness of the learning experience at their work location. The resources evaluated will include the:

- Number of employees and variety of jobs and job-settings.
- Medical facilities
- Caseloads
- Type of patients
- Opportunities for collaboration with industrial hygienists, nurses, safety personnel, counselors and/or others concerned with psychosocial issues.
- Opportunities to deal with clinical, scientific, social, legal and administrative issues
- Opportunities to deal with issues from the perspectives of workers and their representatives and of regulatory or legal authorities, as well as from the employers’ perspective
- Opportunities to interact with workers, human resources personnel, industrial relations personnel, line supervisors, worker representatives, and the outside medical community
- Opportunities for experience in the clinical and administrative aspects of direct worker care and job assignment, medical screening and surveillance, health conservation and promotion, environmental assessment, employee assistance and relevant regulatory compliance

The prospective resident will also need to demonstrate that he or she has a suitably qualified, board-certified physician who will be an on-site mentor.
Internal Track

The Internal track provides residents the opportunity to complete a rotation at the full-time internal track. Internal track residents complete rotations at the University of Pennsylvania Health System and affiliated organizations. Most of the clinical work is carried out at the Occupational and Environmental Medicine Clinic at the Hospital of the University of Pennsylvania and at the Pennsylvania Veteran’s Administration Medical Center. Rotations are based on each resident’s Education Plan. Besides clinical rotations, other available rotations include Industrial Hygiene, SOS, Agency for Toxic Substances and Disease Registry (ATSDR), Wharton, NIOSH, OSHA, Orthopedics, Ophthalmology, SEPTA and other Industrial Rotations, and Research.

Admission and General Requirements

The residency program operates on a rolling admissions schedule. All decisions of acceptance are made after the completion of the application process and positions are awarded to qualified candidates on a first come first serve basis. "Prior to appointment in the program, residents must have successfully completed at least 12 months of clinical education in a residency accredited by the ACGME, Royal College of Physicians and Surgeons of Canada, or the College of Family Physicians of Canada. Resident experience must include at least 11 months of direct patient care in both the in-patient and out-patient settings, and have fundamental clinical skills" (ACGME Common Program Requirements 7/1/2011). All residency candidates are generally expected to have strong clinical skills prior to admission, such as those obtained from training and experience in family practice, internal medicine, or emergency medicine. Candidates with clinical training in other specialties will also be considered for admission, however they may be required to gain additional experience in clinical areas that directly impact on occupational medicine practice. These clinical areas may include outpatient orthopedics, sports medicine, dermatology, pulmonary diseases, and ambulatory care.

All resident candidates will be “expected to possess a Masters in Public Health degree or an equivalent masters degree” (ACGME Common Program Requirements 7/1/2011). Individuals who do not meet this requirement are expected to be actively enrolled with the goal of completing the degree prior to the completion of the 2nd Year. Actively enrolled candidates must have successfully completed or have almost completed all the core courses required by the American Board of Preventive Medicine (Biostatistics; Epidemiology; Environmental and Occupational Health; Health Services Organization and Administration and a course on Social and Behavioral Influences on Health). The completion of business courses prior to admission is encouraged.

Program Schedule

The UPENN program is designed, following ACGME requirements, to be two years in length. This allows a resident to gain a broad-based education during the first year with a more focused education in preventive medicine in the second.

During the first year, each resident will develop an individual Educational Plan through discussion with his or her faculty preceptor and clinical training site supervisor. The didactic component of the first year consists of five rotations requiring three full days of
participation (Thursday, Friday, and Saturday) in Philadelphia, Pennsylvania, once a month.

The second year builds upon the first year and allows residents to progressively assume more responsibility in their educational paths. It is a time for enhanced personal growth and development and will involve research training, independent teaching, time management skills, acquisition of negotiation skills and assisting the residents in their ability to act as an independent consultant. The development of leadership and management skills will be salient themes during the second year.

Subject area rotations will continue to be competency based and will reflect more specialization of competency acquisition. Each rotation will continue to consist of three full days of participation (Thursday, Friday, and Saturday) in Philadelphia. Three site visits will also be conducted to the clinical site during the second year of the program as the clinical work continues.

In addition to subject area rotations, residents will be afforded the opportunity to pursue areas of particular interest to them as well as further develop in greater depth a project that was started during the first year, such as a rotation project. There will be substantial project activity or program development during this year and residents will be expected to participate in a supervised second year project under the guidance of core faculty with an expected deliverable at the end of the second year.

<p>| Year 1: COMPETENCY SUBJECT AREA ROTATIONS (3 DAYS PER MONTH) |
|-------------------------------|--------------------------------------------------------------------------------------------------|
| MONTH                        | ROTATION                                                                                         |
| JULY                         | Introduction – General                                                                           |
| AUGUST/SEPTEMBER             | The Workplace: Industrial Hygiene, Safety and Ergonomics                                          |
| OCTOBER/NOVEMBER             | Organizational Management                                                                       |
| DECEMBER/JANUARY             | Environmental Health: Risk Hazard Communication and Control                                      |
| FEBRUARY/MARCH               | Population-Based Occupational Medicine                                                           |
| APRIL/MAY                    | The Worker: Disability and Work Fitness (Commercial Driver Fitness Determination)               |
| JUNE                         | Bridging month: Introduction to the 2nd year Curriculum and Design of 2nd year Educational Plan  |</p>
<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Toxicology (OM1)</td>
<td>Dr. Lloyd Tepper</td>
</tr>
<tr>
<td>Occupational Epidemiology (OM1&amp;2)</td>
<td>Drs. Judith Green-McKenzie, Frances Shofer, and Lynne Taylor</td>
</tr>
<tr>
<td>Research Methods &amp; Second Year Project (OM1&amp;2)</td>
<td>Drs. Judith Green-McKenzie, Edward Emmett, Lloyd Tepper, Frances Shofer, and Lynne Taylor</td>
</tr>
<tr>
<td>Clinical Occupational Medicine (OM1&amp;2)</td>
<td>Drs. Saberi and Green-McKenzie</td>
</tr>
<tr>
<td>Noon-time informal Clinical Case Discussions (OM1&amp;2)</td>
<td>All faculty</td>
</tr>
</tbody>
</table>