

Final Performance Report Training Grant T01/CCT310441

ABSTRACT

NIOSH support for the Occupational Medicine Residency at the University of Pittsburgh, Graduate School of Public Health remains instrumental in maintaining the strength of the program. These Training Grant funds have been used exclusively for trainee expenses, stipends and support throughout the period of the grant. There remains strong institutional support for the program. There has been new leadership and a change in personnel, but the program remains strongly focused on producing well-trained Occupational Physicians.

During the five-year training period from July 1, 1996 to June 30, 2001, the Occupational Medicine Residency graduated 13 residents. All are employed in the specialty of Occupational Medicine, serving in industry, academia, hospital-based and freestanding clinics, military and government service. Eight of these residents have already taken passed the Specialty Board Examinations in Occupational Medicine, and several more are planning to take the exam in the near future. Four resident physicians will complete the program in 2001 and three new resident physicians began the residency in August, 2001.

The Academic Program has retained its essential character, with the addition of a new course and extended seminars, while the Practicum Training has been upgraded to include more clinical training and more Public Health exposure for the residents. The program continues to attract residents locally, nationally and internationally.

SIGNIFICANT FINDINGS

The NIOSH Training Grant for Training Physicians in Occupational Medicine has provided continuous support to the Occupational Medicine Residency at the University of Pittsburgh, Graduate School of Public Health during the reporting period July 1, 1996 through June 30, 2001. This support has been used exclusively for trainee expenses, stipends, and support during the grant period.

During the reporting period, 13 physicians successfully completed the Occupational Medicine Residency. They entered into a variety of professional careers, including: Academia (1), military (1), government (3), industry (2), hospital and freestanding clinics (4), and solo practice (2).

Eight graduates in the period from July 1, 1996 to June 30, 2001 have passed the Specialty Board Exam in Occupational Medicine. Other graduates are planning to take the exam this coming fall.

The Occupational and Environmental Medicine Programs at the University of Pittsburgh, Graduate School of Public Health continues to attract physicians from other countries. One physician from Indonesia completed her Ph.D. in Environmental Health and has

returned to her country to obtain a position in Occupational Health and Safety. An Occupational Health physician from Africa came to the Occupational Medicine Program and was awarded an M.P.H.. He also returned to his country in a leadership position for Occupational Health and Safety.

Joseph J. Schwerha, M.D., M.P.H. became the new Director of the program. Dr. Schwerha brings a wealth of experience, having been the Corporate General Manager of Health Services, and Medical Director for U.S. Steel Corporation. The faculty includes: Dr. Bertram Dinman, who continues to serve as part-time faculty, Dr. William Gauss, who unfortunately has recently passed away, Dr. Allene Scott was a full-time faculty member during several years of the grant period and then moved on into a clinical hospital-based position. Her replacement was Dr. John Uribe, one of the residents of the program. Dr. Jay Harper took on a more active role as a part-time faculty member in the department. Dr. Michael Kuniak served as a clinical faculty member at the beginning of the grant period, then moved on to a corporate position, and has returned as a Radiation Fellow in the department. He is available to help with teaching for the residents. A search is in progress to fill the other Occupational Medicine positions.

The University of Pittsburgh Medical Center Service has continued to evolve. UPMC Work Partners was created to provide a comprehensive occupational health service for the Greater Pittsburgh area. This effort eventually lead into a joint venture with Concentra Medical Centers to allow Concentra to manage some of the UPMC Health System outpatient and on-site clinical Occupational health services. UPMC Work Partners continues to provide for Occupational Medicine and Worker's Compensation services.

PROGRAM DESCRIPTION AND ACCOMPLISHMENTS

Background

Occupational medical education and training has strong historical roots at the University of Pittsburgh. As a major industrial center since the turn of the century, the Pittsburgh business community recognized the need for a regional resource and training center for prevention oriented Occupational Physicians. The Department of Occupational Medicine was one of four original academic departments when the Graduate School of Public Health (GSPH) was founded in 1948. The University of Pittsburgh Occupational Medicine Residency Program was one of the first training programs to be accredited by the Accreditation Council on Graduate Medical Education (ACGME).

The modern era of the residency training program began in 1983, when Dr. William McClellan reinitiated Occupational Medicine residency training at the University. Dr. Roy Gibson and Dr. Bertram Dinman were recruited as co-Directors of the Program in 1985 and were joined by Dr. William Gauss, 1987. The reborn residency, downsized due to limited funding, successfully acquired a NIOSH Training Grant in 1986, which provided critical support during the growth and development of the program. Building on

the NIOSH funding, the program received strong Institutional support, as well as support from the Industrial Community.

Occupational Medicine continues to play an important role at the University of Pittsburgh. In the late 1980's, the University of Pittsburgh Medical Center began a major initiative to promote and develop 4 broad disciplines for the 1990's: Cancer Treatment and Research; Transplantation; Human Genetics; and Environmental and Occupational Health (EOH). The initiative in EOH resulted in the recruitment of Dr. Herbert Rosenkranz as Chairman of the Department of Environmental and Occupational Health. Dr. Rosenkranz developed a department that is pro-class research into the molecular basis for Environmental and Occupational Toxicology. Research faculty have been recruited in such areas such as internal dosimetry and protein adduct formation, molecular biological approaches to host susceptibility factors, DNA adducts, oxidant damage and free radical chemistry, and pharmacodynamic studies of toxic chemicals and their metabolites. Dr. Rosenkranz has always been very supportive of the Occupational Medicine Program and in 1998 became the Interim Dean for the Graduate School of Public Health.

Achievements

Over the years, the field of Occupational Medicine has evolved and matured. The historical predominance of industry-based practice and "plant physicians" has been joined by a growing number of private, small-group, and hospital-based practitioners who provide Occupational Medicine services for the business community. As such, the Residency Training Program has evolved to include more clinical training sites.

In 1998, the American College of Occupational and Environmental Medicine (ACOEM) developed and defined a list of learning competencies for residents in Occupational and Environmental Medicine. A similar list of competencies for Occupational Medicine Residents has been encouraged by the ACGME. As such, the Occupational Medicine Residency Program has taken efforts to assure that the resident's training encompasses all of these fundamental competencies. A continual tracking of the resident's competencies in Occupational Medicine is done from the time they enter the residency. A base line list of their competencies is established and periodically updated as they continue in the program. Additional time has been allocated to seminars during the year to allow for exposure to areas of competency that might otherwise not be addressed in the Residency Training Program. These efforts provide the appropriate breadth and depth of knowledge, the effective application of which will provide the skills necessary for competency in the practice of Occupational Medicine.

Programs Director, Dr. David Tollerud left to pursue an opportunity at the Allegheny University of Health Sciences in 1996. After an extensive search, Dr. Joseph Schwerha began as Program Director in February 1998. The Interim before Dr. Schwerha took over, Dr. William Gauss had acted as Program Director. In the year 2000, Dr. Bruce Pitt was named as the Chairman of the Department of Environmental and Occupational Health, replacing Dr. Rosenkranz who devoted full-time to his position as Interim Dean of GSPH. In the year 2001, Dr. Bernard Goldstein was named as the new Dean of GSPH.

Dr. Goldstein is both nationally and internationally renowned physician in Occupational and Environmental Medicine.

Under the direction of Dr. Schwerha, the Residency Program has continued to flourish. Two of the areas of focus for Dr. Schwerha have been in the areas of Competencies for Occupational Medicine physicians and expanding the role of the department in Research. Dr. Schwerha has expanded the role of Seminars, Journal Club, Grand Rounds and review sessions for the purpose of providing a well-balanced education and occupational medicine, which will encompass all the competencies recommended by ACOEM. The University of Pittsburgh Occupational Medicine Residency Program has a long history of close ties with the community in terms of Practicum Rotation sites for the residents. Dr. Schwerha has worked closely with the local preceptors to upgrade the evaluation process and provide meaningful feedback to the residents. There has been a concerted effort to broaden the resident's Public Health training, especially with regards to practical training, by way of an enhanced involvement with the Allegheny County Health Department. Dr. Bruce Dixon, who is the Director of the Allegheny County Health Department, is also the Director of the Residency Advisory Committee. Dr. Dixon has been quite influential in continuing to provide meaningful practical experience for the residents in rotations with the Health Department.

Dr. Schwerha has also initiated efforts to upgrade the research capabilities of the department in terms of Occupational and Environmental Medicine. Collaborative efforts with the Allegheny County Health Department have resulted in a retrospective investigation of asthma in individuals under age 12 and Cardiopulmonary diseases in individuals age 65 and over and their relationship to exposure to air pollutants in Allegheny County. The department has also participated in a 5-year study in the department of Physical Therapy at the University of Pittsburgh for a low back pain study that evaluated the effectiveness of different Physical Therapy regimens. Dr. Harper and Dr. Schwerha were involved with this study, as well as Occupational Medicine residents were doing clinical rotations with Dr. Harper.

The Practicum year (PGY3) enjoys strong support and commitment from local medical directors who hold faculty appointments in the division as well as serving on the Residency Advisory Committee. The residents gain valuable practical experience by rotating through several local industries with the medical directors, including the Bayer Corporation and U.S. Steel Corporation. The residents also learn valuable clinical Occupational Medicine through rotations at Washington Hospital and St. Francis Hospital, both of which are lead by very experienced Occupational Medicine physicians. Similarly, the residents gain valuable clinical experience by working at the Concentra Medical Center locations, as well as the UPMC Work Partners Employee Health service, which is under the direction of Dr. Harper. As noted above, there is a renewed commitment to provide an exceptional experience at the Allegheny County Health Department for the residents. The program is also proud to be able to offer the residents rotations with the local OSHA Office, as well as the national OSHA Headquarters in Washington, D.C., through the direction of Dr. Charles Cortinovis. There is also an opportunity to a rotation at the Department of Energy in Washington, D.C. under the

direction of Dr. George Gebus. Both Dr. Cortinovis and Dr. Gebus are graduates of the Residency Program at the University of Pittsburgh.

Mr. Lawrence Keller, Director of Environmental Health and Safety for the University of Pittsburgh and a former graduate of the Industrial Hygiene Program at the Graduate School of Public Health has been instrumental in teaching Industrial Hygiene courses in the Occupational Medicine Program. In addition, the division is providing support for Mr. Keller's office to develop procedures and protocols for Occupational and Environmental Medicine for the University employees outside of the Medical Center. Mr. Keller has also been instrumental in formulating a Practicum Year Rotation providing the residents with Safety and Industrial Hygiene issues for the University of Pittsburgh.

The Academic course work for the residents has remained similar to that in the past. However, a new course was initiated, "Issues in Occupational Medicine", which deals primarily with prevention and management of illness, injury, and disability in the workplace. This course addresses issues and concerns encountered in real-life Occupational Health settings. Various subjects covered include: hazard recognition and control, disability management, independent medical evaluations, budget, staff, equipment, shift work, design of an occupational medical facility, psychological aspects of Occupational Medicine, health problems of health care workers, and financial concepts of Occupational Health clinics. This course compliments the introductory course in Occupational Medicine, which deals mainly with clinical aspects of Occupational Medicine and Toxicology. The faculty of the department teaches the course "Environmental and Occupational Processes, Practices and Programs", which acquaints students with current Environmental and Occupational Health programs and Environmental and Industrial practices and processes through lectures and field trips to selected industrial and government facilities. This course offers the students the opportunity to see a variety of working conditions that address health and safety issues. The success of these courses is seen by the large numbers of students from outside the department of Environmental and Occupational Health that are attending classes. These courses have been well received by Master of Public Health students in the Multidisciplinary MPH Program at GSPH. Many of the students are dentists and physicians who are in the process of obtaining their MPH degrees.

The clinical services for Occupational Health have undergone several changes. UPMC, Work Partners was developed to incorporate the Occupational Health Centers for all of the hospitals within the UPMC Health System. This included the University of Pittsburgh, Environmental and Occupational Health Clinic. In 1999, UPMC Work Partners entered into a joint venture with Concentra Medical Centers to allow Concentra to manage some of the UPMC Health System outpatient and on-site clinical Occupational Health Care Services for occupational illnesses and injuries. Concentra is the nation's largest network of Occupational Health Care Centers.

UPMC Work Partners became the Health System's product line for Occupational Medicine and Worker's Compensation services. UPMC Work Partners provides the administrative and medical management for the Employee Health Services of the health

system and it's over 25,000 employees. The medical direction for this program comes from the Division of Occupational and Environmental Medicine. Their services includes all pre-placement and return-to-work exams, drug screening, immunization programs and blood borne pathogen exposures.

As hospital based and group practice programs in Occupational Medicine continue to grow, the practicum rotations for clinical Occupational medicine have been strengthened. Clinical rotations with Washington Hospital and St. Francis Hospital have been developed to provide more exposure for residents to hospital based comprehensive Occupational Health Services. Both of these programs enable the residents to work with experienced Occupational Medicine physicians.

The Academic, clinical, research and teaching activities offer exceptional opportunities for integrating all aspects of Occupational and Environmental Medicine into an effective, integrated training program. This program enjoys strong institutional support and has achieved widespread recognition regionally and nationally. NIOSH funding has played a critical role in program development. This grant has laid the foundation for plans to expand the program, utilizing additional faculty and resources to meet regional and national needs for Occupational Health physicians.

Program Description

Leadership and Faculty

The Director of the Program is Dr. Joseph J. Schwerha. He is a Professor in the Department of Environmental and Occupational Health, in the Graduate School of Public Health, holds a joint appointment in the Department of Medicine, in the School of Medicine. Administrative support is currently provided by Dr. Bruce Pitt, Chairman of the Department and Dr. Bernard Goldstein, Dean of the Graduate School of Public Health.

Primary Training Faculty

JOSEPH J. SCHWERHA, M.D., M.P.H. – Director

Dr. Schwerha is a full-time faculty member who devotes 100% of his time to the Residency Training Program. He is Board-Certified in Occupational Medicine by the American Board of Preventive Medicine. Dr. Schwerha has been active within the department's curriculum committee in developing new courses and seminars. Prior to coming to the University, he was General Manager, Health Services and Medical Director for U.S. Steel Corporation with worldwide responsibility for Medical, Safety, Industrial Hygiene, Worker's Compensation and the Employee Assistance Program. He is active with numerous committees both locally and nationally. With a broad background in both Environmental and Occupational Medicine, and extensive experience in Industry, he brings Clinical expertise, organizational skills, Academic focus and a practical experience to the Director's position.

BERTRAM D. DINMAN, M.D., Sc.D. – Clinical Professor

Dr. Dinman is Board-Certified in Occupational Medicine and devotes 30% of his faculty time to the Residency Program. He was formally Co-Director of the University of Pittsburgh, Occupational Medicine Residency Program and has been Director of the Occupational Medicine Residency Programs at Ohio State University and The University of Michigan. Currently Dr. Dinman serves as a specialist site-visitor for evaluation and assessment of Residency Training Programs for the ACGME. Dr. Dinman was a past recipient of the William S. Knudsen Award and the Health Achievement Award in Occupational Medicine from the American College of Occupational Medicine.

WILLIAM F. GAUSS, M.D., M.P.H. – Clinical Professor (Deceased June, 2001)

Dr. Gauss is Clinical Professor of Occupational Medicine in the Department of Occupational and Environmental Medicine at the Graduate School of Public Health at the University of Pittsburgh. He is Board-Certified in Occupational Medicine. He is a past recipient of the Margaret Golninger Award in recognition of his outstanding contributions to the school and the community. In 1999, he was named as one of the “50 at 50” in recognition of his service to the school and Public Health which acknowledged 50 alumni faculty and friends associated with GSPH who have made significant contributions to Public Health over the past 50 years. He is a faculty representative to the University of Pittsburgh, Board of Trustees. He serves on numerous committees within the School of Public Health.

JAY D. HARPER, M.D., M.P.H. – Assistant Clinical Professor

Dr. Harper is a half-time faculty member who devotes 100% of his faculty time to the Residency Program. Dr. Harper is Board-Certified in Occupational Medicine and is Medical Director of Employee Health for the UPMC Health System. His previous experience includes work in Corporate Medicine and directing Hospital-based Occupational Medicine Programs. Dr. Harper currently serves as President of the Tri-State Occupational Medicine Association

Supporting Occupational and Environmental Medicine Faculty

BRUCE DIXON, M.D. – Medical Director (Allegheny County Health Department)

Dr. Dixon is the energetic Director of the Allegheny County Health Department and close collaborator with the Graduate School of Public Health. Dr. Dixon has supported the involvement of Graduate students into the field of Public Health practice. Dr. Dixon also serves as Chairman of the Residency Advisory Committee.

LAWRENCE W. KELLER, M.S., C.I.H., C.S.P. – Assistant Professor,
Environmental Health and Safety, Assistant Professor of OEH

Mr. Keller is Director of Environmental Health and Safety for the University of Pittsburgh and a former graduate of the Industrial Hygiene Program at the Graduate School of Public Health. Prior to coming to the University of Pittsburgh, Mr. Keller had extensive experience as the leading Industrial Hygienist at PPG Incorporated.

Capitalizing on his corporate experience, Mr. Keller has been instrumental in teaching Industrial Hygiene at the Graduate School of Public Health. He also serves

Other Training Faculty

The following are actively involved in the training program through the clinics and teaching, supervising OR sponsoring Practicum year training rotations:

H. Gregg Claycamp, M.S., Ph.D - Associate Professor, GSPH
Gordon McLeod, M.D. - HSA Professor, GSPH
Gary Marsh, Ph.D. - Biostatistics Professor, GSPH
Russell Rycheck, M.D., Dr.Ph - Associate Professor, GSPH
Ed Selker, M.S. - OSHA, Pittsburgh
Milton Black, M.D., M.P.H. - Adjunct Clinical Associated Professor, US Steel
Donald McGraw, M.D., M.P.H. - Adjunct Clinical Associate Professor, UPMC
Alberto Colombi, M.D. - Corporate Medical Director, PPG
Bruce Dixon, M.D. - Medical Director, Allegheny County Health Department
Larry Keller, M.S., C.I.H., C.S.P., Associate Professor, GSPH, University of Pittsburgh, Director Environmental Health & Safety,
Eugene Gingereau, M.D. - Director, Occupational Medicine, H.A.P.P.I. Program, St. Francis Hospital
George Schmieler, M.D. - Director, Occupational Medicine, Washington Hospital
Andrew Krouskop, M.D. – Medical Director, UPMC (Rehabilitation Institute)
Donald Molenaar, M.D., M.P.H. – Vice President, Corporate Medical Services, Bayer Corporation

Program Plan

The overriding purpose of the Occupational and Environmental Medicine Residency at the University of Pittsburgh has always been to prepare physicians for the full-time practice of Occupational and Environmental Medicine. The program emphasizes prevention as the cornerstone of Occupational and Environmental Medicine practice. Common themes which are reiterated throughout the didactic, clinical and practicum rotations include the need for occupational physicians to be familiar with the workplace and job activities of the workers; techniques for hazard identification and exposure prevention; the need for data acquisition skills and problem-solving ability; and development of clinical and diagnostic skills related to occupational diseases and injuries.

Occupational & Environmental Medicine differs from most specialties in its unique position at the interface between society, industry, government and the legal system. the University of Pittsburgh OEM Program stresses real-life application of the cognitive skills acquired during the academic year; Epidemiology and Biostatistics, Health Service Administration, Occupational and Environmental Law, Safety and Industrial Hygiene, Toxicology, Risk Assessment, Social and Behavioral Sciences and Occupational and Environmental Medicine. A major focus of the training is to instill in the residents the perception that the physician must be capable of investigating workers' exposure to

chemical, physical and biologic agents. The program addresses this need by observation and understanding of the work processes.

The Occupational and Environmental Medicine Residents are integrated into the teaching program in toxicology and risk assessment in the Department of Environmental and Occupational Health. This integration, combined with their participation in courses such as Epidemiology, Biostatistics, Health Services Administration, and Environmental Law ensures that the physicians gain an appreciation for inter-disciplinary approaches to occupational and environmental health problems. Participation in classes with students from a variety of backgrounds also engenders an appreciation for other critical elements in Occupational Medicine practice: communication skills and the ability to interact effectively with a broad range of professional colleagues.

The training program has an important mandate to prepare physicians to meet the requirements of the American Board of Preventive Medicine (ABPM) for certification in Occupational Medicine. The Academic and Practicum training schedule is reviewed continually to assure that all general and special requirements of the Board are met, both in name and content. The Program has been extremely successful in this regard as indicated by the large percentage (approaching 100%) of residents passing the Board examination.

The University of Pittsburgh Occupational and Environmental Medicine Residency was given full accreditation in June 1997 for five years by the accreditation Council on Graduate Medical Education (ACGME) as a two year program: an Academic Year (PGY2) and Practicum Year (PGY3). Currently, the Program is approved for five residents in each year. Physicians entering the program must have, at a minimum, already successfully completed an acceptable clinical year (PGY1) in a direct patient-care specialty such as Family Practice or Internal Medicine. The Program actively seeks candidates who have additional clinical training or practical experience, and many of the residents are already Board-eligible or certified in another specialty prior to entering the Program.

Academic Year

The PGY2 year consists of a two to four week orientation period in August, followed by an academic year conducted in the GSPH and leading to the MPH degree. The orientation consists of an overview and introduction to Occupational and Environmental Medicine, with emphasis on the "real -life" practice of Occupational Medicine. Activities in this orientation period include lectures, group discussions, seminars, computer demonstrations and field trips. Residents are also introduced to the UPMC Clinics.

The academic year consists of courses, seminars, individual projects, field trips and a thesis preparation and presentation. Course work in the academic year addresses all cognate areas specified in the general and specific requirements of the American Board of Preventive Medicine. Courses in Toxicology, Safety, Ergonomics, Radiation Health, Biostatistics, Epidemiology, Health Administration, Risk Sciences, Behavioral Sciences,

Occupational Medicine, and Environmental and Occupational Health Law prepare the trainees for entrance into the Practicum year and ultimately for the practice of the specialty.

A significant element to the resident teaching program, initiated in 1991-1992 is the course EOH 2111 Environmental and Occupational Health: Processes, Practices and Programs. In this course, Occupational Medicine Residents and other students in the Department of Environmental and Occupational Health participate in field trips to sites in the Greater Pittsburgh area, which illustrate the breadth and depth of Occupational and Environmental Health practice. Field trips are preceded by a lecture, demonstration or discussion of the health aspects of the site to be visited. Following the field trip, students prepare reports and discuss issues, which were brought out during the field trip experience. This required course, which will be given in the summer term, provides a unique opportunity for residents and other graduate students to experience first-hand industrial settings in which now Occupational and Environmental Medicine is practiced. This experience also lays the foundation for the programmatic emphasis on work site visits as a fundamental part of the practice of Occupational Medicine. Throughout the year, residents participate in weekly division seminars. Topics of current interest in Occupational and Environmental Health are presented and discussed, ranging from highly technical research presentations to broad discussions of occupational and environmental health practice.

A monthly Journal Club, Grand Rounds and/or clinical conference provides an additional forum for discussion of OEM literature and case studies. These meetings are attended by Occupational Medicine residents and faculty and provide unique opportunities for more in-depth discussions of the literature and the practical implications of scientific findings.

MPH students are required to prepare and present a thesis or essay during their residency program. The topic may range from a laboratory research experience to clinical research or a comprehensive state-of-the art literature review and analysis. This is usually accomplished during the academic year, which is 12 months in duration (August-July).

Practicum Year

The Practicum Year is designed to build upon the concepts developed during the academic year and to emphasize the application of these new cognitive skills to the practice of Occupational Medicine. The faculty monitors the Program to assure that it satisfies the training requirements of the American Board of Preventive Medicine (in Occupational Medicine). In addition, faculty members spend a great deal of time tailoring the Practicum Program to the background and needs of each individual resident physician. A monthly Journal Club, Grand Rounds and/or clinical conference provides an additional forum for discussion of OEM literature and case studies. These meetings are attended by Occupational Medicine residents and faculty and provides unique opportunities for more in-depth discussions of the literature and the practical implications of scientific findings.

MPH students are required to prepare and present a thesis or essay during their residency program. The topic may range from a laboratory research experience to clinical research or a comprehensive state-of-the art literature review and analysis. This is usually accomplished during the academic year, which is 12 months in duration (August-July). In addition to industrial rotations, each of which usually lasts 1-4 months, the Practicum Year includes rotations in the UPMC Clinics, UPMC Rehabilitation Center, Allegheny County Health Department, St. Francis Medical Center, Washington Hospital, Industrial Hygiene at the University of Pittsburgh and OSHA both in Pittsburgh and in Washington, D.C.. Currently, all Practicum sites with the exception of OSHA in Washington, D.C., are located in the Greater Pittsburgh area, facilitating close coordination of Program components and allowing detailed monitoring of residents' progress.

All Practicum experiences are supervised by a Board-certified occupational physician, either faculty or on site or both, and include: opportunities for clinical management of occupationally-related disease and injury; pre-placement evaluations emphasizing knowledge of specific job requirements and medical examination results; investigation of patterns of work-related illness; issues and practical aspects of workers' compensation; rehabilitation evaluation and practice; health promotion and employee assistance; preparation of reports and recommendations based on work site evaluation in conjunction with industrial hygiene and safety professionals; and direct participation in organizational planning and administration of health programs and policies. Formal reports based on assigned projects and investigations during Practicum Year rotations may result in institutional policy statements and lead to publication in professional journals. Practicum rotations in the industrial site include a unique opportunity for residents to work hand-in-hand with a Corporate Medical Director of a major industrial firm for a prolonged period of time. These experiences have proven invaluable to the residents both for current academic value and future professional advancement, and have uniformly received enthusiastic evaluations from the residents.

Preceptor Programs

USS CORPORATION, Pittsburgh, PA. Preceptor: Charles Prezzia, M.D., M.P.H., General Manager Health Services & Medical Director.

The residents have in-plant experience at the Mon Valley and Clairton locations. Clairton involves the world's largest coke plant and the integrated steel facility at Edgar Thompson-Irvin includes blast furnaces, the BOP shop and various rolling and coating facilities. this includes but is not limited to the following areas:

A. Medical. There is experience in direct patient care which includes treating individuals immediately following an accident, injury or diagnosis of illness, and the development of liaison with local physicians and nurses located at 3 medical facilities. Workers compensation with relationship to these accidents as well as the total rehabilitation process is included. Protocols for the medical unit are reviewed as well as

medical monitoring procedures. Where appropriate, audits of the medical facilities in the Pittsburgh area, and other locations, are conducted. Review of BLS guidelines for OSHA record ability of accidents and injuries as well as medical monitoring requirements by corporate policy is included. These activities are performed within the corporate guidelines and with liaison with the corporate office. The Residents become familiar with HIMS (Health Information Management System) a computerized system managing data generated by Medical, Safety and Industrial Hygiene activities.

B. Safety. Daily safety activities include, but are not limited to, safety audits, safe job procedures, safety contracts and extensive accident investigations.

C. Industrial Hygiene. Industrial hygiene monitoring responsibilities of industrial hygiene personnel are experienced particularly in the coke oven area at the Clairton Works, as well as monitoring requirements of the Corporation not covered by Federal, State or Local legislation.

D. Litigation. Direct experience is gained in the area of arbitration, workers' compensation hearings, and OSHA hearings. This enables residents to have first hand experience with what is required when testimony is given in these situations.

PPG INDUSTRIES Pittsburgh, PA Preceptor: Alberto Columbi, M.D., M.P.H.
Preceptor: Joseph J. Schwerha, M.D., M.P.H.

Pittsburgh Corporate Headquarters, four research and development facilities, several automotive glass manufacturing plants, and two paint manufacturing facilities any of which may be used during the resident rotation. Many other similar manufacturing facilities in adjacent states, and further a field, may also be used.

Supervision: the PPG Corporate Medical Director will supervise the resident. The precise structure, schedule, and objectives of an individual practicum will be established by the Director, Division of Occupational and Environmental Medicine, or the Director's representative, and the PPG Corporate Medical Director. A formal review of the resident's performance and accomplishments will be held at the practicum's conclusion.

The practicum may include involvement in any of the following:

Medical Consultation on issues of importance to business managers: Appreciation and communication of competent scientific analysis and advice for use in the development, refinement, and application of company policies. The scope of issues may include but it is not limited to reproductive health, health promotions, workers compensation, substance abuse, employee assistance, ergonomics, safety programs, occupational medicine, and medical benefits design.

Occupational Medicine Program Development and assessment, planning, refinement, maintenance, and data management for periodic examination programs, clinical

laboratory studies, audio metrics, ergonomics, regulatory compliance, occupational Epidemiology, or other similar programs.

Medical Due-Diligence Activities:

Development and application of methods for in scrutiny of plant-based medical systems and functions to assure conformance to good medical practices, regulatory requirements, and principles of efficiency.

BAYER CORPORATION. Pittsburgh, PA, Preceptor: Donald Molenaar, M.D., M.P.H.
Vice President, Corporate Medical Services

Bayer Corporation is a research-based company with major businesses in healthcare and life sciences, chemicals and imaging technologies. Headquartered in Pittsburgh, Pennsylvania, Bayer Corporation has over 25,000 employees and sales of approximately nine billion dollars. Bayer is committed to environmental protection and to the health and safety of our employees, customers and the communities in which we work and live.

At a glance, Bayer Corporation has three main business groupings and nine production divisions. They are:

Healthcare and Life Sciences Group

- Pharmaceutical Division
- Consumer Care Division
- Diagnostics Division
- Agriculture Division

Chemicals Group

- Polymers Division
- Industrial Chemicals Division
- Fibers, Additives and Rubber Division

Performance Products Division

Imaging Technologies Group

- Agfa Division

In addition to the nine production divisions, there are two staff divisions: Administration and Finance Division and Technology Division of which the Health, Environment and Safety Organization (HES) is an integral component.

Facilities: Bayer's Corporate Medical Department is located on the Parkway West in Pittsburgh, Pennsylvania. There are several nearby satellite facilities, which may be used in New Martinsville, West Virginia, a distance of two hours from Pittsburgh. Other facilities accessible by air travel may also be utilized.

Supervision: The resident will be supervised by the Vice President of corporate medical Services joined by the Manager of Corporate Medical Services.

The structure and schedule of the resident will evolve dynamically from the activities and processes of the Corporate Medical organization. These may include:

ALLEGHENY COUNTY HEALTH DEPARTMENT., (Rotation) Pittsburgh, PA
Bruce W. Dixon, M.D. and Staff
Preceptor: Joseph J. Schwerha, M.D., M.P.H.

This rotation, under the auspices of the Allegheny County Health Department, will provide opportunities for the Resident to gain practical experience in managing clinical, social, scientific, and administrative matters in the public health area, working directly with the Director and Staff of the Department on issues involving environment quality, air quality, and human health services.

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA)
Pittsburgh, PA Preceptor: Ed Selker, M.S. and Joseph Schwerha, M.D., M.P.H.

The Pittsburgh Area Office is located in Room 1428 of the Federal Building at 1000 Liberty Avenue, Pittsburgh, PA. The resident will be given a workstation, and will have free access to our library and computerized databases. He/she will be working under the direct supervision of the Industrial Hygiene Supervisor, who will provide a written evaluation at the end of the rotation. This will be discussed in detail with the resident, and shared with the resident. The OSHA supervisor will work closely with the faculty throughout this assignment to assure that the rotation is serving its intended purpose. In turn the resident will prepare a written evaluation of the practicum rotation, which will in turn be shared with this office.

It is anticipated that the resident will assist the industrial hygienists in conducting workplace inspections where Occupational Health problems are alleged to exist. The candidate will assist in all facets of the inspection from doing research to calibrating and utilizing air-sampling apparatus. Other duties may include assisting this office in training duties related to Occupation Health, assisting in analyzing OSHA 200 logs, and collecting background information on issues pertaining to occupational health.

No direct compensation will be provided to the resident, and the candidate will be responsible for his/her own travel, except that rides will be shared where possible. Personal protective equipment will be provided to the candidate, except that the candidate will be expected to purchase a pair of steel-toed safety shoes for conducting workplace inspections.

In as much as OSHA is a Regulatory Agency of the United States Government, the candidate should be aware that he/she is responsible for honoring any trade secret information divulged by an employer in the course of workplace inspections. Furthermore, the candidate may be called upon to testify in court proceedings where

he/she has witnessed a violation of the Occupational Safety and Health Act. Also, should an employer take exception to the resident participating in an inspection, the resident will have to be withdrawn from the inspection. That stated, it is not anticipated that any of the foregoing would present a major obstacle to the success of this rotation.

Case Management:

Expert medical assistance to operating and staff management in the adjudication of specific cases of occupational illness or injury.

Involvement in interdisciplinary projects:

Participation with ongoing and ad hoc problem-identification and problem-solving teams variously made up of medical, industrial hygiene, safety, toxicology, product safety, or ergonomic engineers.

Involvement with human resources: Preventive medicine advice and support on personnel issues such as disability, collective bargaining agreements, union grievances, workers' compensation, and accommodations for the handicapped.

OSHA, Washington, D.C. Preceptor: Charles Cortinovis, M.D., M.P.H.

The Occupational Safety and Health Administration (OSHA) has provided a number of occupational and preventive medicine residents with supervised training at its Office of Occupational Medicine (OOM) over the last several years. During their 1-2 month rotation at OSHA, residents participate in all aspects of OOM activities. Residents are supervised by staff occupational medicine physicians and actively participate in OOM staff meetings, discussing office issues and priorities. They work with OOM staff on health and safety standards, compliance directives and guidelines. Residents meet with personnel from various OSHA directorates and gain an understanding of OSHA's organizational structure and function. They participate in answering inquiries from professionals and the public concerning occupational health related issues. The residents participate with OSHA field personnel in an OSHA inspection, where they gain experience in the OSHA inspection process. Residents consistently name the field inspections as the highlight of their OSHA rotation. Enclosed is a summary of major projects of residents participating in the OSHA rotation during the past few years. In addition, an enclosed statement outlines goals and objectives for the OSHA resident rotation

Training Candidates

ADMISSION REQUIREMENTS

The minimum qualifications for physicians seeking admission to the residency, in accordance with requirements for certification by the American Board of Preventive

Medicine, is an earned degree of Doctor of Medicine or Doctor of Osteopathy or equivalent from a U.S. or foreign medical school acceptable to the Board. In the case of foreign medical graduates, an ECFMG Certificate is required, and passage of FLEX is desired. Additionally, since this residency program is approved to offer PGY2 and PGY3 only, PGY1 in a direct clinical care specialty such as family practice or internal medicine acceptable to the American Board of Preventive Medicine must have been completed satisfactorily. Candidates must be eligible for appropriate training licensure required by the PA State Board of Medicine. In addition to documentation of past training records, three letters of recommendation from physicians familiar with candidates' academic record and work experience are required. Personal interviews are arranged with EOH Department faculty members and with members of the Residency Advisory Committee. Previous experience in occupational medicine or a related field and research experience are not required but are considered in evaluating an applicant.

M.D. M.P.H. - 4 YR. PROGRAM

The new 4-year M.D., M.P.H. Program will allow medical students to decrease the training program by one year. To meet the needs of the new program requirement, arrangements may be made in the future for the PGY1 year, at one of the nearby programs.

Methods Used to Evaluate Residents

Residents are regularly evaluated in a formal, documented fashion in accordance with procedures established by the University. During the Academic Year, residents are evaluated by their course instructors and academic advisors at GSPH. Class performance and grades are included in the evaluation. The supervising occupational physician on-site and the preceptor during the resident's Practicum year are expected to monitor and provide a written report of the progress.

Training Resources

UNIVERSITY OF PITTSBURGH GRADUATE SCHOOL OF PUBLIC HEALTH(GSPH)

The University of Pittsburgh campus is situated in the heart of the city's Oakland area. The Graduate School of Public Health (GSPH) is one of 29 institutions in the United States accredited by the Council on Education for Public Health. It is conveniently located among the other schools and the hospitals of the University Health Center and the large University campus. The GSPH is an important part of the University's total program for its Schools of the Health Professions: Medicine, Dental, Nursing, Pharmacy, and the Health related professions.

A grant of \$13.6 million was provided from the A.W. Mellon Educational and Charitable Trust, to establish the GSPH on September 22, 1948, by official action of the University's

Board of Trustees. In September, 1950, the GSPH was fully accredited by the American Public Health Association and this status has continued to the present.

GSPH remains committed to its founding principle. A major concern of the School was and is, to put an emphasis on occupational and environmental medicine (OEM).

Department of Environmental and Occupational Health (DOEH)

The mission of Department of Environmental and Occupational Health is to study and elucidate the health effects of exposure to chemical, physical and biological agents encountered in the workplace or general environment. To accomplish this goal the department supports a broad range of research, training, and clinical service activities. The department is at the forefront of research on molecular dosimetry and toxicology.

Training activities include a comprehensive curriculum in environmental and occupational health. (UP Bulletin, GSPH, 1997-1999)

Division of Occupational and Environmental Medicine

The Division of Occupational and Environmental Medicine and the Occupational Medicine Residency Training Program is part of the Department of Environmental and Occupational Health. It is situated in the GSPH on the Oakland Campus. This location provides faculty offices and teaching resources in close proximity to the Medical Center and the UPMC Clinics. Research laboratories and non-medical faculty in the Department of Environmental and Occupational Medicine are located in the RIDC facility.

Center for Environmental and Occupational Health & Toxicology

The Center for Environmental and Occupational Health and Toxicology is housed in a separate building very close to the Graduate School of Public Health in Oakland. This building was recently purchased and renovated for this purpose. This recent renovation brought this facility to be a state of the art facility for the research, which is being conducted there. All laboratories are equipped and arranged to conform to OSHA Standards. The institutional safety officer is a member of our Departmental faculty and instructs laboratory personnel in appropriate guidelines to ensure safe working conditions. Courses are given with respect to OSHA requirements and safety standards at convenient locations. This facility is intended to support the basic research endeavors of the Center.

Department of Epidemiology

The cornerstone of the Department of Epidemiology's educational program is the concept that advances in the health of both populations and individuals have depended almost exclusively on disease prevention. Epidemiology is one of the key basic sciences of preventive medicine. The Department is therefore committed to a program to improve

the methods of disease prevention in the population. Major projects have included “Mr. Fit”, cardiovascular, and AID research.

Other areas of concentration within the department are chronic and infectious diseases, psychiatric, alcohol related problems, aging, environmental influences, nutrition, telecommunications and health. Each of these specific areas have major research and/or community services programs that provide excellent facilities for research.(UP Bulletin, GSPH, 1997-1999)

Department of Biostatistics

The Department of Biostatistics applies statistical techniques to examine, delineate, and solve public health problems. A major research initiative with the Department is the application of statistical and epidemiological methods to evaluate health effects associated with urban and industrial environments. Another study focuses on how the interaction between air pollution and weather conditions affects community mortality due to cardiovascular and respiratory illness. In the course of research in this area, departmental faculty and staff have developed and marketed an occupational health-related research software package that is used as a primary analytic tool for statistical/epidemiological research by more than 55 domestic and 12 foreign research groups.

The objectives of the department are to (1.) foster an understanding of statistical logic as it applies to the quantitative study of public health problems and human biology, (2.) develop and apply statistical methods to the study of new and pressing problems through research and community service and (3.) train health statisticians capable of assuring and experiencing leadership in fields of public health and medicine. (UP Bulletin, GSPH, 1997-1999)

Department of Health Services Administration (HSA)

The Department of Health Services Administration prepares students for positions in public and private organizations that provide public, community, and institutional health services and programs. The administration of health services in a changing health environment requires an understanding of the relationships among the ethical, economic, political, social, psychological, biological, and technological factors underlying the health of the public. The department has 23 full-time faculty members and more than 200 students currently enrolled in numerous degree programs that are offered. Major changes in the provision and management of public health programs have resulted due to research conducted by our faculty and students (UP Bulletin, GSPH, 1997 - 1999)

University of Pittsburgh Medical Center (UPMC)

Patient care, research, and medical education come together at UPMC. In addition to serving its own geographic region, UPMC has gained national and international recognition for many of its specialized programs and services, including those related to

occupational health, cancer diagnosis and treatment, genetic diagnosis and gene therapy, neurology, and transplantation.

UPMC encompasses a host of affiliated hospitals, clinical facilities, and specialized medical programs as well as University of Pittsburgh School of Medicine. The medical center is affiliated with the University's first health science schools – Dental Medicine, Health and Rehabilitation Sciences, Nursing, Pharmacy and Public Health and creates an environment for multi disciplinary research in the diagnosis, treatment, and prevention of a broad spectrum of diseases and health problems.

Medical facilities with either cooperative agreements or managed by UPMC include Children's Hospital, Veteran's Medical Centers, Magee Women's Hospital, UPMC Presbyterian, UPMC Shadyside, UPMC Montefiore, UPMC Passavant, UPMC St. Margaret, UPMC South Side, UPMC Beaver Valley, UPMC Braddock, UPMC Rehabilitation Hospital, UPMC McKeesport, UPMC Lee Regional, Eye and Ear, Western Psychiatric Institute and Clinic, UPMC Horizon (Shenango and Greenville locations), Bradford Regional Medical Center, and forty or more out-patient care facilities as well as 7 in-patient units for rehabilitation services. Other hospitals affiliated with UPMC Health System are Washington Hospital, Jeanette Memorial Hospital, Fay-West Health System, and South Hills Health System, .

Work Partners/Concentra Joint Venture

UPMC Work Partners has entered into a joint venture with Concentra Medical Centers to allow Concentra to manage some of the UPMC Health System outpatient and on-site clinical occupational health care services. These are presently four local Concentra sites, which are part of the nation's largest network of occupational health care centers. The Concentra sites provide the clinical care for occupational injuries and illnesses of the employees of the UPMC Health System.

UPMC Work Partners Employee Health Service

UPMC Work Partners (WP) is the Health System's product-line for occupational medicine and workers compensation services. WP is currently a comprehensive program, providing services ranging through the spectrum employer-directed products. Work Partner's product lines can be categorized as follows:

1. Employee Assistance Program (EAP Solutions)
2. Workers Compensation/Disability Services
 - Claims Administration
 - Case Management
 - Medical/Legal Consulting
 - Peer Review/IME Services
1. Employee Health Services

UPMC Work Partners provides the administrative and medical management for the employee health services of the UPMC Health System and its over 25,000 employees and affiliated hospitals. Medical direction for this program is in conjunction with the University of Pittsburgh, Graduate School of Public Health's Division of Occupational

and Environmental Medicine. These services include managing all pre-placement and return-to-work evaluations, drug screening, immunization programs and blood borne pathogen exposures.

University of Pittsburgh School of Medicine, Department of physical medicine and Rehabilitation

The ACGME-approved residency program in physical medicine and rehabilitation offers an opportunity for occupational medicine residents to gain further insights into Musculoskeletal disorders and rehabilitation services. This program is under the direction of Andrew Krouskop, M.D. and uses the facilities of the UPMC Rehabilitation Hospital.

University of Pittsburgh, Department of Environmental Health and Safety

The University of Pittsburgh Department of Environmental Health and Safety is responsible for maintaining a safe work environment at the University. Its specific responsibilities include: administering the general health and safety program as well as similar University programs including the chemical hygiene plan, the biosafety program, the laser safety program, and others; developing regulatory compliance efforts as required by federal, state, and local laws and regulations; and assisting faculty, staff and students in maintaining a safe work environment. Objectives of the general health and safety program are to: identify potential hazards to health and safety at the University; prescribe suitable means for the evaluation and control of hazards; investigate all accidents and institute corrective actions to prevent reoccurrence; provide guidance for compliance with federal, state, and local regulations and make specific reference to such regulations where appropriate; and promote health and safety awareness among University faculty, staff, and students by developing and implementing effective training programs to minimize the impact of workplace hazards. Residents have the opportunity to spend time in the department to develop knowledge and skills related to safety and industrial hygiene under the direction of Mr. Larry Keller, M.S., and CIH.

Falk Library of the Health Sciences

Falk Library of the Health Sciences serves the Schools of Dental Medicine, Nursing, Pharmacy, Health and Rehabilitation Sciences, Medicine, and the GSPH. Falk Library also provides library information services to UPMC. The library, located on the second floor of Scaife Hall, houses more than 300,000 volumes and receives more than 2,100 journal subscriptions. Other libraries in the Health Sciences Libraries System are Western Psychiatric Institute and Clinic Library, the Nursing Library, and the Bergman Medical Library of Montefiore University Library.

I&SL online offers access to Medline, Healthsource, CINAHL (nursing), Cancer line, Aids line, Poch Info and current contacts. Other resources are also available. Faculty, staff, and students of the Schools of the Health Sciences and UPMC may conduct searches on HSL Online from workstations in the Reference Area and the Microcomputer and Media Center (MMC). Remote access to HSL Online is available to registered users across the Internet. The HSL Web Page provides comprehensive information on the services, policies, and collections of the HSL Libraries, as well as links to useful resources on the Internet. Some journals and textbooks are available on line in a complete format.

CONCLUSION

The University of Pittsburgh Residency Training Program in Occupational Medicine continues to grow and mature, building on its historical strengths and close association with regional industries and healthcare facilities. The NIOSH training grant funds have played a major role in supporting this training process and substantially facilitate the acquisition of substantial institutional funds. To this solid foundation, the program has added academic and clinical faculty; enabling trainees to become familiar with state of the art environmental research in clinical and molecular technology. Continued training grant support will strengthen the program significantly in achieving its mission to train the occupational physicians of tomorrow.

APPENDIX A
JULY 1, 1996 – JUNE 30, 2001

PROGRAM GRADUATES

Charles Cortinovis, MD, MPH 1994-1995 PGY2 1995-1996 PGY3	Medical Director, OSHA Washington, D.C.
Dawn Murphy, MD, MPH 1995-1996 PGY2 1996-1997 PGY3	Medical Officer, NIOSH Morgantown, WVA
Catherine Inman, MD, MPH 1994-1995 PGY2 1995-1996 PGY3	Medical Officer, NIOSH Morgantown, WVA
Rex T. Yang, MD, MPH 1994-1995 PGY2 1995-1996 PGY3	Hospital Practice Fostoria, OH
Thomas Stone, MD, MPH 1995-1996 PGY2 1996-1997 PGY3	Plant Medical Director General Motors Mansfield, OH
Charles Morris, MD, MPH 1996-1997 PGY2 1997-1998 PGY3	Medical Director Occupational Health Association Chambersburg, PA
William Chelen, MD, MPH 1996-1997 PGY2 1997-1998 PGY3	Consulting Practice Pittsburgh, PA
Mariaclara Ambroz, MD, MPH 1996-1997 PGY2 1997-1998 PGY3	Consulting Practice Pittsburgh, PA
Prasad Vutla, MD, MPH 1997-1998 PGY2 1998-1999 PGY3	Occupational Medicine Physician Allegheny Rehabilitation Pittsburgh, PA
John Uribe, MD, MPH 1997-1998 PGY2 1998-1999 PGY3	Visiting Assistant Professor University of Pittsburgh Graduate School of Public Health
Victor Catullo, MD, MPH 1997-1998 PGY2 1998-1999 PGY3	Chief, Occupational Medicine U.S. Navy Jacksonville, FL
Andrea Carabello, MD, MPH 1998-1999 PGY2 1999-2000 PGY3	Plant Physician U.S. Steel Clairton, PA
Yong Chen, MD, MPH 1999-2000 PGY2 2000-2001 PGY3	Occupational Medicine Physician Medworks Clinic New Iberia, LA



DEPARTMENT OF HEALTH & HUMAN SERVICES

Memorandum

Date February 28, 2003
From Principal Engineer, OEP, NIOSH
Subject Final Progress Report for entry into NIOSHTIC2/NTIS for
NIOSH Training Grant No. T01 CCT 310441
To Vern P. Anderson, Chief, IRB, EID (C-18)

The enclosed report has been received from the Program Director to document work performed during the specified grant project period. The following information applies to the designated Training Project Grant (TPG):

Title: Occupational Medicine Graduate Training Grant

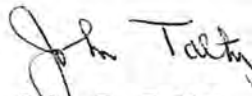
Project Director: Joseph J. Schwerha, M.D., MPH
Graduate School of Public Health
University of Pittsburgh
Pittsburgh, PA 15261

Grant No.: T01 CCT 310441

Project Period: 7/1/96 - 6/30/2001

Please place the report in DIDS and I also recommend it for entry into NIOSHTIC2 and submission to NTIS.

Thanks for your assistance.


John T. Talty, P.E., DEE

Enclosure

fpr.pitt

FINAL PROGRESS REPORT

**UNIVERSITY OF PITTSBURGH
GRADUATE SCHOOL OF PUBLIC HEALTH
PITTSBURGH, PA 15261**

**OCCUPATIONAL MEDICINE GRADUATE
TRAINING GRANT
7/1/96-6/30/01**

**JOSEPH J. SCHWERHA, MD, MPH
PROGRAM DIRECTOR
CDC/NIOSH GRANT NUMBER: T01/CCT310441**

SEPTEMBER 30, 2001

**Final Performance Report
Training Grant T01/CCT310441**

**1996-2001
University of Pittsburgh
Pittsburgh, PA 15261**

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