Project Director: Michael R. Grey, M.D., M.P.H.

Final Performance Report

CDC/NIOSH Training Grant Number TO1/CCT112056-03

July 1, 1996-June 30, 1999

University of Connecticut School of Medicine

263 Farmington Avenue
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ABSTRACT

The University of Connecticut School of Medicine's Occupational Medicine Residency was accredited in 1993 and received its first funding from NIOSH in 1996. The residency submitted a competitive continuation (renewal) for 1999-2002 that was funded for one resident. Over the past 10 years we have grown from a relatively small academic program focussed educationally on the undergraduate and graduate teaching programs and clinically on complex diagnostic patients to a large multi-disciplinary Division with expanded clinical services, deep ties to the undergraduate, graduate and more recently post-graduate educational mission of the UConn Health Center, and a substantive research agenda. The foundation of our residency has been considerably strengthened as a result of this growth. Our Occupational Medicine residency offers two tracks. One is a traditional two year model in which trainees with board eligibility in either internal medicine or family medicine spend two years roughly divided into academic (R-2, MPH) and practicum (R-3) phases with broad clinical training in O/E medicine proceeding longitudinally throughout the two years. The second is a unique integrated residency in which residents in the Primary Care Internal Medicine residency gradually "evolve" into occupational medicine residents and over a four-year period become board eligible in both disciplines. We have successfully recruited to both tracks since the residency was formally accredited in 1994. Our residents (now numbering 4) have become integral to our Division's educational, clinical, and research missions and have given momentum to scholarly productivity throughout the Division, particularly in the area of musculoskeletal medicine and ergonomics. In addition to developing a stable pipeline of trainees, we have collaborated with the Division of Work Environment at Umass-Lowell on a New England ERC proposal to NIOSH this past year. Ongoing collaborative education and research between our two campuses has only added depth and rigor to the residency both in terms of didactic and practicum training, as well as research.

SIGNIFICANT FINDINGS

From the beginning our residency sought to establish a particular regional niche in terms of training programs both in our primary goals and in our structure. Our goals were to provide broad clinical training coupled with significant public health exposure through our consulting relationship to the Department of Public Health. In terms of structure, we created a track within a larger primary care internal medicine residency (PCIMR) and sought to recruit individuals into that program who would gradually evolve into full-blown occupational medicine residents over a four-year period. This was possible because of the ambulatory focus of the PCIMR and the fact that our MPH program was an evening course. To a large degree we have been successful in establishing that integrated training program with three individuals currently in the integrated program, one who will graduate this year. We believed that active participation in the GME and UME programs of the School of Medicine would pay dividends in two ways. First, the nesting of an occupational medicine residency within a larger internal medicine program and our intense commitment to education at all levels would impact favorably the trainees in each of these programs in terms of their awareness of O/E health issues. Second, by having a significant teaching profile, we would be able to recruit more effectively to our program and to the field more generally. Each of these goals have to a significant degree been achieved over the course of the training grant period and in part due to the support received from NIOSH.

The residency training program has three specific features that distinguish it from other regional and national residency training programs. First, it aims to train primary care physicians in the appropriate practice of OEM. This group treats 90% of work-related disease and injury in the US and is generally recognized for inadequate training in OEM. This objective has enabled the DOEM to have a substantive impact on undergraduate medical education at UConn as well as on the two internal medicine and family medicine residencies sponsored by the university. We believe this integrative model contrasts positively with the majority of academic occupational medicine programs in the U.S. and among other measurable outcomes we can point to several to substantiate this statement. First, the amount of time dedicated to O/E health in the undergraduate medical curriculum now stands at over 40 hours, and both the Primary Care Internal Medicine [PCIM] and Family Medicine residencies require all trainees to participate in the clinical and educational activities of the DOEM. These activities have been described fully in our recent re- submission and ERC proposals, but are mentioned here as a brief reminder that the residency program is part of a larger and, to date, very successful educational initiative in the discipline of O/E medicine at UConn.

The structure and philosophy of the occupational medicine residency has yielded impressive recruiting results in the past several years. Our "opportunistic" approach to undergraduate and graduate medical education in O/E health has had implications for the residency. For example, in the 1999/00 academic year, a total of 8 medicine residents (5 from the IM residency, 3 from the Primary Care Internal Medicine residency) will complete an elective in O/E medicine. Three of our four current occupational medicine trainees (Rehman, Dangman, Ling) are graduates of one of the university's two internal medicine residencies, two of them coming from the integrated primary care-occupational medicine track (described briefly above and fully in the original grant.) An R-2 PCIMR resident is interested in the 4-year integrated program as well. Our proven ability to recruit both to the integrated residency track and to the two year traditional

track is one of the reasons we requested additional resident stipend support in our recent training grant application. Augmented funding through the TPG or our ERC proposal will enable us to continue what has been a successful experiment in graduate medical education that serves as a viable regional and national model for occupational medicine training.

Our recruiting successes coupled with the expansion of undergraduate and graduate curriculum in O/E health along with growing interest in elective opportunities indicate that the DOEM's integrative model is working. What is the evidence that once here our residents obtain excellent training? First of all, the two residents who have completed training have passed the American Board of Preventive Medicine qualifying examination, and are in practice. Anne Wise is in practice in a hospital-based program affiliated with Case Western Reserve. Adam Seidner is currently the National Medical Director for Worker's Compensation Claims for Traveler's Property and Casualty, CityGroup. Dr. Seidner maintains close ties to the residency, sitting as a member of its RAC and supervising residents during their 2 month Travelers practicum rotation.

BODY OF REPORT INCLUDING CONCLUSIONS

Although on a national level formal training opportunities have dramatically increased in the past 20 years, the training of occupational and environmental [O/E] health practitioners remains a pressing concern. The well-described deficiencies in training of primary care health practitioners and the limitations of general medical education and residency training in regards to O/E continue, at least regionally, to have been addressed through the creation and expansion of our occupational medicine residency. Indeed, in light of these well-described deficiencies, our residency training program has emerged over the past 6 years as a natural extension and appropriate expression of the larger mission of the Division of Occupational and Environmental Medicine (DOEM); namely to educate medical students, house officers, faculty members, and the community of health professionals in Connecticut and the region to recognize occupational and environmental contributors to disease and to incorporate this recognition into their management strategies. For example, the amount of time dedicated to O/E health in the undergraduate medical curriculum now stands at over 40 hours, and both the Primary Care Internal Medicine [PCIM] and Family Medicine residencies require all trainees to participate in the clinical and educational activities of the DOEM. These activities have been described fully in our recent re- submission and ERC proposals, but are mentioned here as a brief reminder that the residency program is part of a larger and, to date, very successful educational initiative in the discipline of O/E medicine at UConn. More recently, we have strengthened O/E health curricula in local CME -- both for primary care physicians and occupational health professionals.

Residents have been included not only in the development and planning stages of our undergraduate, graduate, and CME activities, but have benefited as well in terms of expanded interdisciplinary educational experiences and administrative and management skills development that occur coincident with development of our diverse educational activities. For example, Dr. Claudia Hix coordinated our weekly Occupational Medicine Colloquia this past year and taught the musculoskeletal component of physical diagnosis to 2nd year medical students in the Clinical Medicine Course, while Drs. Dangman and Rehman (under the supervision of Drs. Grey and Storey) provided the substantial part of O/E curriculum delivered this past year to third year medical students during their required ambulatory rotations.

We have lost and gained faculty and staff over the past several years. For the most part, however, programmatic resources have been strengthened with particular gains in the area of musculoskeletal disorders. Although not directly supported by TPG funds, we have recruited several faculty who have become resources for our residents in terms of clinical training and research opportunities in this area. The creation of the Connecticut Ergonomics Technology Center and a musicians clinic have enabled residents to work alongside Dr. Martin Cherniack, Dr. Charles Dillon, Dr. Don Peterson, (Ph.D. with expertise in technology assessment and biomechanics) and Dr. Nicholas Warren (Sc.D. in ergonomics from Umass-Lowell), directly benefiting our trainees. In addition, this core "ergonomics" faculty have developed 3 new MPH courses and established a graduate certificate program in conjunction with the UConn Storrs campus. Clearly the clinical, didactic, and research opportunities afforded our residents have expanded considerably in this high priority area. Dr. Michael Hodgson left the division in July, 1998 but his clinical and research interest in indoor air issues has been substantively replaced by Dr. Robert Debernardo, an allergist-immunologist who remains active in ongoing building-

related investigations, in particular with the state's public school systems. Practicum changes over the course of the training grant have also occurred, although we continue to have solid management and public health field experience through our affiliations with Traveler's Insurance and the State Health Department. Although we lost our Pratt and Whitney industrial practicum rotation in 1999 due to internal restructuring within the company, a replacement site was found at Electric Boat in Groton, CT. Lastly, Gary Ginsberg, PhD, a staff toxicologist with the Department of Public Health's Environmental Epidemiology and Occupational Health division, agreed to teach two semester-long toxicology courses in the MPH curriculum covering both basic principles of toxicology and risk Assessment and risk communication. Residents will also be able to interact with Dr. Ginsberg during their required practicum rotation at the State Health Department, representing a further strengthening of that rotation and the toxicology training available to residents, an area considered a relative weakness in past residency reviews and grant applications.

Historically, O/E medicine programs have as their focus the training of research oriented academic physicians with the clinical, scientific, and administrative skills necessary for broad employment in academic and/or public health organizations. The market for the sort of graduates our integrated program aims to train has, if anything, grown significantly over the past several years. Regional need for trained occupational medicine physicians remains strong, with academic and clinical-administrative positions available throughout New England from New Hampshire to the Boston metropolitan area to New Haven and New York. Four residents are currently enrolled in the program, two in their practicum year and two in the academic phase of their training. Dr. Claudia Hix, DO joined the O/EM residency in July 1997 and is completing her final practicum year off cycle due to a temporary illness last spring. Dr. Hamid Rehman, MD, MHS will graduate this spring, having come through the integrated track. Kenneth Dangman, Ph.D, MD is a UConn medical school graduate who became interested in O/E medicine after doing a first year elective with Drs. Storey and Grey and a research elective with Dr. Hodgson. He joined the two-year traditional track after completing internal medicine training at UConn in June 1999 and is in his academic year. Currently he is deeply enmeshed in a research project on the largest reported cohort of metal working fluid hypersensitivity pneumonitis and is developing a diagnostic algorithm using clinical and non-invasive parameters. Finally, Zhong Ling, MD, Ph.D., is in his third year of the integrated residency, undertaking a rigorous schedule of MPH coursework and beginning his longitudinal clinical rotation with the DOEM's diagnostic clinic. He will be a practicum resident in June 2000 with an expected graduation date of 2001 for the occupational medicine residency. All four of our residents should be eligible to be double boarded in Internal Medicine and Occupational Medicine.

To summarize, over the three years of NIOSH residency support we have expanded educational programs and developed a training model that has proven attractive and by all measurable outcomes, has been successful. The most critical issue facing the residency as it moves forward is to secure stable long-term funding. Expanding and clarifying existing funding streams to support the residency program and identifying new sources are high priorities. These plans must include faculty support given extant financial pressures. We are hoping that our recent non-competitive continuation for the NIOSH Training Program Grant, or the Education and Research Center (ERC) proposal will result in stipend support for a minimum of two residents.

LIST OF PUBLICATIONS RESULTING FROM GRANTS AWARD

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Memorandum

Date April 4, 2000

From Principal Engineer, OECSP

Subject Final Progress Report for entry into NIOSHTIC/NTIS for NIOSH Training Grant No. T01 CCT 112056

To William Bennett, IRB, EID (C-28)

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 Residency Program

Project Director: Michael R. Grey, M.D., MPH
School of Medicine
University of Connecticut
263 Farmington Ave.
Farmington, CT 06030

Grant No.: T01 CCT 112056

Project Period: 7/1/96 - 6/30/99

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

Thanks for your assistance.

John T. Talty, P.E., DEE

cc: S. Board/B. Kuchinski, OECSP

Enclosure

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