FINAL PROGRESS REPORT

Department of Preventive Medicine and Biometrics
University of Colorado at Denver and Health Sciences Center
Aurora, Colorado 80045

OCCUPATIONAL AND ENVIRONMENTAL RESIDENCY PROGRAM

July 1, 2002 – June 30, 2005
No cost extension through June 30, 2006

Program Director: Kathryn Mueller, MD, MPH

September 2006

NIOSH Grant Number: T01 CCT810468-10-1

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Abbreviations

ACOEM – American College of Occupational and Environmental Medicine
CSU – Colorado State University
MSPH – Master of Science in Public Health
NIOSH – National Institute for Occupational Safety and Health
NJMRC – National Jewish Medical and Research Center
OSHA – Occupational Safety and Health Administration
UCDHSC – University of Colorado at Denver and Health Sciences Center

Abstract

The University of Colorado at Denver and Health Sciences Center (UCDHSC) and National Jewish Medical and Research Center (NJMRC) residency program addresses two major NIOSH objectives: (1) introducing occupational and environmental knowledge to all MSPH students at our institution (including preventive medicine residents) and (2) increasing the number of residents with specific training in occupational safety and health. The residency grant, which operated from July 1, 2002, through June 30, 2006, supported five residents partially or full-time. During this time period we were able to graduate five residents. An additional resident will graduate September 30, 2006. The NIOSH grant allows this residency to continue training occupational and environmental medicine residents, who have all become active in their field in their post graduate roles, and also students in the Master's of Science in Public Health program at the UCDHSC. In addition, during this grant period we started teaching in the training programs at Colorado State University involving occupational and environmental health.

The residency has changed significantly through the last four years. We have broadened our mission to recruit regional practicing physicians as well as residents with a pulmonary background or other completed residency and interest in occupational medicine. Recognizing the increased need for training physicians already practicing in occupational medicine in Colorado, we increased the number of practicum year positions in the program from two to three. Our residency successfully recruited and graduated two practicum year only Colorado physicians and trained and graduated an additional practicing physician from the full, two year MSPH and practicum program.

Multiple abstracts or posters were presented by residents during this time period at national and regional meetings covering the topics of: 1)Pediatric "hot tub lung"--Environmental Exposures Causing Severe Lung Disease in Healthy Children A Case Series; 2) Stuck and Too Busy…Needlesticks in an Internal Medicine Training Program; 3) Fever, vomiting and headache in a 50-year old female-It's the water and 4) Symptoms Experienced by Law Enforcement Personnel in Association with Methamphetamine Lab Investigation. The last topic was accepted at the American Occupational Health Conference in May 2005 where the NIOSH supported resident competed with 15 other projects and received the Residents Award for high quality research. One paper and a book chapter were also completed and published by residents during this grant period.

The grant relieves faculty from seeking further funding to support the residents and thus they are able to participate in multiple other training areas. The problem based occupational environmental health course offered through the UCDHSC MSPH program was increased in depth significantly during this time period. The year-long course now incorporates more toxicology, taught by two academic toxicologists who have an occupational and environmental medicine focused practice. The course reflects multiple disciplines through its inclusion of faculty industrial hygienists and OSHA regional directors and provides in-depth coverage of toxicology, industrial hygiene, and a broader

spectrum of occupational diseases than was taught previously. This course is a popular elective for MSPH students and usually has between 10 and 14 students annually who are taking the course as an elective. All MSPH residents are required to take the year long course. In addition faculty and residents have lectured for the environmental health courses at Colorado State University, which trains industrial hygienists, ergonomists and other occupational health professionals. Similarly an exchange program has now been set up with Colorado State University faculty to teach in the MSPH program and to provide practicum lectures for the residents.

The faculty also improved our training evaluations for residents by adding a 360 degree evaluation tool and a direct patient encounter evaluation. In the direct patient encounter faculty observe the full clinical evaluation of a patient and critique the resident's method as well as the medical record and treatment plan. This evaluation takes place at the beginning of the practicum year and near the end of the practicum year. We expect these tools to improve the residents' understanding of specific clinical areas needing improvement.

Overall the NIOSH funding of this residency has supported five residents. All of our graduated residents have passed the occupational medicine boards on their first attempt. We are also pleased by the community leadership demonstrated by our graduates, as directors of clinical programs and participants in continuing education. The grant has also allowed faculty to improve not only the residency program but also the training program in occupational and environmental health for all of the students on the University of Colorado at Denver and Health Sciences Center campus as well as the Colorado State University campus.

Highlights/Significant Findings

The most important products of our training grant are the residents. During the current training grant we have had seven residents participate in the program. Five residents were supported at least in part under the NIOSH grant at one time. Five residents have graduated from the program, four of whom have passed their boards on their first attempt. Dr. Carol Gunn, the resident graduating in December 2005, will take her boards this fall. The resident who was last supported on the grant is Dr. Sandy Buseman who previously completed a public health preventive medicine residency and is boarded in that speciality. She will complete her practicum year September 30, 2006, and then will take boards in occupational medicine in 2007.

Under prior grants we trained many residents within pulmonary and occupational specialities, most of whom have become academic faculty. During this grant period we focused particularly on training occupational medicine physicians who would contribute directly to the general occupational practice in the community. We added one position to our residency program under this grant so that we now have three practicum positions and two first-year positions. There is a large need in our community to train physicians who have been practicing occupational medicine without formal training. Currently there are almost 300 physicians listed by the Colorado Division of Workers' Compensation as providing general occupational medicine care. Of these, only 17 percent are board certified in occupational medicine. In addition many of those who are board certified completed certification through the grandfather clause and did not have any formal residency training. We identified many physicians interested in formal training, some of whom have an MPH from other programs. Therefore, we increased the number of practicum year positions to serve these physicians. Of the residents graduating under this grant period, three had been practicing occupational medicine in the community and came to us for further training. An example of the two year schedule of one of these residents is found in Figure1. An additional resident had completed a preventive medicine residency in Colorado and determined that she wished to practice occupational medicine. She also completed a practicum year with us. The resident who was supported on the extended funding in this last year of the grant had completed both a preventive medicine residency as well as a physiatry residency and was practicing as a medical director in Connecticut. She returned to us for training, as she wished to have a practice with clinical occupational medicine aspects rather than remain in the isolated public health arena. She will be graduating at the end of September and will be looking for occupational medicine practice positions either here or on the west coast.

We have been fortunate to secure extremely high quality residents, some of whom have also received funding from the Occupational Physicians Scholarship Fund. This has helped us maintain funding for the current residents. In addition we receive annual funding from National Jewish Medical and Research Center for residents.

Of the residents who have completed the program during this grant period, Dr. Dee Carrier is the medical director of the Occupational Health Clinic for the city of Colorado

Springs; Dr. Randy Burris is the medical director of the Comprehensive Occupational Medicine Program at Vail Valley Medical Center in Vail, Colorado; Dr. Kate Flanigan is employed part-time as an occupational medicine physician at the Federal Center in Lakewood, Colorado; Dr. Roxana Witter is employed part-time at Injury Care of Colorado; and Dr. Carol Gunn is employed full-time in occupational medicine at Northwest Occupational Health Associates in Portland, Oregon.

Our residents educate via lectures and research presentations in several arenas. As mentioned before, we have increased our relationship with Colorado State University (CSU), which also has a training program grant for teaching occupational and environmental health. Our faculty is now cross-fertilized by teaching in courses for both campuses. Our occupational medicine residents have also gained from this, not only from the didactic presentations of the CSU faculty but also from the presentations that they have given on occupational medicine in the CSU courses. In addition our residents completed many projects, which were accepted as poster and abstract presentations for occupational health continuing education sessions in multiple forums. All residents present their research projects or other significant clinical information at the Rocky Mountain Academy of Occupational and Environmental Medicine annual meetings. Over 120 occupational health professionals, the majority of whom are physicians, attend these. All residents present each year, and the topics have varied from the significance and use of Waddell's signs in clinical practice to symptoms experienced by law enforcement personnel during methamphetamine lab investigations. Dr. Roxana Witter also won an award from the American College of Occupational and Environmental Medicine for her research and presentation on the methamphetamine lab investigation information at the American Occupational Health Conference in May 2005. She competed against 15 other projects for this Resident's Award for quality research.

Dr. Gunn's posters were presented at two national and one regional meeting. They are the following: Pediatric "Hot Tub Lung" Environmental Exposures Causing Severe Lung Disease in Healthy Children - A Case Series; Fever, Vomiting, and Headache in a 50 Year Old Female – It's the Water!; and Stuck and Too Busy .... Needlesticks in an Internal Medicine Training Program. Dr. Randy Burris published an article with the residency director, Dr. Kathryn Mueller, entitled, "Common Occupational Diseases: Carpal Tunnel Syndrome." Dr. Carol Gunn authored a chapter with Dr. Lisa Maier, a faculty member, on Beryllium for the soon to be updated Environmental and Occupational Medicine textbook by William Rom. Drs. Burris, Flanigan, Gunn, and Buseman all prepared materials which were incorporated into the Colorado Medical Treatment Guidelines. These are extensive evidence based guidelines utilized in workers' compensation cases in Colorado as recommended practice. They are in rule format and can be found at www.coworkforce.com. In order to prepare and facilitate incorporating the information into the guidelines, the residents were required to complete full evidence based research on the areas, compile the information, and rate the articles. Then they developed a short summary which included information from the articles and recommended advice for clinical practice patterns. They presented this information to the multidisciplinary task force who drafts the final recommendations for guidelines. The residents' recommendations were highly valued by the task force and fully incorporated.

Examples of the areas involved are: the cumulative trauma disorder guideline and the section on risk factors for developing cumulative trauma injuries; traumatic brain injury medical treatment guidelines and return to work for brain injured workers; and pertinent clinical exam findings for the low back pain guideline, which is currently in draft format.

The grant allows faculty to spend more time concentrating on educational course training as it frees them from the responsibility of seeking further funding to support the residents. We have significantly improved the elective which is offered throughout the year and required for all occupational medicine residents in their first year of training. The course is entitled "Topics in Occupational and Environmental Health" and uses a problem-solving format. We have now increased the depth of the toxicology information in the course based on the input from occupational medicine toxicologists in Colorado. It is a broad-ranging course, which throughout the year emphasizes industrial hygiene, environmental health hazards including soil and water contamination, pulmonary diseases, ergonomics, and infectious disease exposures. We are fortunate to have a wide, varied, and talented faculty with expertise in many areas to present this information. Refer to the faculty tables 1 and 2 for a full description of our faculty and their interests. The course has received very high marks from the other students who participated. Most years we have 10 additional MSPH students participating in this seminar elective course and have received very positive comments such as "Site visit aided tremendously!" "Would absolutely recommend this course to classmates." Evaluation scoring for clinical relevance was 4.7 out of 5 in some of our courses during this grant period.

The faculty also worked diligently to improve residency training. In order to improve the residents' ability to communicate and teach, individual faculty worked specifically with the resident on any public presentations they were to give, and the residents also gave the presentation to the entire faculty and all residents for commentary before their final presentation. Journal club now has a required written format, which assures that residents evaluate carefully the statistics and other epidemiological issues in any journal article they report on. They also are required to do research around the area of the journal article in order to provide perspective and their own personal opinion of the strength of that article vis a vis the current literature. Residents work with an individual faculty member who has an interest in the area to assure that they have an in-depth presentation.

We have added several evaluation forms. This includes a 360-degree evaluation tool to reflect the resident's interaction with personnel other than faculty. In order to aid residents with their training at the beginning of the practicum year, a faculty member observes the resident performing a full history and physical on an occupational medicine patient and critiques their report and treatment plan. This helps identify any areas of weakness for them to focus on during the practicum year. They then have a repeat evaluation of the same type near the end of the practicum year training. In addition, when entering training, all residents fill out a complete self-assessment of their competencies using the full list of ACOEM competencies. This is reviewed with the residency director, and the residency director and the resident use it to establish individualized goals for their full program. We have a somewhat unique residency in that we do not receive funding from any sites other than the NJMRC site. Therefore we have

a large number of sites, which are fully overseen by the residency director and faculty, from which residents can obtain different competencies. This allows the residents to focus on the competencies that they have not obtained, which are most cohesive with their future practice goals.

Translation of findings

Again our most important goal is producing quality residents. As noted in the above section, all of our residents are serving the community, most of them in leadership positions. Given the dearth of occupational medicine trained physicians in our community, this is an extremely important addition to Colorado and the other regions to which our residents migrate. We have found most of our residents continue to be involved with teaching at the community level. All of them disseminate their expertise by working with industries and fellow physicians on fundamental occupational health practices and the importance of understanding epidemiology. The relationship we have developed with Colorado State University for intercampus training is also important because it encourages the interchange between disciplines in occupational health. NJMRC has two industrial hygienists on faculty who attend all weekly case conferences, faculty meetings and important occupational health investigations. Merely the presence of this type of concentrated occupational health and work site assessment expertise in the community and regionally has an impact on the overall quality of occupational health for the populace.

In addition the contributions made to the medical treatment guidelines are important. Colorado medical treatment guidelines are recognized by multiple national entities and in fact are cited in other treatment guideline publications directly as a source for evidence based practice. One example is the Official Disability Guidelines. The Colorado regulations are used frequently in adjoining states, such as Wyoming, as a standard of appropriate treatment. They have also been used in the motor vehicle accident arena. Thus the impact of the residents' contributions to the guidelines is wide ranging.

The same is true for the educational presentations of the residents at the annual major regional occupational conference, where they are able to translate their interest areas into educational sessions for other occupational health professionals. In addition to the topics already discussed, other presentations have included indoor molds and investigation of sick building syndromes with specific examples from cases in which the residents had been involved through the National Jewish occupational clinics.

Outcomes/Relevance/Impact

This grant has had impact on the region in two major areas: (1) supplying well-trained occupational medicine physicians who can continue to educate the community in the areas of occupational and environmental health and epidemiology, and (2) encouraging students who are in the MSPH program to pursue their interests in occupational health. At least two of the students who participated in our MSPH elective course on occupational health have applied to medical school and have expressed an interest in

occupational medicine. Furthermore through our alliances with Colorado State University and with continuing medical education programs, we have been able to further the message of occupational medicine to non-medical professionals as well.

Specifically we have trained and graduated five residents during this grant project period with six residents graduating at the end of September 2006. A research abstract was presented in 2005, and that paper has been submitted for publication. There have also been at least one paper and one book chapter published by the residents with faculty.

Scientific Report

This is a training program rather than a scientific research program. We have covered all of the relevant findings, results, and publications in the above paragraphs.

Publications *

Journal Article

Burris, JR, Mueller, KL. Common Occupational Diseases: Carpal Tunnel Syndrome. Primary Care Case Reviews; 2003;6:146-55.

Book Chapter

Maier, LA, Gunn C, Newman LS. Beryllium disease. In: Rom WN (ed.), Environmental and Occupational Medicine, 4th Edition. Boston: Little, Brown and Company, 2006 *(in press.)*

Thesis Papers

Delos D. Carrier. "The Effect of Systemic Corticosteroids in Treating Chronic Beryllium Disease." 2003

Roxana Z. Witter. "Symptoms Experienced by Law Enforcement Personnel in Association with Methamphetamine Lab Investigation." 2005

Other Publications

J. Randall Burris. "Cumulative Trauma Disorder (CTD), Medical Treatment Guidelines, Section: Risk Factors." www.coworkforce.com/dwc/medical_treatment.asp. State of Colorado, Department of Labor and Employment, Division of Workers' Compensation, 2005.

Kate Flanigan. "Traumatic Brain Injury, Medical Treatment Guidelines, Section: Return to Work." www.coworkforce.com/dwc/medical_treatment.asp. State of Colorado, Department of Labor and Employment, Division of Workers' Compensation, 2005.

* OM Resident authors underlined.

Inclusion of gender and minority study subjects

Not applicable.

Inclusion of Children

Not applicable.

Materials available for other investigators

The guidelines are available on the following websites:
http://www.coworkforce.com/dwc/Rules/Final%20Exh.%205%20Cumulative%20Trauma%20Disorder.doc CTD one;
http://www.coworkforce.com/dwc/Rules/Final%20Exh.%202%20CTS.doc CTS guidelines;
http://www.coworkforce.com/dwc/Rules/Final%20Exh.%2010%20TBI.doc traumatic brain injury.

DETAILED FINAL RESIDENT SCHEDULE

Figure 1 Combined Academic/Practicum Year Resident

Roxana Witter	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
PGYV 2003-2004												
Didactic • Monthly Journal Club • Weekly Case Presentations • Departmental Lecture Series	Lecture series: - Lumbar spine injections Journal Club: - Health effects of methamphetamine lab exposure in law enforcement - Health survivor effect at Hanford		Lecture series: - Outcome tools for musculoskeletal injuries - Tuberculosis: epidemiology of the problem Journal Club - Occupational asthma - Preventing childhood obesity, a cluster randomized trial - Violent injuries in the work place Case presentation: - Hypersensitivity pneumonitis at the zoo - Occupational asthma			Lecture series: - International health in Mexico and Botswana - Obesity and asthma - Chiropractic approaches for upper extremity neuropathy - Assessing risk for bioterrorism and pandemic flu - Functional capacity exam Journal Club: - Mortality in Iraq, a cluster sample survey - Upper limb disorders in repetitive work Presentations: - Rocky Mtn Academy of Occ and Envir Med: "Methamphetamine Laboratory Exposures in Law Enforcement Personnel"			Lecture series: - Mass psychogenic illness - Traumatic brain injury - Occ reproductive disease - Modalities in occ medicine practice - Occ liver disease - Occ exposures and granulomatous disease Journal Club: - Liver fibrosis in vinyl chloride workers - Work place stress reduction and hypertension - The occupational history - E. coli outbreak infection following exposure to a contaminated building Presentations: - Toxicology presentation of catalyst dust exposures at an oil refinery in St. Croix, VI - Occ liver disease lecture to CSU IH students - Community health prracticum presentation of Colorado Drug Endangered Children - ACOEM Frontiers in Occ Med, Residents Award "Methamphetamine Laboratory Exposures in Law Enforcement Personnel" - Occ liver disease lecture to fellow Occ Med Residents			

Roxana Witter	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
PGYV 2004-2005												
Practicum	- NJMRC (1 week) - Denver Health and Hsopitals Occ Med clinic (12 weeks) - OSHA 2 weeks - Occupational Medicine Physicians with Dr. Hughes (3 weeks) - Denver Public Schools disability clinic with Dr. Mueller (1 week) - NIOSH SHE at Denver Zoo (1 week) Site visits: - Denver public works - Denver communications center - Denver firefighters - Denver paramedics - TB clinic at Denver Health - Nursing home x2 - Workers' compensation court - Machine shop - Chemical pilot plant						- OSHA (2 weeks - Occupational Medicine Physicians with Dr. Hughes (3 weeks) - Denver Public Schools disability clinic with Dr. Mueller (1 week) - Chiropractic care with Dr. Mobus (1 week) - NIOSH SHE at Denver Zoo (1 week) - Drug endangered children: Cover letter to Colorado physicians addressing health risks, attendance to DEC meetings (2 weeks) - Physiatry with Dr. Primack (1 week) - Toxicology with Dr. Teitelbaum (6 weeks) - Liver toxicology lecture to CSU industrial hygiene students (1 week) - Community health practicum (2 weeks) - Pilots union (2 weeks) Site visits: - Colorado Drug Endangered Children - Isocyanates/noise at a manufacturing shop - Ambulance safety inspection - Colorado State Congressional hearing on workers' compensation legislation - Meat processing plant - Occupational histories/physical exams of 30 oil refinery workers in St. Croix, VI - Methamphetamine Controlled Cook by NJC IH, Colorado Springs PD, and DEA - Multidisciplinary staffing of workers' compensation patients with Dr. Bruns (chronic pain and anxiety patients) (1 day)					
Masters thesis	Statistical Analysis of First Methamphetamine Lab exposure surveys, Preliminary data Health Effects of Methamphetamine Lab Exposure, proposal						Health Effects of Methamphetamine Lab Exposure, proposal Meet with Teri Chavez, Denver PD, head of methamphetamine task force Analysis and interpretation of data Submission of paper: "Symptoms Experienced by Law Enforcement Personnel During Methamphetamine Lab Exposure" Masters thesis defense					
Requirements 4 weeks government 2 weeks toxicology 2 weeks union 16 weeks occupational Other electives	Fulfilled 6 weeks 6 weeks 2 weeks 19 weeks + 12 weeks first year 6 weeks											

Table 1 Core Faculty for Training in Occupational and Environmental Health

Faculty Member	Area of Competence	Role
Kathryn Mueller, MD, MPH	Occupational Musculoskeletal Disease, Disability management, Impairment rating, Creation and dissemination of occupational treatment guidelines regionally and nationally	Residency Director Course director for Topics in Occupational and Environmental Health courses, clinical and academic supervision and coordination of all resident assignments, liaison to Department of Preventive Medicine and Biometrics faculty and Graduate School
E. Brigitte Gottschall, MD, MSPH	Occupational medicine, community medical surveillance, asbestos-related disorders, early lung cancer detection and chemoprevention	Residency Co-Director Shared duties with Dr. Mueller (see above) Course work, clinical supervision
Lee S. Newman, MD, MA	Occupational Lung Disease, Immunotoxicology, Medical surveillance, Biomarker development	Residency Co-Director Shared duties with Dr. Mueller (see above)
Brian Day, PhD	Environmental toxicology, oxidant injury, models of lung inflammation	Course work, Training on disease mechanisms
Michael Kosnett, MD, MPH	Clinical toxicology, heavy metals, in vivo methods of metal detection, international occupational and environmental health	Course work, clinical supervision, project and thesis supervision
Cynthia Kuehn, MD	Clinical occupational medicine, medical surveillance in trades and government employees	Clinical supervision, course work, project and thesis supervision, practicum site director
Lisa Maier, MD, MSPH	Occupational lung disease, beryllium disease, gene x environmental interactions, immunology	Course work, project and thesis supervision, clinical supervision
John Martyny, PhD, CIH	Industrial hygiene, exposure assessment, metal particulates, bioaerosols	Industrial hygiene training and consultations, course work, project and thesis supervision
Annyce Mayer, MD, MSPH	Clinical occupational medicine, occupational musculoskeletal disease	Course work, clinical supervision
Karin Pacheco, MD, MSPH	Occupational medicine, allergy and immunology, occupational and environmental allergy, asthma	Course work, clinical supervision
Scott Phillips, MD	Toxicology	Course work, clinical supervision
Cecile Rose, MD, MPH	Occupational medicine, occupational lung disease, toxicology, bioaerosols and hypersensitivity lung disorders, occupational and community surveillance	Academic advisor, course work, project and thesis supervision, clinical supervision, directs clinical experience at NJMRC
A. James Ruttenber, PhD, MD	Occupational and environmental epidemiology, exposure and risk assessment, radiation epidemiology, drug abuse epidemiology	Academic advisor, course work, project and thesis supervision

Table 2 Other Significant Contributors in Occupational and Environmental Health

Faculty Member	Area of Competence	Role
Yvonne Boudreau, MD, MPH	NIOSH field office	Practicum site director, clinical supervisor
Randy Burris, MD, MPH	Sports/occupational medicine in ski areas	Practicum site director, clinical supervisor
John Hughes, MD	Clinical occupational medicine and military deployments	Practicum site director, clinical supervisor
John Perkner, DO, MSPH	Federal occupational medicine	Practicum site director, clinical supervisor
Scott Primack, MD	Physiatry	Practicum site director, clinical supervisor
John Sacha	Spinal injections; physiatry	Practicum site director, clinical supervisor
William Shaw, MD	Clinical occupational medicine	Practicum site director, clinical supervisor
Quay Snyder, MD	Air Line Pilots _____ and occupational medicine	Practicum site director, clinical supervisor
Daniel Teitelbaum, MD	Toxicology – large industrial centers	Practicum site director, clinical supervisor
Roxana Witter, MD, MSPH	Clinical occupational medicine	Practicum site director, clinical supervisor
Jonathan Woodcock, MD	Neurology	Practicum site director, clinical supervisor

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control
and Prevention (CDC)

Memorandum

Date January 16, 2007

From Principal Engineer, OEP, NIOSH

Subject Final Progress Report for entry into NIOSHTIC2/NTIS for NIOSH Training Grant No. T01 CCT 810468

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 and Environmental Residency Program

Project Director: Kathryn Mueller, MD, MPJH
Department of Preventive Medicine and Biometrics
University of Colorado at Denver and Health Sciences Center
Aurora, CO 80045

Grant No.: T01 CCT 810468

Project Period: 7/1/2002 - 6/30/2006

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