

## **SECTION I**

### **TPG Summary:**

The main focus of this NIOSH Training Project Grant (TPG) is to provide support for increasing the number of occupational medicine physicians who have adequate experience and sufficient competence to enter the workforce without direct supervision, while adding a special focus on training in the occupational health needs of the rural workforce with special emphasis on agriculture.

Since the mid-1990s, the number of accredited occupational medicine residency (OMR) programs has declined steadily, in spite of a recognized shortfall of physicians with formalized training in this area. In many specialty areas of medical practice, there is also little attention given to the special needs of non-urban populations. However, rural communities often lack the infrastructure for developing and sustaining a preventive approach to occupational disease and injury, particularly for work sectors such as agriculture where the hired and/or migrant workforce may constitute the majority of employees.

Over the past year, the TPG has made it possible for 4 resident trainees to receive support for their training. In addition, the grant has allowed the University of Texas Health Science Center at Tyler (UTHCT) Occupational Medicine Residency (OMR) Program to include a dimension of training that emphasizes the occupational health needs of the rural workforce with special attention to agriculture. This includes identifying related competencies within the six general domains established by the Accreditation Council for Graduate Medical Education (ACGME) and those outlined in the Preventive Medicine/Occupational Medicine program requirements. Relevant learning activities designed to help the resident gain experience with these competencies and reach target milestones also established by the ACGME are a part of the program. Such learning activities have included formal didactic training in an Agromedicine conference, multiple worksite walk-through experiences in agriculture, forestry, and fishing operations, and a supervised rotation in collaboration with The University of Texas at Rio Grande Valley Preventive Medicine Program. This rotation provides the residents with the opportunity to learn more about specific challenges agricultural communities face and their health needs.

The TPG has made it possible for UTHSCT to integrate agricultural occupational safety and health into the residency training experience by implementing a multi-faceted training approach that relies upon a multi-disciplinary educational team effort, while also leveraging the strengths of the existent NIOSH supported the Southwest Center for Agricultural Health, Injury Prevention and Education (SW Ag Center). In addition to the learning activities outlined, collaboration with the Building Capacity Project at the Great Plains Center for Agricultural Health (University of Iowa) and with the National Center for Farmworker Health (NCFH, Buda, Texas), have been important to success of the project. The impact of this effort has been to build capacity in Occupational Medicine, a specialty with a recognized shortfall of physicians. Moreover, training emphasis has been placed on workers in the agriculture, forestry, and fishing industries who are up to 32 times more likely to die on the job than workers in other industries.

### **Public Health Relevance:**

Texas, the second most populous state in the nation, is also one of the fastest growing states in the U.S. (US Census Bureau, 2016). Hispanics are the fastest growing group, making up 38.8 percent of the population in 2015, compared with the national 17.6 percent (US Census Bureau, 2016). Fifteen percent of the population in Texas is rural. North East Texas (the region where Tyler is located) is home to just over 1.5 million people, over half of whom live in a rural area. It is also one of the unhealthiest regions in the state and the nation as a whole (Nehme et al., 2016). One can reasonably conclude that there is a need for training occupational medicine residents in Texas who have competencies, skills, and knowledge related to rural populations with special cultural considerations, and that the program at Tyler is suited to conducting that training.

**Key Personnel:****Dalia Nessim, MD, PhD, MPH****[Dalia.Nessim@uthct.edu](mailto:Dalia.Nessim@uthct.edu) 903-877-7207**

Dr. Nessim is the Principal Investigator for this project. She is board-certified in occupational medicine and has been on faculty as Assistant Professor of Occupational and Environmental Health Sciences since September, 2014, Associate Program Director since July 2016, and has now transitioned into the role of Program Director. In this role, she dedicates significant effort to the UTHSCT OMR and this project. She is actively engaged as a resident preceptor in the Occupational Health Clinic and the Eastman Chemical Company Occupational Health Clinic (Longview, TX), and provides lectures in the didactic lecture series. She regularly supervises residents in other conferences and settings. She mentors students and residents in scholarly activities and provides direction to residents for their rotation at the Longview based Eastman Chemical Company.

**Sarah Lang, MHA****[Sarah.Lang@uthct.edu](mailto:Sarah.Lang@uthct.edu) 903-877-5919**

Ms. Lang has a Master of Health Administration from Texas A&M University and came to UTHSCT with experiences in both hospital and federally qualified health center settings. She has been at UTHSCT since December of 2016 having previously coordinated efforts for a variety of projects including Joint Commission survey readiness at CHI St. Luke's Health Memorial and quality program management work at an FQHC in Bryan, Texas. During her short tenure in the Department of Occupational and Environmental Health Sciences, she has interacted closely with OMR Program faculty, residents, and staff in her role as Residency & Education Program Manager. In this role she is responsible for program planning and budget oversight, development of Program Letters of Agreement, scheduling resident practica and field experiences, orchestration of didactic programs, and coordination of diversity recruitment activities. She orchestrates all of these activities including necessary arrangements and distribution of materials and notices. She is responsible for all logistical arrangements for practicum rotations as well as coordinating the subcontract activities for this project.

**Jeffrey Levin, MD, MSPH****[Jeffrey.Levin@uthct.edu](mailto:Jeffrey.Levin@uthct.edu) 903-877-5900**

Dr. Levin is board certified in internal medicine and occupational medicine. Dr. Levin is a Professor for the Department of Occupational and Environmental Health Sciences, Senior Vice President for Clinical and Academic Affairs, as well as the Provost. He was the Program Director for the Occupational Medicine Residency (OMR) since its provisional accreditation in 1994 until July 2017. He has served as Center Director for the NIOSH Southwest Center for Agricultural Health, Injury Prevention and Education (SW Ag Center) since 2001. Dr. Levin continues to administer/manage the program plan as well as participate in the teaching and supervision of residents. This includes the areas of rural and agricultural occupational health, where Dr. Levin helps to oversee delivery of the didactic curriculum, interactions with the SW Ag Center, as well as practicum experiences and field experiences/walkthroughs.

**TPG Web Links:**

UTHSCT OM Residency Program:

<http://www.uthealth.org/graduate-medical-education/occupational-medicine-residency-program/>Texas Institute of Occupational Safety and Health®: <http://www.tiosh.org/>

## **SECTION II**

### **High Impact Stories (Program Highlights):**

The highlights and significant results from this year are outlined below. Opportunities created through a project such as this one, help to sustain the number of occupational medicine graduates while providing residents with experience(s) in special populations (rural/agricultural), valuable to several who have gone to practice in locations serving these workers. This initiative began even before the TPG was first awarded in 2007. The UTHSCT OMR was initially accredited by ACGME in 1994, and the NIOSH Southwest Center for Agricultural Health, Injury Prevention and Education was established at roughly the same time. Both programs have collaborated over the years to offer experiences for residents.

Our main high impact story for this year is Dr. Khademi's research project done in the valley of South Texas, where she assessed sun-safety behaviors and knowledge of sun protection and skin cancer in the farmworker population. The results of her project were presented as a poster at American Occupational Health Conference (AOHC) in April 2017 and through an oral presentation at the Texas College of Occupational and Environmental Medicine (TxCOEM) Conference and the 2017 UTHSCT Residents' Quality Improvement Research Day in May 2017 conducted by the Graduate Medical Education department. The forum provides a platform for all UTHSCT post-graduate trainees to present their research to faculty and peers. Awards were given to the top three presentations and she was presented with a Third Place Award for her oral presentation. Her work with an agricultural community to identify their present knowledge base as well as resources available to them and potential barriers related to a specific disease is the type of work our program aims to achieve through this Training Project Grant.

Other resident activities that were accomplished during Year 2 of this cycle (07/01/2016– 06/30/2017):

- Two resident graduates: Drs. **Hiroko Furo** and **Shaadi Khademi**. Both received their MS degree in Environmental Science in May of 2017 from Stephen F. Austin University.
- Drs. **Furo, Khademi, Meek, and Winter** attended sessions for an agricultural medicine training provided by the SW Ag Center in November 2016 and April 2017. This training was partially funded by the Training Project Grant.
- Dr. **Shaadi Khademi**, participated in both sessions of an agricultural medicine training by presenting a lecture titled "Special Populations in Agriculture".
- Drs. **Eric Meek** and **Laura Winter** rotated with the UT-Rio Grande Valley Preventive Medicine Residency Program coordinated through NCFH in South Texas July 2017.
- Drs. **Furo, Khademi, Meek, and Winter** participated in the following worksite walkthroughs: Caldwell Zoo (Tyler, TX), US Silica Plant (Hawkins, TX), and a series of zoonosis focused walkthroughs at an animal clinic, animal shelter, and slaughterhouse (East TX Area).
- Drs. **Furo, Khademi, Meek, and Winter** participated in the following didactics: Occupational Lung Disorders, Dermatological Disorders and Skin Allergy, Zoonosis and Rabies, Medical Examinations and Related Issues, Social and Ethical Issues, Travel Medicine, Musculoskeletal Disorders, Board Exam Review, and Spirometry.
- Dr. **Furo** presented her research, "Toxic metal exposures in Occupational / Environmental Medicine" as a poster at AOHC in April 2017 and as an oral presentation at UTHSCT Grand Rounds in June 2017.