



Western Center for Agricultural Health and Safety • University of California, Davis

WCAHS receives funding for preventing sexual harassment in ag

WCAHS investigators, Dr. Stephen McCurdy and Teresa Andrews, in collaboration with Dr. María Elena Rivera Heredia of the Universidad Michoacana de San Nicolás de Hidalgo, were recently awarded a grant from the Research Program on Migration and Health. The purpose of the grant is to help prevent workplace sexual harassment of Hispanic women agricultural workers. Women farm workers, and especially migrant women lacking work authorization, can be extremely vulnerable to sexual harassment and coercion. Compounding the problem, the farming environment offers isolated venues to which perpetrators can bring their victims under pretense of work responsibilities and remain unobserved.

The award will help in the creation of more effective educational materials and policy recommendations for agricultural employees, employers, and governmental agencies about workplace sexual harassment that can be used in both Mexico and the United States. The grant's sponsor, the Health Initiative of the Americas, is a leading U.S.-Mexico public health networks, with

binational programs involving governments, academia, the private sector, and community-based organizations.

Previous research efforts to prevent sexual harassment have focused on the experience of

women farm workers without exploring attitudes and beliefs among men, who are in almost all cases the perpetrators. As a result, important epidemiologic information regarding sexual harassment in the agricultural

workplace is lacking, limiting the ability to develop and target effective prevention programs. McCurdy, Andrews, and Rivera Heredia believe that the problem must be addressed at three levels: the worker (female and male), the work supervisor (the person most commonly implicated as victimizer and most responsible for establishing a workplace culture that either tolerates or rejects sexual harassment), and



Health Initiative of America's Research Program on Migration and Health

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Novel bucket tools for farm workers prevent back injury

By Alyssa Chapman

In most U.S. states, children as young as 12 can legally perform agricultural work. In fact, 17 states have exempted agricultural work from most or all their child labor laws. Other states, including California, have set higher age minimums for farm work performed during school hours.

While many laws exist to protect adolescent agricultural workers, exact rules and regulations vary from state to state, and enforcement is often poor and inconsistent.¹ Risks associated with farm work are much greater for children than for adults, and may have long-term physiological effects.²

WCAHS investigator Dr. Fadi Fathallah specializes in agricultural ergonomic intervention, which aims to develop agricultural tools and methods to make common tasks less stressful on the body. Dr. Fathallah published a paper this spring titled, "Development and Evaluation of Ergonomic Interventions for Bucket Handling on Farms." The paper, which was published online in March 2016, will appear in the August 2016 issue of *Human Factors*, the journal of the Human Factors and Ergonomics Society, and is in some ways a special tribute to

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Congratulations to WCAHS graduates!



WCAHS has had the opportunity to work with six wonderful students. This summer we celebrate their graduations and new opportunities.

- **Alejandro (Alex) Castañeda** furthered WCAHS pulmonary research by studying the effect of airborne particulate matter on the development of asthma, which is a major health problem faced by residents in the agricultural rich California Central Valley. Alex will graduate this coming August with a Ph.D. in Immunology and stay at UC Davis to conduct his postdoctoral studies in pulmonary toxicology.
- **Juan Carlos Piña** has been a dedicated California Heat Illness Prevention Study (CHIPS) researcher with WCAHS since June 2014, when he graduated from UC Davis with a double major in psychology and Chicana/o Studies, and a minor in education. Juan Carlos will travel to Spain this fall to teach English to

high school students as part of the North American Language and Culture Ambassador program through the Spanish Ministry of Education.

- **Eduardo (Eddie) Delgadillo Alfaro** graduated this June from UC Davis with a B.A. in history and minor in education. Eddie has also enthusiastically worked as a research assistant with CHIPS at WCAHS for many years. In addition, he volunteered as a manager at Clínica Tepati, a non-profit, UC Davis student-run health clinic in Sacramento. Eddie will be studying for the GRE this summer in anticipation of applying to a master's degree in public health (MPH) program and working as a junior specialist for the Department of Psychiatry and Behavioral Sciences at UC Davis.
- **Leslie Olivares**, who also started out as a CHIPS researcher, was recently hired as WCAHS' new education and outreach assistant. Leslie graduated from UC Davis in 2015 with a B.S. in exercise biology and a double minor in Spanish and Chicana/o studies. Leslie gained experience working with underserved communities during college at the UC Davis student-run health clinic, Clínica Tepati. In her current position, Leslie continues working with vulnerable populations to promote farmworker health and safety, both in person and using social media.

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the grower (who is in a position to bring cultural change and administrative infrastructure in the workplace that both prevents and responds to workplace sexual harassment).



While there are laws in place, such as California Senate Bill 1087, which requires sexual harassment training for farm labor contractors, there can be a large gap between the legal mandate and practice. The investigators will characterize the experience, attitudes, and perspectives among men and women farm workers, and among supervisors and growers in California and Mexico relevant to workplace sexual harassment. The investigators will establish a community advisory board in each country



and conduct focus groups among farm workers, interviews with employers and supervisors, and a cross-sectional survey of approximately 200 men and women farm workers involving participants in

California and Mexico.

Results from the study will be used to create educational modules for farm workers, supervisors, and employers; graphic-art storybooks (*novellas*) for low-literacy workers; pocket card listing resources for preventing and responding to sexual harassment; and a model sexual harassment policy for employers. These materials will be evaluated before wide dissemination and policy recommendations.

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the late Thomas R. Waters, one of the study's authors. Dr. Waters was a seminal investigator in preventing work-related musculoskeletal injuries, especially from lifting, and he had a special interest in preventing agricultural-related injuries in youth.

The purpose of the study was to develop and evaluate farm intervention tools that could be used by adults and adolescents to help prevent lower back and other musculoskeletal disorders. These injuries often result from the stooped, awkward working postures that occur during carrying, lifting, and moving loads, such as heavy buckets. An estimated 2 million youths under age 20 are subject to various agricultural hazards such as these.



Participant a carries a bucket of water with the Easy Lift.

The researchers developed two new technologies, the Easy Lift (EL) and the Ergo Bucket Carrier (EBC), for farmworkers to use during carrying, lifting and dumping. The two-handed EL tool has an angled power-grip handle to ensure that the user's wrist remains in a neutral position to maximize the user's ability to lift. The EBC, developed to maximize efficiency during carrying and dumping tasks, consists of a four-wheeled

cart for optimal transport and a tilting mechanism. To use the device, the user loads a bucket onto the cart, pushes the cart to the desired location, and then pushes the handle to complete the dumping task.

The novel tools were evaluated first by comparing the use of the EL and EBC to the manual handling of various weights in a five-gallon bucket. Nine adult participants wore a Lumbar Motion Monitor to collect data on the kinematics (motion) of the spine when carrying, lifting, and dumping. Each participant started by lifting a water-filled bucket from the ground on one end of a standard grassy path, carrying it to the other end, and then dumping the water into a designated container. Next, eight adolescent participants repeated the same experiment.

For both adults and adolescents, the EBC was found associated with a significantly reduced low-back disorders risk for carrying and dumping methods unless the carried



Bucket of water transported with the Ergo Bucket Carrier.

object was 10 pounds or less. In addition, the EL was found to have the lowest low-back disorders risk for lifting tasks. Dr. Fathallah commented, "The main recommendation of this study is to combine these two tools to reduce the risks of these tasks on the user."

Intervention studies conducted with the specific purpose of reducing back injury associated with common farm work tasks are relatively limited in number. Dr. Fathallah and his team is currently "exploring a way of disseminating this information to farmers," but also made a point to say that any person can use these solutions to help with common tasks like lifting and carrying. The study was part of an ongoing collaboration between three UC campuses (Davis, Berkeley, and San Francisco) called the UC Agriculture Ergonomics Research Center.



Participant dumps bucket of water with Ergo Bucket Carrier.

¹Mercer, Marsha. "Child Work: Agriculture, Entertainment Fair Labor Standards Act Exemption." Stateline. The Pew Trust Charities, 30 Aug. 2013. Web.

²"Health Issues." The Child Labor Education Project. University of Iowa, n.d. Web.

Congratulations *continued from page 3*

- **Melissa Franco** also has been a committed CHIPS researcher with WCAHS, interspersed with short breaks to travel and volunteer in Guatemala, ever since she graduated June 2014 from UC Davis with a B.S. in chemistry. Melissa is excited to begin a MPH program this fall at Washington University in St. Louis, and she will specialize in global health. She plans on pursuing an M.D. in hopes of serving underserved and impoverished communities globally, specifically in Latin America.
- **Sally Moyce** earned a Ph.D. this June in nursing science and healthcare leadership from the UC Davis Betty Irene Moore School of Nursing. Sally studied acute kidney injury in agricultural workers exposed to high temperatures, and she was presented with an Excellence in Translational Research Award. Sally will continue her research in conjunction with WCAHS while also being an assistant professor at Samuel Merritt University in Sacramento.



Migrant Labor & Global Health Conference

March 1 – 3, 2017
Conference Center
UC Davis

Migration is a phenomenon that involves 244 million people worldwide (nearly one billion if internal migrants are included), most of whom move in search of work and wellbeing. Globally, immigrants face a range of health disparities and barriers to social and economic integration, and efforts to seek solutions to these problems must be coordinated and multidisciplinary.

This 2-day conference brings together a renowned group of international experts in plenary, keynote and panel sessions on the demographic, occupational, economic and policy aspects of migration.

For more information and to register, visit www.mlghconference.com.

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The MLGH Conference is organized by the Migration and Health Research Center and the Migration Research Cluster at the University of California, Davis.



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GIFTS TO WCAHS help advance science and training to promote farmworker health and safety and disseminate knowledge to our stakeholders. If you would like to donate, please send a check to: Western Center for Agricultural Health and Safety, Attn: Sherri Gallagher <slgallagher@ucdavis.edu>, University of California, One Shields Ave., Davis, CA 95616-8757

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