

The **UMASH** Connection Farms and People

A newsletter of the Upper Midwest
Agricultural Safety and Health Center



umash.umn.edu

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Farms and People Blog

ONE HEALTH IN
AGRICULTURAL
SAFETY AND HEALTH



UMASH embraces a **One Health** philosophy that recognizes connections between human, animal, and environmental health when addressing occupational health and safety issues in agriculture.

FROM THE DIRECTOR

The Upper Midwest Agricultural Safety and Health Center (UMASH) has developed **mission, vision, and guiding principle statements** to help people understand what the center is all about and enhance our connection with stakeholders. I invite you to view these on the **UMASH website**. You will notice some key themes: worker health and safety, emerging problems, changing conditions and, quite importantly, engaging a broad base of partnerships. In this newsletter we highlight some unique partnerships that are helping UMASH meet its mission.

The work of Dr. Peter Davies related to livestock associated methicillin resistant *Staphylococcus aureus* (MRSA) is an excellent example of research that creates partnerships to develop solid scientific evidence to understand an emerging problem. Emerging and re-emerging infectious agents, like livestock associated MRSA, can affect the well being of people who produce food in multiple ways. In addition to the concern of potential disease in people, the emergence of a potential threat can create uncertainty and anxiety, which also affects well-being. **The emergence of livestock associated MRSA is a complicated story** that requires rigorous research that fully engages the community at risk. Research that does not engage the appropriate stakeholders runs the risk of being uninformative, or worse, misinformative. The approach taken by Dr. Davies and his colleagues draws on the excellent cooperation of swine veterinarians, who represent the community at risk for MRSA infection and can also provide ancillary information that will make the results of the study both interpretable and relevant.

Another highlight is the **Farm Mapper video** produced by the National Farm Medicine Center. This partnership brought together the resources of the NFMC, first responders, and the farming community to develop a creative technological solution to long-standing problems of responding to emergencies on farms. In an emergency situation, the health and safety of not only the farmers and their employees are at risk, but also that of family members and members of the surrounding community. **Helping first responders navigate agricultural properties more safely is a benefit to all.**

We look forward to continuing to develop new partnerships and enhance existing ones in the future. In September, UMASH will be participating in the **Allen D. Lemans Conference** (at the Saint Paul RiverCentre™ September 14-17) on September 16, and the **2013 North American Agricultural Safety and Health Summit** in Minneapolis September 25-27. We hope to see you there!

Bruce Alexander
Director, Upper Midwest Agricultural Safety and Health Center

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**2013
NORTH
AMERICAN
AGRICULTURAL
SAFETY
SUMMIT**

September 25-27, 2013
Marriott Minneapolis City Center Hotel

Early Bird Registration Ends July 31, 2013

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www.ashca.com



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MRSA AND THE RISK TO HUMAN AND ANIMAL HEALTH

Peter Davies, BVSc, Ph.D
Principal Investigator



For several decades, MRSA (methicillin resistant *Staphylococcus aureus*) has been one of the biggest headaches for infectious disease clinicians across the world. Since the 1990s, MRSA has become an increasing problem in the general community. Until 2004, nobody thought that animals, and food animals in particular, had any role to play with respect to MRSA infections.

That all changed suddenly in 2004 following the discovery of a previously unknown variant of MRSA (termed ST398 MRSA) in a small number of people in the Netherlands who had contact with pigs. In the Netherlands, MRSA is very tightly controlled and much less prevalent than in the USA, but studies showed that pig

farmers were about 800 times more likely to be harboring MRSA in their nose than the average Dutchman. A surge of research showed that ST398 MRSA occurred in several animal species (pigs, cattle, poultry, horses) and in several countries, including the USA. Exposure appears to be almost totally confined to people with occupational contact with livestock.

Many questions remain about the origin of ST398 MRSA and the risks that they pose to human and animal health. The UMASH project on MRSA in swine veterinarians targets two specific questions: 1) are people exposed to livestock truly colonized by these 'animal adapted' variants of *S. aureus*, or just transiently contaminated from dust and other sources of exposure in barns?; and 2) what are the health risks associated with exposure to these 'livestock associated MRSA'? Veterinarians are ideal for this study because, unlike farmers, they routinely have contact with many different animal populations rather than being with the same animals each day. The study has been collecting monthly nasal samples from 67 veterinarians across the US as well as data on health events related to clinical infections with *S. aureus*. **The results to date indicate that veterinarians have a much higher prevalence of *S. aureus* and MRSA, but less than seen in this group in Holland.** This study promises to give us new understanding about exposure risks to MRSA for people working with livestock and of the associated health risks.

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Peter Davies, BVSc, Ph.D.

Dr. Peter Davies is the Principal investigator of the UMASH Research Project, *MRSA Colonization and Infection in Swine Veterinarians*. He recently presented interim results at the EPICOH conference in the Netherlands, June 2013.

Dr. Davies and doctoral student Jisun Sun will speak at the international SafePork meeting in Portland, Maine, September 9-12, 2013.

Dr. Davies will be a keynote speaker on ST398 MRSA at the Allen D. Lemman Swine Conference in St. Paul, September 14-17, 2013.

ALLEN D. LEMMAN SWINE CONFERENCE

The University of Minnesota Allen D. Lemman Swine Conference is an annual educational event for the global swine industry. It is internationally acclaimed for bringing science-driven solutions to the complex challenges facing the industry. Each year hundreds of participants from over 20 countries attend the Lemman Swine Conference held in St. Paul, Minnesota, USA. Major players in swine production, animal health management, and marketing from around the world exhibit their products and services.

SEPTEMBER 14-17, 2013
University of Minnesota - St. Paul, MN

REGISTER ONLINE
<http://z.umn.edu/leman>

Bruce Alexander, PhD and Jeff Bender DVM, MPH will be presenting a session entitled:

**The Upper Midwest Agricultural Safety and Health Center:
Worker Health and Safety in Animal Agriculture**



UMASH PILOT PROJECTS PROGRAM

The UMASH Pilot Projects Program seeks to develop new initiatives in agricultural health and safety research, prevention and intervention, outreach and education, evaluation and translating research into practice. UMASH issued a request for pilot project proposals in April 2013. The following projects were awarded funding for 2013. **Congratulations to the 2013 awardees!**



2013 UMASH PILOT PROJECTS

Pilot project to develop healthy fair and petting zoo workshops in Minnesota

Minnesota Department of Health

Incorporating Worker Safety Programs with Quality Assurance

College of Veterinary Medicine and the School of Public Health
University of Minnesota

Aflatoxin exposure in the allergic lung: agriculture-related health pilot project

North Dakota State University

Laying a New Foundation for Engaging Agricultural Media Gatekeepers in Covering Agricultural Safety and Health

Agricultural Communications Documentation Center University of Illinois and the Communications Program National Farm Medicine Center, Marshfield Wisconsin

Learn more about current and past projects, and announcements for future calls for proposals at:

http://umash.umn.edu/projects/pilot_projects.html

2012 PILOT PROJECTS

Characterization of shiga-toxin producing E. coli infections and cryptosporidia in South Dakota with respect to agricultural exposures and other risk factors.

South Dakota State University

Developing Culturally and Linguistically-Appropriate Pesticide/Chemical Education Materials for Hmong Produce Growers

Bioproducts and Biosystems Engineering Department and University of Minnesota Extension

Pilot Project Exploratory Immunologic Differences in Cord Blood from Infants Born into Farming Environments Compared to Nonfarming Environments in MESA

University of Wisconsin

Design Guidelines for Healthy and Safe Animal Production Building Systems

Center for Rural Design
University of Minnesota

UMASH ANNUAL FORUM HIGHLIGHTS

The first UMASH Annual Forum, **Making Connections to Improve Worker Safety and Health**, was held on April 17, 2013 at the University of Minnesota's St. Paul Campus with approximately forty participants from academia, veterinary medicine, public health, occupational medicine, animal welfare, extension, dairy industry, and government. The goal of the forum was to showcase the work being done by UMASH and engage stakeholders in a dialogue to improve the health and safety of workers and their families in the Upper Midwest region.

UMASH center director, Bruce H. Alexander, Ph.D., welcomed participants and provided an overview of the center and its mission. In a series of roundtable discussions, the UMASH investigators engaged participants in dialogue focused on their projects and related issues. A number of agricultural safety and health related posters were on display for viewing and discussion throughout the morning. Forum participants heard presentations from the 2012 UMASH Pilot Project awardees. These presentations demonstrated the impact UMASH center can have for the region by stimulating new approaches to existing problems.

Read the full Annual Forum Summary at:
umash.umn.edu/annualforum

We look forward to hosting similar events in the future.

Watch for announcements on our website and in the UMASH Connections newsletter.



OUTREACH UPDATE

National Farm Medicine Center Develops New Interactive Tool: Farm MAPPER

Farm Mapping to Assist, Protect and Prepare Emergency Responders (Farm MAPPER) is a NEW interactive web tool that explores using Quick Response tags (QR codes) to provide emergency responders onsite information about hazards and physical layouts of agricultural operations. The project developed model systems for farmers to input data such as locations of chemicals, solvents, fuels and other hazards, where power and gas cut-off valves and water sources are and where farming operations occur. The Farm MAPPER project has received nationwide attention in the Associated Press and Brownfield Ag News.

Learn more at: http://www3.marshfieldclinic.org/nfmc/?page=nfmc_farm_mapper

Funding for the Farm MAPPER project was provided by the Midwest Center for Occupational Safety and Health (MCOHS) Pilot Projects Research Training Program (PPRTP).



UMASH Representatives Present at ISASH



Co-Director Matt Kiefer, with Amy Liebman, Iris Reyes, Dennis Ray, Teresa Schnetzer, Scott Heiberger, Barb Lee, and Marsha Salzwedel from the Marshfield Farm Medicine Center, attended the annual ISASH (International Society for Agricultural Safety and Health) Conference June 24-27 in Sandusky, Ohio. Matt Keifer and Amy Liebman presented "Assisting the dairy industry to optimize worker health and safety" as an oral presentation and in a plenary session with four other speakers. Iris Reyes conducted a poster presentation on "Farm Mapping to Assist, Protect and Prepare Emergency Responders: Farm MAPPER".

IN THE FIELD



Migrant Clinicians Network Webinar

Workers and Health: How Frontline Providers Make a Difference in the Protection of Migrant Farmworkers and their Families

May 15, 2013 - Migrant Clinicians Network's webinar detailed the health risks of migrant and immigrant workers and provided strategies for clinicians to incorporate a focus on occupational and environmental health in the primary care setting. The webinar also gave an overview of resources to address occupational health and environmental health issues, including MCN's Acute Pesticide Exposure Clinical Guidelines and Pesticide Exposure Assessment Form. MCN is a partner in the UMASH project, *Seguridad en las lecherías*.

PRESENTERS:

- Amy K. Liebman, MPA, MA, Director of Environmental and Occupational Health, Migrant Clinicians Network
- Mike Rowland, MD, MPH, Vice President, Medical Affairs and Medical Director, Occupational Health, Franklin Memorial Hospital

The recorded webinar, presentation slides (pdf), and accompanying resources are available on the MCN website: <http://www.migrantclinician.org/webinarresources05152013>

UPCOMING EVENTS

Allen D. Leman Swine Conference

September 14-17, 2013
University of Minnesota

National Farm Safety Week

September 15-21, 2013

U of M SROC Centennial Celebration

September 19, 2013
Waseca, MN

2013 North American Agricultural Safety Summit

September 25-27, 2013
Minneapolis, Minnesota

12th Annual Midwest Rural Agricultural Safety and Health Conference

"The Many Faces of Agriculture"
November 19-20, 2013
Ames, Iowa

Learn more and view full event list at:
<http://umash.umn.edu/events.html>



UMASH is a collaboration of the University of Minnesota School of Public Health, University of Minnesota College of Veterinary Medicine, the National Farm Medicine Center of the Marshfield Clinic with the Migrant Clinicians Network, and the Minnesota Department of Health. This collaboration brings together unique and complimentary expertise to address existing and emerging occupational health and safety issues in agriculture.

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