Public Health Symposium

Friday, November 1, 2013
9:30 am - 12:00 pm
Pyle Center - Room 313
702 Langdon Street
Madison, Wisconsin
Public Health in Practice
An Overview of the Master of Public Health Program

Founded in 2005, and first accredited by the Council on Education for Public Health (CEPH) in 2009, the University of Wisconsin-Madison (UW-Madison) Master of Public Health Program is an interdisciplinary degree program that provides professional preparation in public health concepts and methods to health professionals and students. The degree provides a practice-oriented program for individuals to foster the expansion and enhancement of a competent public health workforce that is able to advance the well-being of the citizens of Wisconsin and persons beyond state borders.

The MPH program embraces an interdisciplinary educational philosophy and bridges the diverse schools and departments of the UW-Madison campus with faculty and students from disciplines such as medicine, pharmacy, veterinary medicine, law, business, social work, public affairs, urban planning, and nursing. With a focus on service learning, the MPH program builds on the "Wisconsin Idea," a century-old aspiration that the benefits of the University extend not only to Wisconsin's residents, but beyond the state borders. The MPH program integrates public health practitioners and contemporary public health issues facing Wisconsin’s communities into its teaching, research, and service activities. Close connections with the community through the Wisconsin Department of Health Services, the City of Milwaukee Health Department, and other health care and not-for-profit agencies enable students to apply their skills in real world settings. Graduates of the MPH program gain knowledge, skills, and insights that are responsive to the core functions of public health.

Students in the MPH Program must complete 42 credits, including 26 credits of required courses. There are six required 3-credit courses, one required 3-credit methods course, two required 1-credit seminars and a 6-credit, 400-hour field experience. Students complete 16 credits of elective coursework from a list of over 70 interdisciplinary electives across the University campus. Students complete a capstone project, which serves as a culmination of didactic and experiential learning, by writing a scholarly paper and delivering a presentation at one of two semi-annual Public Health Symposia.

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Chet Thomas
Amy Trentham-Dietz
James Vergeront
Mark Wegner
Whitney Witt
Bobbi Wolfe
Susan Yackee
Susan Zahner
9:30 am  Introduction & Overview

9:40 am  Laura Jacobson - Characterizing the Flow of Health Information in Rural Uganda: Is there a role for mobile phones?

10:00 am Josie Golembiewski - Evaluation of a Restaurant and Grocery Store Intervention to Improve the Nutrition Environment and Promote Healthy Eating

10:20 am Jessica Frosch - Development and Distribution of Educational Materials for the Prevention of Carbapenem-resistant Enterobacteriaceae Among Acute and Long-term Care Facilities

10:40 am Christopher Steward - A More Sustainable Lyme Disease Surveillance System

11:00 am Julia Egan - Public Health Implications of Concentrated Animal Feeding Operations

11:20 am Mee-La Lee - Risk Assessment for Human Consumption of Waterfowl on the Sheboygan River
Characterizing the Flow of Health Information in Rural Uganda: Is there a role for mobile phones?

ABSTRACT
As the World Health Organization finalizes the post-2015 development agenda, they are calling for a “data revolution.” Monitoring health data will strengthen decision making, guide priorities, and ensure accountability of leaders worldwide. In Uganda, capturing recent health data - particularly in rural areas - is an arduous task. Capitalizing on the expansion of mobile phones, there is an opportunity for the public health community to use these devices as data collection tools. To understand if mobile phones may play a role in connecting policymakers with health information in Uganda, the study sought to characterize the flow of health information (data, summaries and anecdotes) and learn firsthand the perceptions of health system vulnerabilities from those who live and work there. Semi-structured interviews (n=20) were conducted with nine health workers and 11 policymakers in Sheema and Mbarara districts, Uganda. Transcripts were analyzed to identify the direction and type of information transmitted; the perceived utility of mobile phones; and perceived health system vulnerabilities. Results showed that health information moves in one direction: from health workers to policymakers. Health workers are more likely to rely on anecdotal information as compared to policymakers (p<0.001). In contrast, policymakers are more likely to access summarized reports (p=0.036). While both groups had a positive perception of mobile phone utility, concerns should be evaluated and mitigated before integrating them into the health system.

BIOGRAPHICAL SKETCH
Laura E. Jacobson received a BS in genetics at the University of Wisconsin. After completing her MPH and Certificate in Global Health she plans to continue research focusing on health system strengthening and health disparities in resource limited settings.

Risk Assessment for Human Consumption of Waterfowl on the Sheboygan River

ABSTRACT
The presence of wild waterfowl inhabiting water systems contaminated with polychlorinated biphenyls (PCBs) can result in PCB exposure among humans that consume those waterfowl. PCBs are a group of 209 structurally-related chemicals that were formerly widely used as heat-stable industrial oils. The use of PCBs was banned within the U.S in 1979. PCBs are persistent within the environment and accumulate and biomagnify in the food chain. In animal models, specific PCB congeners are variously hepatotoxic, immunotoxic, neurotoxic, teratogenic, or oncogenic, reflecting observed or suspected toxicity in humans. To minimize risk of exposure to contaminants for humans that ingest waterfowl, the Wisconsin Department of Natural Resources (WDNR) maintains an advisory concentration level for contaminants in waterfowl. The study used a risk assessment approach to reexamine PCBs in Sheboygan River waterfowl for comparison to the current WDNR advisory for contaminants in waterfowl. Working with the Wisconsin Department of Health Services and the WDNR, study participants estimated consumption rates of waterfowl for typical hunters and incorporated recently measured contaminant concentrations from harvested waterfowl on the Sheboygan River with the average rate of waterfowl consumption. These estimations were used to determine whether current advisories are adequate, should be adjusted or are necessary to maintain limited exposure to contaminants for humans that consume waterfowl. These results will be used to extrapolate to other locations within the state of Wisconsin.

BIOGRAPHICAL SKETCH
Mee-La Lee received her BS in Zoology from Washington State University in 2010. She will complete both her MPH and Doctor of Veterinary Medicine in 2015. Upon graduation she plans to gain clinical skills in small animal practice before pursuing a career in wildlife and ecosystem health as well as zoonotic disease.
Julia Egan

Public Health Implications of Concentrated Animal Feeding Operations

ABSTRACT
Ninety six percent of Americans report eating meat as part of their daily diet. There were 8.7 billion chickens, 34.1 million cattle and 110.9 million hogs produced in the United States in year 2011 and these numbers are only increasing. It is estimated that meat consumption will grow by 2.5% annually, which will equate to a doubling in meat consumption in the U.S. in the next thirty years. Concentrated animal feeding operations (CAFOs), commonly known as factory farms, are growing in number as the prevalence of small farms declines. This trend is changing many U.S. farming communities. A body of evidence indicates that CAFOs impact human health and the environment in addition to the economic and social structure of communities. However, although there is evidence that indicates there are harms associated with CAFOs, there is also evidence that indicates there are benefits. For the capstone project, a comprehensive literature review was conducted to assess the harms and benefits of CAFO-related changes in environmental conditions and human health. To assess the impact that CAFOs have on communities and present potential solutions to reduce harm, two objectives are analyzed. Firstly, the economic and social impacts attributed to CAFO-related changes in environmental conditions and human health are assessed. Secondly, national managerial and legislative actions are examined and compared in order to find the best possible solutions and implementation plans that show promise for mitigating the potential detrimental impacts of CAFOs.

BIOGRAPHICAL SKETCH
Julia Egan plans to find a career in environmental protection upon completion of her degree. Specifically, she hopes to find a career advocating for sustainable animal agriculture.

Josie Golembiewski

Evaluation of a Restaurant and Grocery Store Intervention to Improve the Nutrition Environment and Promote Healthy Eating

ABSTRACT
Over two thirds of US adults are overweight or obese. Increasing research evidence suggests that the nutritional environment influences individual eating practices and supports the importance of interventions in restaurants and food stores for obesity prevention. The purpose of this study is to evaluate the impact of Waupaca Eating Smart (WES), a 10-month pilot community-level intervention to promote healthy eating through improvements in the nutrition environment of restaurants and food stores. The intervention followed a quasi-experimental design, with two partnering Wisconsin communities randomly assigned to serve as the intervention or comparison site. The “RE-AIM” framework was used to evaluate the impact of the intervention using data from pre- and post-test owner and customer surveys, sales records, and direct observation of intervention strategies and the nutrition environment. In the intervention community, over half of customers reported awareness of WES (Reach). WES was associated with a modest improvement in customer attitudes and behaviors among certain demographics and with greater restaurant nutrition environment scores (Effectiveness). Seven of nine restaurants, and two of three stores approached, agreed to participate in WES (Adoption). Restaurants and stores implemented and maintained various strategies (Implementation, Maintenance). Overall, these findings suggest that community-based nutrition interventions in local restaurants and grocery stores can have a high level of reach and are likely to be adopted, implemented, and maintained. These interventions seem to be effective at improving nutrition environments in restaurants, but more evidence is needed to document the impact on consumer and owner attitudes and behaviors.

BIOGRAPHICAL SKETCH
Josie Golembiewski is a second year MPH student with interests in public health nutrition and maternal and child health. She plans on completing a dietetic internship next year to become a Registered Dietitian. In the future, Josie hopes to work on efforts to promote access to healthy food and prevent obesity and chronic disease.
Jessica Frosch

Development and Distribution of Educational Materials for the Prevention of Carbapenem-resistant Enterobacteriaceae Among Acute and Long-term Care Facilities

ABSTRACT
Carbapenem-resistant Enterobacteriaceae (CRE) are emerging antibiotic-resistant microorganisms. Invasive infections with these microorganisms are associated with case-fatality rates of up to 40%. This emerging healthcare-associated pathogen is present among acute and long-term care facilities, and impacts primarily patients/residents who are immunocompromised, treated with medical devices such as catheters, or who are taking antibiotics. The Wisconsin Division of Public Health (DPH) initiated hospital-based surveillance for CRE during December of 2011, to determine incidence and prevalence among hospital inpatients. Surveillance is critical for ensuring rapid identification of patients with CRE so that infection preventionists and other healthcare workers can initiate appropriate infection prevention measures. Although surveillance helps with patient identification, many healthcare workers are under-educated about how to control the spread of CRE and how to educate patients. To bridge education and communication gaps related to CRE prevention, a high-intensity intervention involving surveys and interviews was conducted to evaluate the needs of both staff and patients. Based on pre-intervention surveys, educational materials were subsequently developed and piloted among acute and long-term care facilities in partnership with the City of Milwaukee Health Department. Based on feedback from facilities within this jurisdiction (n=35), educational materials were edited and then distributed to the rest of Wisconsin healthcare facilities. To evaluate the educational materials distributed, a post-intervention survey was administered to all infection preventionists and local health departments. Differences between the surveys demonstrated that facilities found these materials were useful for educating staff and patients about preventing the spread of CRE among healthcare facilities.

BIOGRAPHICAL SKETCH
Jessica Frosch received her BS in Medical Microbiology and Immunology from the University of Wisconsin-Madison in 2012. Currently she is a second year student in the MPH Program. Jessica has a passion for infectious and communicable diseases, specifically as they relate to prevention and education. Infection control, healthcare administration, and community health are among her other interests. Upon completion of the MPH Program, Jessica plans to apply her work, volunteer, and educational experiences to the application of infection control. In particular she wants to work with infection control programs and practitioners to develop emergency preparedness measures and prevention programs.

Christopher Steward

A More Sustainable Lyme Disease Surveillance System

ABSTRACT
Abstract: The number of Lyme disease cases in Wisconsin increased by 846% between 1991 and 2011, from 436 cases to 3689 cases. Electronic laboratory reporting implementation contributed to a 424% increase in Lyme disease reports, from 1703 in 2006 to 7226 in 2011. Increased reporting resulted in local health departments (LHDs) and infection preventionists (IPs) spending more of their limited resources performing surveillance activities for Lyme disease, which otherwise could have been spent on other more pressing public health needs. To reduce the burden of Lyme disease surveillance, it was proposed to change the Lyme disease reporting requirements to focus on the reporting of cases that present with an erythema migrans (EM) rash. EM rash was used as the basis of the new reporting requirements as it would likely have the largest impact of burden reduction and it was a consistent measure over the last two decades. The consistency allowed for the modeling of the probability that a reported case would present with EM rash, allowing for the estimation of Lyme disease case numbers based on EM rash reporting. To assess the impact of the change in reporting, a pre- and post-survey of LHDs and IPs was conducted to assess the change in perceived burden of Lyme disease reporting. Sixty five percent of LHDs perceived the change to be an improvement and four percent saw the change as being a negative. Thirty-two percent of IPs perceived the change to be an improvement while eight percent saw the change as being a negative.

BIOGRAPHICAL SKETCH
Christopher Steward, upon the completion of the MPH Program, will continue his career as an infectious disease epidemiologist with the state of Wisconsin, performing state wide disease surveillance of Lyme disease and other emerging tick-borne and mosquito-borne diseases.