

Curriculum Vitae  
**Rachel Klos, DVM, MPH**  
1 West Wilson St, Madison, WI  
Phone: (608) 267-7422  
Email: [rachel.klos@wisconsin.gov](mailto:rachel.klos@wisconsin.gov)

**PROFESSIONAL EXPERIENCE**

July 2007 – present **Wisconsin Department of Health Services/Division of Public Health/ Bureau of Communicable Diseases and Emergency Response**

EPIDEMIOLOGIST – Foodborne/Waterborne/Enteric Diseases  
– FoodCORE Program Director (2009- present)

Perform surveillance for foodborne, waterborne and enteric diseases in the state of Wisconsin using the Wisconsin Electronic Disease Surveillance System (WEDSS) and Bionumerics data systems. Identification and response to known or suspected outbreaks of enteric diseases, especially foodborne and waterborne outbreaks is of primary importance. This includes providing consultation and expertise to local health departments responding to an outbreak as well as coordinating or leading multi-jurisdictional investigations at the state or multi-state level.

Primary epidemiologist at the WDHS responsible for surveillance of enteric disease clusters identified using pulsed field gel electrophoresis (PFGE) analysis performed at the Wisconsin State Laboratory of Hygiene (WSLH). Depends on frequent communication and collaboration with WSLH staff and thorough understanding of the laboratory techniques and their interpretation. PFGE surveillance requires use of the Bionumerics software system which allows for upload of PFGE results from the WSLH and daily monitoring and response to PulseNet WebBoard postings to identify Wisconsin cases associated with multi-state PFGE clusters.

In addition to outbreak response, provide technical consultation and training on public health issues to local health departments who seek guidance on specific case management in addition to development of new and revision of existing guidelines for control of various enteric diseases including shigellosis and norovirus.

**Wisconsin Department of Health and Family Services/Division of Public Health/Bureau of Community Health Promotion**

October 2006 – July 2007 FOLLOW-THROUGH COORDINATOR – Wisconsin Sound Beginnings Program  
Developed and implemented follow-up protocols to ensure timely and appropriate follow-up services for children born in Wisconsin that did not receive or did not pass their universal newborn hearing screen. To identify where follow-up was indicated, daily surveillance of the Wisconsin EHDI Tracking, Referral and Coordination (WE-TRAC) program, a web-based surveillance system, was necessary. Active outreach was undertaken to end-users of the WE-TRAC system that had babies in their system who were not progressing according to national timeline objectives. Daily contact with numerous health providers and other public health agencies was essential and depended on excellent communication and organizational skills.

Created an organizational database in Microsoft Access for the WSB Program and WE-TRAC Program to provide a single, user friendly database where organizational and user information is maintained and continuously updated. This database includes reports on WE-TRAC rollout and tracks follow-up and outreach activities. Additionally, an EpiInfo

database of Confirmation of Hearing Loss Forms was created and to maintain searchable data for the WSB Program.

Played a lead role in facilitating and coordinating the WSB Program's participation in the National Initiative for Children's Healthcare Quality (NICHQ) newborn hearing screening learning collaborative. NICHQ work included: monthly collection and reporting of data and progress from participants located in four regional sites, consultation with collaborative members to identify areas for targeted improvement, planning for state-wide and regional meetings for collaborative members and development of written protocols and communication templates to be used for spreading quality improvement efforts beyond the collaborative.

Fielded phone, email and helpdesk requests for technical assistance from end-users of the WE-TRAC system. Requires excellent knowledge and understanding of the WE-TRAC system and its data and system requirements.

Fall 2004-  
2005

**INFECTIOUS DISEASE CONSULTANT- USDA Funded Foreign Ag. Service Project**  
Worked as a member of a multidisciplinary team of consultants from the United States on an ongoing USDA funded project in Bangladesh. Included travel and on-site consultation in Bangladesh. The project goal was to work with local veterinarians and dairy farmers to increase dairy production through improved on-farm delivery of veterinary services. This was to be achieved by improving preventive health programs, reproduction and nutrition. Additionally, the project aimed to assist local villagers to form a farmer cooperative association so they could pool their milk at a local chilling plant and then market it through a processing company, thereby stabilizing their economic situation for the better. Responsibilities included evaluation of current veterinary services and treatment protocols, determination of areas for improvement, development of treatment intervention protocols, development of strategies for identifying diseases of importance, and strategies for future prevalence studies. Upon returning from the on-site visit, coordinated and took a lead role in writing and preparation of the summary report to the USDA. Assisted in the development and revision of a herd health management database utilizing Microsoft Access. Assisted in development of the financial plan for purchase and establishment of a local chilling plant so the project could eventually serve as a model for other communities in Bangladesh.

**University of Wisconsin- School of Veterinary Medicine, Madison, WI**

2003

**STUDENT RESEARCH ASSISTANT- Department of Medical Sciences**  
Performed bacteriologic assays on milk samples collected from commercial dairy herds culminating in identification of important pathogen species such as *E. coli* and *Salmonella sp.* Required good sterile technique and organization, the ability to streak for isolation, gram stain, interpret colony morphology, run rapid identification assays and perform catalase, coagulase, oxidase and indole tests among others.

2000-2003

**DAIRY FARM TECHNICIAN- Charmany Dairy Teaching Herd**  
Responsible for a wide variety of activities with herd of 50 Holstein cows including milking, feeding, bedding stalls, performing physical exams and administering medical treatments. Work required knowledge and compliance with protocols and procedures necessary for maintaining a safe food product. New employee training was an additional responsibility. Other responsibilities included writing and editing a weekly herd newsletter, helping to maintain a herd health database using DairyComp305, organizing and collecting blood samples for a nutrition monitoring program and participating in vaccination programs.

2001 SUMMER RESEARCH - Department of Pathobiological Sciences  
Awarded summer research scholarship to study bovine lymphocytes infected with *Mycoplasma bovis*. Worked under supervision of scientist to develop a hypothesis, work out the experimental set-up, perform all aspects of the experiment and analyze the resulting information. Gained experience culturing *Mycoplasma bovis*, collecting bovine blood, isolating lymphocytes and setting up known dilutions, performing fluorescent microscopy and flow cytometry. Research culminated in an oral presentation of results.

1999-2000 RESEARCH ASSISTANT- Department of Medical Sciences  
Worked on a USDA Vaccine Licensing Trial. Oversaw daily data management needs including collection of appropriate samples, proper handling and shipment of samples and entering and verifying data in a Microsoft Access database. Worked closely with the primary investigator to communicate accurate up to date information and study needs. Recommended and helped implement improvements to data flow and sample collection including participation in development of Standard Operating Procedures and data collection forms. Collaborated in writing, editing and organizing the study report.

At the conclusion of the study, employment was extended to help research, edit and write a feasibility study leading to the establishment of a University of Wisconsin School of Veterinary Medicine Dairy Teaching Herd. Additionally, organized and analyzed data in Microsoft Excel database that was collected for an IAEA /UN research project exploring family poultry production in Africa.

**Covance Laboratories, Madison, WI**

Summer 2002 SAMPLE MANAGEMENT: Maintained proper chain of custody of pharmaceutical samples from dozens of studies using the strictest guidelines. Interacted with many people each day requesting samples often on short notice.

1999-2000 ANALYST/STUDY COORDINATOR: Coordinated large FDA stability study using GMP guidelines. Duties required independent time management to ensure timely completion of data entry, review of experimental assays and completion of GMP stability assays. Required ability to read and follow protocols. Created stability pull charts for future work to make certain the proper timing of pharmaceutical sample removal from stability chambers.

1996-1997 LAB TECHNICIAN: Performed bacteriological assays under GLP guidelines in a food microbiology laboratory. Duties included growth and identification of organisms such as *Salmonella*, *Listeria* and *E. coli* from commercial food products and environmental samples using conventional and rapid techniques. Additional duties included instrument maintenance and calibration, preparation of media, and record archival and retrieval.

## **EDUCATION**

- 2005-2006 University of Wisconsin School of Medicine and Public Health, Madison, WI  
Master of Public Health – August 2006
- 2000-2004 University of Wisconsin School of Veterinary Medicine, Madison, WI  
Doctor of Veterinary Medicine- May 2004
- 1994-1999 Edgewood College, Madison, WI  
Bachelor of Science- May 1999; Major in Biology, Minor in Chemistry

## **PUBLICATIONS**

V Lappi, JR Archer, E Cebelinski, F Leano, JM Besser, RF Klos, C Medus, KE Smith, C Fitzgerald, JP Davis. An outbreak of foodborne illness among attendees of a wedding reception in Wisconsin likely caused by *Arcobacter butzleri*. *Foodborne Pathogens and Disease*. 2013;10(3):250-5.

BD Miller, CE Rigdon, J Ball, JM Rounds, RF Klos, BM Brennan, KD Arends, P Kennelly, C Hedberg, , KE Smith. Use of Traceback Methods To Confirm the Source of a Multistate *Escherichia coli* O157:H7 Outbreak Due to In-Shell Hazelnuts. *Journal of Food Protection*, 2012; 75(2):320-327.

KA Jackson, M Biggerstaff, M Tobin-D'Angelo, D Bergmire-Sweat, R Klos, J Nosari, O Garrison, E Boothe, L Saathoff-Huber, L Hainstock, and R Fagan. Multistate Outbreak of *Listeria monocytogenes* Associated with Mexican-Style Cheese Made from Pasteurized Milk among Pregnant, Hispanic Women. *Journal of Food Protection*, 2011; 74(6):949-53.

JR Harris, D Bergmire-Sweat, JH Schlegel, KA Winpisinger, RF Klos, C Perry, RV Tauxe, MJ Sotir. Multistate outbreak of *Salmonella* infections associated with small turtle exposure. *Pediatrics* 2009;124(5):1388-94.

KV Nordland, WJ Goodger, TB Bennett, M Shamsuddin, RF Klos. Methods for conducting an economic opportunity in smallholder dairy farms. *Tropical Animal Health and Production*, 2007; 39(8):557-566.

NB Cook, CO Eisele, RF Klos, TB Bennett, SM McGuirk, WJ Goodger, GR Oetzel, and KV Nordlund. A coordinated dairy teaching program for future dairy practitioners at the University of Wisconsin-Madison. *Journal of Veterinary Medical Education*. 31:372-379, 2004.

Klos, Rachel F, Christian O. Eisele, Thomas B. Bennett, Gary Frank, William J. Goodger. Use of a standardized form for partial budget analyses to assess the feasibility and efficiency of interventions in family poultry operations in 11 African countries. Results of a FAO/IAEA Coordinated Research Program. IAEA, Vienna, Austria, 2004.

## **TEACHING**

University of Wisconsin - School of Medicine and Public Health

- Infectious Disease Epidemiology - PHS 801
  - Guest lecture on topic of outbreak investigations (2010, 2011, 2012, 2013)
- Mentor for UW-Master of Public Health students
  - Andrea Pontel – 2008
  - Sarah Koske – 2013

- Co-lead a Public Health Integrative Case on use of antibiotics in food animals (October 2012)
- Overview of Rural Health - MD Program Year 1 elective
  - Guest lecture on topic of zoonotic diseases (April 2013)

University of Wisconsin - School of Veterinary Medicine

- Public and Corporate Practice Rotation
  - Host students during rotation (2008, 2009)
- Professional Skills in Veterinary Medicine Panel (2007, 2008, 2010)
- Careers in Veterinary Medicine
  - Guest lecture on veterinary public health (2007, 2008, 2010)
- Host 4<sup>th</sup> year SVM student for 2 week externship
  - Stephanie Sierra – 2009
  - Ryan Wallace – 2012

**Committees / Workgroups**

- 2009-present UW-MPH Program Community Advisory Committee; Co-Chair (2012-present )
- 2010- present WVMA Public Health Committee
- 2010 OutbreakNet Steering Committee (Portland)
- 2010 Midwest Regional PulseNet Committee (Madison)
- 2012 Council to Improve Foodborne Outbreak Response, Outbreaks of Unknown Etiology Workgroup

**PROFESSIONAL MEMBERSHIPS**

Wisconsin Veterinary Medical Association

- Member of the WVMA- Public Health Committee (2011- present)

**LICENSE**

State of Wisconsin Veterinary Medical License (2004- present)