

Kristy Murray, DVM, PhD

**Assistant Professor of Epidemiology
Center for Infectious Diseases
The University of Texas School of Public Health
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Education

9/90-5/94 Texas A&M University, College Station, TX—BS (Biomedical Science)
9/90-12/95 Texas A&M University, College Station, TX—BS (Veterinary Science)
9/94-5/98 Texas A&M University, College Station, TX—DVM
8/03-8/06 University of Texas Medical Branch, Galveston, TX—PhD, Dept. of Preventive Medicine and Community Health, Clinical Science Curriculum, Clinical Investigation Track

Professional Training

9/97-10/97 Epidemiology Elective Student, CDC, Atlanta, GA (NCID/DVRD/VRZB)
10/97-6/99 Post-Doctorate Fellowship, Oak Ridge Institute for Science and Education, Centers for Disease Control and Prevention (CDC), Atlanta, GA; National Center for Infectious Diseases, Division of Viral and Rickettsial Diseases, Viral and Rickettsial Zoonoses Branch (NCID/DVRD/VRZB). Virology and Epidemiology
7/99-6/01 Epidemic Intelligence Service Officer, Centers for Disease Control and Prevention, National Center for Infectious Diseases, Bioterrorism Preparedness and Response Program, Atlanta, GA
1/2002 Smallpox Response Team Training Course, Centers for Disease Control and Prevention, Atlanta, GA

Professional Licenses

#8391, Texas State Board of Veterinary Medicine, expires March 2007
#006037, Georgia State Board of Veterinary Medicine, inactive

Professional Experience

11/02-present

Assistant Professor of Epidemiology—Center for Infectious Diseases, University of Texas School of Public Health, Houston, TX. 1200 Herman Pressler Blvd., Room 707, Houston, TX 77030. (713) 500-9358.

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- Primary focuses of research:
 - evaluate the natural history of West Nile virus (WNV) infection in hospitalized human patients in Houston;
 - evaluate host and environmental risk factors for infection and severe disease;
 - determine the long-term clinical sequelae of WNV infection;
 - determine the kinetics of anti-WNV IgM and IgG antibody response;
 - determine the seroprevalence of WNV infection in the homeless population, who would be at greater environmental risk
 - determine host risk factors for developing severe disease from WNV infection among pediatric cases in the state of Texas
 - conduct pediatric active surveillance on CSF for WNV infection during transmission season at a large pediatric referral hospital in Houston
 - conduct seroprevalence studies in animal populations in the Houston area to determine levels of virus activity
- Led the rapid health assessments (the cot survey) syndromic surveillance among evacuees being housed in the Astrodome following Hurricane Katrina
- Provide course lectures in outbreak investigations (Introduction to Epidemiology) and emerging infectious diseases (various courses)
- Leading a course on Emerging Viral Diseases (1 credit hour)
- Co-teaching Epidemiology and Control of Infectious Diseases (4 credit hours)
- Advise PhD, MS, MPH, and DrPH students on academic course work and thesis/dissertations
- Faculty advisor for the Student Epidemic Intelligence Society, which provides opportunities for students to receive training in outbreak response and assist the local health departments with outbreak investigations.

6/01-11/02

Veterinary Medical Epidemiologist—Division of Global Migration and Quarantine, National Center for Infectious Diseases, CDC:

- Primary focus of work was assisting with the development and implementation of response and preparedness plans with regards to quarantine and bioterrorism, particularly smallpox.
- Co-investigator on NIOSH study looking at worker safety with zoonoses exposures from non-human primates

- Project manager on recognition and surveillance of the potential introduction of foreign zoonotic diseases through the importation of animals.
- CDC/NCID/DGMQ, Field Operations Branch, Atlanta, GA—Dr. David Kim, supervisor.

9/01-9/02

Adjunct Assistant Professor—Uniformed Services University for the Health Sciences—Department of Preventative Medicine and Biometrics, School of Medicine, Bethesda, MD.

10/01-12/01

Temporary detail assignment as a medical epidemiologist to the State Liaison Team in the CDC Emergency Operations Center following the terrorist attacks on September 11th, 2001 and the intentionally caused anthrax outbreak

- Responding to calls from physicians and state and local health departments regarding questions about potential anthrax or smallpox cases.

7/99-6/01

Epidemic Intelligence Service Officer—Bioterrorism Preparedness and Response Program, National Center for Infectious Diseases, CDC:

- West Nile virus outbreak, New York City, 1999—assisted the NYC Department of Health with the investigation of the outbreak, including active human case surveillance, chart reviews of cases, epidemiology of the outbreak, and sero-prevalence study among residents in Queens, NY. Became lead coordinator and created the avian mortality surveillance system as a means for monitoring virus activity and geographic distribution. Active member of working group for West Nile virus. Assisted in setting up the National West Nile Surveillance System. Created the National West Nile Information Exchange System, a web-conferencing and e-mail list-serve for dissemination of information to federal, state, and private participants in West Nile epidemiology, surveillance, and research.
- World Trade Organization Ministerial Meetings, Seattle, WA, 1999—participated in hospital emergency department syndromic surveillance before, during, and after the meetings as a means for providing early detection of a potential bioterrorism event or infectious disease outbreak.
- Human bubonic plague, Ten Sleep, WY, 2000—investigated the human case to determine mode of infection; examined environmental conditions and area animal populations to determine prevalence of plague and risk to human populations.
- Unexplained illnesses and deaths in injecting drug users, Dublin, Ireland, May to July, 2000—assisted Irish public health officials with the outbreak, including creating the case definition, case ascertainment, initiating active and passive surveillance, coordination of laboratory specimens for specialized testing at reference laboratories, conducted patient interviews, and acted as the communication link between Ireland and a similar outbreak occurring simultaneously in Glasgow, Scotland and England.

- Short-term consultancy to the World Health Organization for polio eradication efforts in Bangladesh (Stop the Transmission of Polio—Team 6—Sept. to Dec. 2000). Based in Chittagong Division, assisted with improving Acute Flaccid Paralysis (AFP) surveillance, conducting active surveillance for AFP cases, training local health providers, and preparing the local health authorities for the National Immunization Day.
- Other projects—active participant in developing a nation-wide strategic plan for response and preparedness for a bioterrorism threat or incident; participant in tabletop exercises with various cities as a simulation for preparedness; working with various federal and state agencies in coordinating an emergency response; lecture to emergency responders about critical biological weapon agents, specifically anthrax, and preparedness and response to threats.
- CDC, NCID, Bioterrorism Preparedness and Response Program, Atlanta, GA—Dr. Lisa Rotz (primary supervisor) and Dr. Ali Kahn (secondary supervisor).

10/97-6/99

Guest Researcher—Viral and Rickettsial Zoonoses Branch, National Center for Infectious Diseases, CDC:

- International field work—participated in the surveillance of bat lyssaviruses in the Philippines in support of the Global Health Emerging Infectious Disease initiative in the Public Health Assessment of Zoonoses in parts of Southeast Asia.
- Conducted epidemiologic surveillance for vaccine failures in dogs and cats with rabies in the United States;
- Performed economic analysis and proposed recommendations for pre-exposure prophylaxis with rabies vaccine.
- CDC (ORISE post-doctoral fellowship), Atlanta, GA—Dr. Charles Rupprecht (supervisor).

5/98-6/99

Veterinary Practitioner:

- Medicine and surgery, client appointments including emergencies.
- Briarcliff Animal Clinic, Atlanta, GA—Dr. Peter Muller (supervisor).

3/95-5/97

Emergency Veterinary Technician:

- Specialized in critical care and emergency medical treatment.
- Veterinary Emergency Referral Group, Inc., Houston, TX.

9/94-3/95

Research Assistant:

- Laboratory duties responsibility for recombinant DNA technology, southern blots, restriction digests, and gel electrophoresis for cytogenetics research project for genetic markers on canine and bovine DNA.
- Texas A&M University, College Station, TX.

1/93-8/93

Laboratory assistant:

- Clinical Microbiology Laboratory. Duties included bacterial culturing, identification, and antibiotic susceptibilities on teaching hospital cases
- Texas A&M University, College of Veterinary Medicine, Veterinary Teaching Hospital, College Station, TX.

US Public Health Service Awards

2001 Foreign Duty Service Award
2001 The Public Health Service (PHS) Outstanding Unit Citation Award
2000 The PHS Achievement Medal for individual work on the West Nile Outbreak and Unexplained Illnesses in Ireland
2000 The PHS Unit Commendation Award for contributions for conducting surveillance for bioterrorism associated with the World Trade Organization (WTO) meeting in Seattle, WA

Honors and Awards

2005 Outstanding Young Investigator—University of Texas Health Science Center at Houston
2004 Herzog Educational Enrichment Award—University of Texas Medical Branch, Galveston, TX
2002 Secretary's Award for Distinguished Service—World Trade Center and Anthrax Investigation Emergency Response Team
2002 NCID Nakano Citation for published New England Journal of Medicine manuscript on the West Nile Virus Outbreak in New York City.
2001 Secretary's Awards for Distinguished Service—West Nile Virus Encephalitis Investigation Team
2001 CDC Honor Award for International Health—Unexplained severe illness among injection drug users investigation
2000 CDC Honor Award—for bioterrorism surveillance during WTO
2000 NCID Recognition Award—for contributions to West Nile outbreak
2000 Nominated for the James H. Steele Veterinary Public Health Award
1999 Communicator's Roundtable Award—CDC/ATSDR
1998 Public Health Recognition Award—American Association of Public Health Veterinarians
1997 Recipient—Brian Godin Memorial Scholarship—Texas A&M University, College of Veterinary Medicine
1997 Recipient—Academic Excellence Award—Texas A&M University
1993-1996 Recipient—Academic Excellence Award—Cate and Tony Sutherland Estate Scholarship—Texas A&M University
1992-1994 Pi Beta Phi Sorority—Scholarship Chairman, 1992

- 1991-1992 Recipient—Academic Excellence Award—JW Van Dyke Memorial Scholarship—Texas A&M University
- 1991-1994 Distinguished Student Award—College of Veterinary Medicine, Texas A&M University

Professional Activities

Editorial Board Member—*Epidemiology and Infection*, Cambridge Journals

Member—American Society of Tropical Medicine and Hygiene

Member—American Veterinary Medical Association

Member—American Association of Public Health Veterinarians

Member—U.S. Attorney's Office Anti-Terrorism Advisory Council

Member—Commissioned Officer's Association

Member—The Honor Society of Phi Kappa Phi

Serve as a reviewer for the following journals: *Emerging Infectious Diseases*, *American Journal of Tropical Medicine and Hygiene*, *Clinical Infectious Diseases*, *Vector-borne and Zoonotic Diseases*, *Pediatric Infectious Diseases*

Chaired and reviewed grants for the Centers for Disease Control and Prevention.

Publications

1. Centers for Disease Control and Prevention. Outbreak of West Nile-like viral encephalitis--New York, 1999. *Morb Mort Wkly Rep* 1999; 48: 845-849.
2. **Murray KO**, Arguin PM. Decision-based evaluation of recommendations for pre-exposure rabies vaccination. *J Am Vet Med Assoc* 2000; 216: 188-191.
3. **Murray KO**, Komar N, McLean R, Glaser L, Eidson M, Sorhage F, Nelson R, Mostashari F, Khan A, Rotz L, Gubler D. Multi-state, multi-jurisdictional avian mortality surveillance as a detection method for geographical spread and reemergence of West Nile Virus. *Am J Epidemiology* 2000; 151:S91.
4. Jones J, Gill N, Djuretic T, Greater Glasgow Health Board, Scottish Centre for Infection and Environmental Health, **Murray K**, et al. 'Serious unexplained illness' among injecting drug users in Britain and Ireland. *Eurosurveillance Weekly* 2000; 4: 000622.
5. Centers for Disease Control and Prevention. Unexplained illness and death among injecting-drug users—Glasgow, Scotland; Dublin, Ireland; and England, April–June 2000. *Morb Mort Wkly Rep* 2000; 49: 489-492.
6. Centers for Disease Control and Prevention. Update: *Clostridium novyi* and

unexplained illness among injecting-drug users—Scotland, Ireland, and England, April–June 2000. *Morb Mort Wkly Rep* 2000; 49: 543-545.

7. Nash D, Mostashari F, Fine A, Miller J, O’Leary D, **Murray K**, Huang A, Rosenberg A, Greenberg A, Sherman M, Wong, S, Layton M. The outbreak of West Nile virus infection in the New York City area in 1999. *New Engl J Med* 2001; 344: 1807-1814.

8. Arguin PM, **Murray-Lillibridge K**, Miranda ME, Smith JS, Calaor AB, Rupprecht CE. Serologic evidence of Lyssavirus infections among bats, the Philippines. *Emerging Infectious Diseases* 2002; 8:258-262.

9. Mullen L, Barry J, Igoe D, Keenan, E, Ward M, **Murray K**. Unexplained illness among injecting drug users in Dublin: a case control study. *Journal of Epidemiology and Community Health* 2002; 56:575-576.

10. Centers for Disease Control and Prevention. Public health dispatch: Pertussis in an infant adopted from Russia—May 2002. *Morb Mort Wkly Rep* 2002; 51:394-395.

11. **Lillibridge KM**, Parsons R, Randle Y, Travassos de Rosa APA, Guzman H, Siirin M, Wuithiranyagool T, Hailey C, Higgs S, Pascua R, Meyer T, Vanlandingham DL, Tesh RB. The 2002 Introduction of West Nile virus into Harris County, Texas, an area historically endemic for St. Louis Encephalitis. *Am J Trop Med and Hyg* 2004;70:676-681.

12. Beasley DWC, Holbrook MR, Travassos da Rosa APA, Coffey L, Carrara AS, Phillippi-Falkenstein K, Bohm RP, Ratterree MS, **Lillibridge KM**, Ludwig GV, Estrada-Franco J, Weaver SC, Tesh RB, Shope RE, Barrett ADT. A recombinant envelope protein subunit antigen suitable for specific serological diagnosis of West Nile virus infection. *J Clin Micro* 2004;42:2759-2765.

13. Granwehr BP, **Lillibridge KM**, Higgs ST, Mason PW, Aronson JF, Campbell GA, Barrett ADT. West Nile virus: where are we now? *Lancet Inf Dis* 2004;4:547-556.

14. Yakub I, **Lillibridge KM**, Moran A, Gonzalez OY, Belmont J, Gibbs RA, Tweardy DJ. Single nucleotide polymorphisms in 2’-5’ oligoadenylate synthetase and RNase L genes in patients hospitalized with West Nile virus infection. *J Inf Dis* 2005;192:1741-1748.

15. **Murray-Lillibridge K**, Barry J, Reagan S, Sayers G, O’Flanagan D, Bergin C, Keenan E, O’Briain DS, Plunkett P, McMahon G, Keane C, O’Sullivan P, Igoe D, Mullen L, Ward M, Smith A, Fischer M. Epidemiologic findings and medical, legal, and public health challenges of an investigation of severe soft tissue infections and deaths among injecting drug users—Ireland, 2000. *Epidemiol Infect* 2006; 134:894-901.

16. **Murray K**, Baraniuk S, Resnick M, Arafat R, Kilborn C, Cain K, Shallenberger R, York T, Martinez D, Hellums JS, Hellums D, Malkoff M, McNeely W, Elgawley N, Khuwaja SA, Tesh RB. Risk factors for encephalitis and death from West Nile virus

infection. *Epidemiol Infect* 2006;134:1325-1332.

17. Ward MP, Schuermann JA, Highfield L, **Murray K**. Characteristics of an outbreak of West Nile virus encephalomyelitis in a previously uninfected population of horses. Accepted by *Vet Microbiol*; Epub ahead of print July 26,2006.

18. **Murray KO**, Resnick M, Miller V. Evidence of clinical depression following infection with West Nile virus: a cohort study. Submitted to *Emerg Inf Dis* May 2006.

19. **Murray K**, Baraniuk S, Resnick M, Arafat R, Kilborn C, Cain K, Shallenberger R, York T, Martinez D, Malkoff M, McNeely W, Elgawley N, Khuwaja SA. Clinical Investigation of Hospitalized West Nile Virus Cases in Houston, 2002-2004. Submitted to *Epidemiology and Infection*, August 2006.

20. Meyer T, Bull L, Cain K, Travassos Da Rosa A, Pascua R, Gutierrez C, Corbin T, Woodward J, Tesh RB, Taylor J, **Murray K**. Results of a seroepidemiological survey and risk factors for infection for West Nile virus in the homeless: Houston, TX. In preparation.

21. **Murray K**, Higgs S, Tesh RB. Assessing the risk of introduction of Japanese Encephalitis virus into the United States. In preparation.

22. **Murray K**, desVignes-Kendrick M, Kilborn C, Page V, Woodward J, Selwyn BJ, Palacio H, Shah U, Lillibridge SR. Rapid Health Assessments for the 2005 Hurricane Katrina Evacuees Seeking Shelter in Houston's Astrodome and Reliant Park Complex: the Cot Survey. In preparation.

Book Chapters

Lillibridge S, **Murray-Lillibridge KO**. Bioterrorism Preparedness and Response: Issues for Public Health. In: *Field Epidemiology*, 2nd ed. (Michael Gregg, ed). Oxford University Press: New York 2002.

Lillibridge KM, Ashford D. Anthrax. In: *NORD Guide to Rare Disorders* (National Organization for Rare Disorders). Lippincott Williams and Wilkins: Philadelphia 2003.

Lillibridge KM, Ashford D. Brucellosis. In: *NORD Guide to Rare Disorders* (National Organization for Rare Disorders). Lippincott Williams and Wilkins: Philadelphia 2003.

Lillibridge KM, Dennis D. Plague. In: *NORD Guide to Rare Disorders* (National Organization for Rare Disorders). Lippincott Williams and Wilkins: Philadelphia 2003.

Presentations

Update on West Nile Virus in the United States. July 19, 2006. American Veterinary Medical Association Annual Convention. Honolulu, Hawaii.

Clinical Investigation of Houston Area West Nile Virus Cases and Risk Factors for Encephalitis. May 4, 2006. Med-Vet-Net General Scientific Meeting. Malta.

A Seroepidemiological Survey of West Nile Virus in the Homeless Population: Houston, TX. March 21, 2006. The International Conference on Emerging Infectious Diseases. Atlanta, GA.

Rapid Health and Emerging Disease Surveillance for the 2005 Hurricane Katrina Evacuees Seeking Shelter in Houston's Astrodome Complex: the Cot Survey. March 20, 2006. The International Conference on Emerging Infectious Diseases. Atlanta, GA.

West Nile Virus: Epidemiology and Surveillance Strategies in Houston. March 14, 2006. Invited speaker. Veterinary Laboratories Agency. London, UK.

Post-Hospitalization Outcomes Following West Nile Virus Infection: Results of a Prospective Follow-Up Study. February 23, 2006. The 2006 National Conference on West Nile Virus in the United States. San Francisco, CA.

West Nile Virus—the Houston Perspective. April 29, 2005. Leadership in Public Health Preparedness Conference/Houston Metropolitan medical Response System. Houston, TX.

A Multi-Disciplinary Approach to Emerging Disease Surveillance: Houston, TX. December 8, 2004. 2nd Annual National Multi-Hazard Symposium: A “One Medicine” Approach to Health Security, Durham, North Carolina.

Host Risk Factors for Developing Encephalitis. University of Texas Health Science Center at Houston Annual Research Day Platform Presentation. November 17, 2004. Houston, TX.

West Nile Virus: Houston and Beyond. October 22, 2004. Northern California American Society for Microbiology. San Ramon, California.

Clinical Features and Epidemiology of West Nile Virus. September 10, 2004. Neurology Grand Rounds. University of Texas Health Science Center at Houston, School of Medicine.

Clinical Features of West Nile Virus. July 6, 2004. Pediatric Grand Rounds. University of Texas Health Science Center at Houston, School of Medicine.

West Nile Virus Surveillance and Epidemiology. July 25, 2004. American Veterinary Medical Association National Annual Convention. Philadelphia, PA.

Zoonotic Disease Risks of the 21st Century. June 24, 2004. Texas Department of Health Conference on Public Health Legal Preparedness: Quarantine and Isolation. Houston, TX.

Host Risk Factors for Developing Encephalitis from West Nile Virus Infection. March 1, 2004. International Conference on Emerging Infectious Diseases. Atlanta, GA.

Emerging Infectious Diseases and the Role of Animal Surveillance. November 27, 2003. Nanjing University Medical Sciences. Nanjing, China.

The Role of Animal Surveillance in Linking Animal and Human Public Health. November 3, 2003. Houston Annual Public Health Preparedness Conference.

The Introduction of West Nile Virus to Houston, 2000: Epidemiology, Clinical Features, and Risk Factors for Infection. October 16, 2003: Noon Seminar, Department of Preventive Medicine and Community Health, Univ. of TX Medical Branch, Galveston.

The Introduction of West Nile Virus to Houston, 2000: Epidemiology, Clinical Features, and Risk Factors for Infection. Association of Practitioners for Infection Control (APIC) seminar. Houston, TX.

History and Epidemiology of West Nile Virus. Texas Department of Health Regional West Nile Conferences. March 20, 2003: Dallas, TX; March 27, 2003: Odessa, TX; April 3, 2003: Houston, TX.

Emerging Infectious Diseases: Zoonotic Considerations and Exotic Animal Importation. Southwest Conference of Diseases in Nature Transmissible to Man. Houston, TX. June 6, 2002.

CDC Public Health Bioterrorism Preparedness. Irish Medical Organization Annual Conference. Killarney, Ireland. April 4, 2002.

Bioterrorism: A clinical review of the critical agents. Texas A&M University, College of Veterinary Medicine, Faculty Seminar. College Station, TX. March 5, 2002.

Clinical Aspects of Critical Biological Agents. Division of Global Migration and Quarantine Field Staff. December 19, 2001.

Outbreak of Unexplained Illness and Death in Injecting Drug Users. CDC's Tuesday Morning Epidemiology Seminar. May 22, 2001.

Outbreak of Unexplained Illness and Death in Injecting Drug Users. Poster presentation.

EIS Conference, April 23-24, 2001.

Polio eradication: Objectives, Achievements, and Challenges. District Ministry of Health National Immunization Day Orientation and Planning Meetings. Chittagong Division, Bangladesh. October 10, 11, and 12, 2000.

Multistate, multi-jurisdictional avian mortality surveillance system as a detection method for geographical spread and reemergence of West Nile Virus. Society for Epidemiological Research 2000 Annual Meeting, Seattle, WA, June 16, 2000.

Multi-state, multi-jurisdictional avian mortality surveillance system for West Nile Virus, 1999-2000. EIS Conference 2000, Atlanta, GA, April 14, 2000.

West Nile Virus, 1999-2000. Prevention 2000, Atlanta, GA, March 26, 2000.

The Management of Bioterrorism Threats. South Carolina Law Enforcement Meeting on Terrorism, Columbia, SC, February 3, 2000.

Monitoring city-wide hospital Emergency Department admissions on a daily basis as an early indicator for potential bioterrorism events, New York City. EIS Surveillance Course, Atlanta, GA, October 25, 1999.

Student Committees/Thesis Advising: Graduated Students

(1) Margarita Villanueva. Thesis: "Evaluation of an HIV/STD/SA/ Educational Program Focusing on Hispanic Females." Role: Secondary Committee Member. Graduation: Fall 2003; Degree: M.P.H.

(2) Byron Oujesky. Thesis: "West Nile Virus Sero-prevalence Population Survey." Role: Thesis Advisor. Graduation: Spring 2004; Degree: M.S. in Epidemiology.

(3) Tamra Meyer. Thesis: "Seroprevalence of West Nile Virus in Houston's Homeless Population." Role: Thesis Advisor. Graduation: Summer 2004; Degree: M.P.H.

(4) Heather Tooker-Blue. Thesis: "The Epidemiology of *Mycobacterium tuberculosis* in Harris County, from January 1996 through December 2000." Role: Secondary Committee Member. Graduation: Summer 2004; Degree: M.S. in Epidemiology.

(5) Mohammed Khedr. Thesis: "Survival Predictors of Single and Double Lung Transplants." Role: Secondary Committee Member. Graduation: Summer 2004; Degree: M.S. in Epidemiology.

- (6) Kelly Cain. Thesis: "Rabies Vaccine Failures in Dogs and Cats in the United States, 1998-2002." Role: Committee Chair and Thesis Advisor. Graduation: Fall 2004; Degree: M.S. in Epidemiology.
- (7) John S. Hellums. Thesis: "Persistence of Immunoglobulin M Antibody in Harris County Subjects Diagnosed with West Nile Virus Infection in 2002." Role: Thesis Advisor. Graduation: Spring 2005; Degree: M.P.H.
- (8) Rebecca Joachim. Thesis: "Tuberculosis in Cocaine Users: a Cross-Sectional Study." Role: Secondary Committee Member. Graduation: Spring 2005; Degree: M.S. in Epidemiology.
- (9) Tracie Corbin. Thesis: "Seroprevalence of West Nile Virus in a Drug Using Population." Role: Committee Chair and Thesis Advisor. Graduation: Spring 2006; Degree: M.P.H.
- (10) Jennifer Woodward. Thesis: "Risk Factors Associated with Transmission of Nipah Virus in Bangladesh in 2004." Role: Committee Chair and Thesis Advisor. Graduation: Spring 2006; Degree: M.P.H.
- (11) Melissa Resnick, D.V.M. Thesis: "Dogs as Sentinels for Human West Nile Virus Infection in Houston, TX: A Prospective Seroprevalence Study." Role: Committee Chair and Thesis Advisor. Graduation: Spring 2006; Degree: M.P.H.
- (12) Timberly Gilford. Thesis: "Socioeconomic Characteristics and Behavioral Risk Factors for Type 2 Diabetes in Texas in 2003." Role: Committee Chair and Thesis Advisor. Graduation: Spring 2006; Degree: M.P.H.
- (13) Rhia Pascua. Thesis: "Seroprevalence and Risk of Hepatitis C Virus Infection in Houston's Homeless." Role: Thesis Advisor. Graduation: Spring 2006; Degree M.P.H.
- (14) Sreevidya Mukkavilli, B.H.M.S. Thesis: "A systematic literature review to compare the clinical outcomes of West Nile virus and Japanese encephalitis virus." Role: Thesis Advisor. Graduation: Summer 2006; Degree M.P.H.
- (15) Vicki Miller, M.D. Thesis: "Long-term neurological complications from West Nile virus neuroinvasive disease in humans." Role: Thesis Advisor. Graduation: Summer 2006; Degree M.P.H.

Current Research Support

5/05 to 4/08

K23 AI057341-01A2 (NIH/NIAID) “EPIDEMIOLOGY OF ARBOVIRAL ENCEPHALOMYELITIS IN HOUSTON”

K. Murray, P.I. (85% effort)

The aims of this study are to (1) investigate the epidemiology of human cases of West Nile virus infections in the Houston metropolitan area, (2) determine host and genetic risk factors for developing encephalitis or death from infection, (3) characterize the immunological response of infected individuals over time, and (4) determine rates of recovery and long-term clinical sequelae following neuroinvasive disease.

10/05 to 9/10

BAA-05-11 (NIH/NIAID/DAIT): “WEST NILE VIRUS INFECTION AND IMMUNITY IN THE ELDERLY: MECHANISMS OF VULNERABILITY”

J. Nicolick-Zugich, P.I., Oregon Health Sciences University (K. Murray, Co-Investigator—5% effort, 0% salary support years 1, 2, and 3)

The objectives of this contract is to: (1) establish correlates of WNV protective immunity and define the basis of immunological vulnerability to WNV; (2) characterize the rhesus monkey model of WNV immunity, resistance, and perhaps disease in the elderly; and (3) complete the understanding of vulnerability to WNV by studies in elderly humans.

9/04 to 8/07

DOD/US Army “WEST NILE VIRUS SURVEILLANCE, EPIDEMIOLOGY, RAPID DETECTION AND CONTROL”

Texas Training and Technology Against Trauma and Terrorism (T5), S. Ward Cassells, P.I.

K. Murray, West Nile Virus Enhanced Surveillance Project P.I.

In 2002, West Nile Virus (WNV) was introduced to the Houston metropolitan area. Using hospital-based active surveillance at a large pediatric emergency center in the Texas Medical Center and a large general hospital in Beaumont, Texas, we aim to actively identify cases of WNV infection. The focus of this site will be to determine the spectrum of illness, isolate and sequence the virus from CSF, and conduct a clinical investigation.

9/03 to 9/05

CASG #211 DMID #03-114 (NIH/NIAID/DMID) “INVESTIGATION OF THE NATURAL HISTORY OF WEST NILE VIRUS INFECTION IN PATIENTS WITH OR AT RISK FOR PROGRESSION TO WEST NILE VIRUS ENCEPHALITIS AND/OR MYELITIS”

The Collaborative Antiviral Study Group (CASG), R.J. Whitley, P.I.

M. Malkoff, Houston P.I. (Kristy Lillibridge, sub-investigator)

The objectives of this study in patients with or at risk for progression to West Nile Virus encephalitis and/or myelitis are: (1) To identify and describe the mortality and morbidity, specifically neurologic and functional outcomes of patients infected with West Nile Virus, (2) to characterize the clinical course and diverse manifestations of West Nile Virus infection, (3) to assess kinetics of specific anti-West Nile antibodies following

infection with West Nile virus, and to correlate them with outcomes. This is a descriptive natural history study of adult hospitalized patients with confirmed or suspected West Nile Virus disease. Patients meeting entry criteria will be followed while in the hospital and at study visits out to 6 months.

9/03 to 9/05

CASG #210 DMID #03-107 (NIH/NIAID/DMID) “A PHASE I/II RANDOMIZED, PLACEBO-CONTROLLED TRIAL TO ASSESS THE SAFETY AND EFFICACY OF INTRAVENOUS IMMUNOGLOBULIN G (OMR-IGG-AMTM) CONTAINING HIGH ANTI-WEST NILE VIRUS ANTIBODY TITERS IN PATIENTS WITH, OR AT HIGH RISK FOR PROGRESSION TO WEST NILE VIRUS ENCEPHALITIS AND/OR MENINGITIS”

The Collaborative Antiviral Study Group (CASG), R.J. Whitley, P.I.

M. Malkoff, P.I. for Houston (Kristy Lillibridge, sub-investigator)

The objectives of this study are (1) to assess and characterize the safety and tolerability of Omr-IgG-amTM in a population of hospitalized patients with confirmed or suspected WNV disease, (2) to assess pharmacokinetics of specific anti-West Nile antibodies following intravenous administration of Omr-IgG-amTM, (3) to estimate efficacy of Omr-IgG-amTM in reducing morbidity and mortality, for patients with known or suspected WNV infection who receive WNV specific IVIg versus similar patients who receive either placebo, (4) to further characterize the natural history of WNV infection.