

Recently Published Papers and Reports, 2007

Section 5

Planning for an Influenza Pandemic in Florida

This article puts the threat of an influenza pandemic in a community context, with a focus on prevention and control of disease. The overall message is that pandemic influenza is complex and potentially threatening, but may be manageable with adequate planning and training. Please note that this paper was written in May of 2007. Further developments in the properties of circulating viruses, and future scientific advances, may change the direction of influenza control fairly dramatically.

Richard S. Hopkins, "Planning for an Influenza Pandemic in Florida," *Journal of the Florida Medical Association*, Vol. 91, No. 1, 2007, pp. 20-28.

Outbreak of Healthcare-Associated Infection and Colonization With Multidrug-Resistant *Salmonella enterica* Serovar Senftenberg in Florida

Background: In July 1999, a rare strain of multidrug-resistant *Salmonella enterica* serovar Senftenberg was isolated from the sputum of a trauma patient. Over a 6-year period (1999-2005) in northeast Florida, this *Salmonella* serovar spread to 66 other patients in 16 different healthcare facilities as a result of frequent transfers of patients among institutions. To our knowledge, this is the first outbreak of healthcare-associated infection and colonization with a fluoroquinolone-resistant strain of *S. Senftenberg* in the United States.

Objectives: To investigate an outbreak of infection and colonization with an unusual strain of *S. Senftenberg* and assist with infection control measures.

Design: A case series, outbreak investigation, and microbiological study of all samples positive for *S. Senftenberg* on culture.

Setting: Cases of *S. Senftenberg* infection and colonization occurred in hospitals and long-term care facilities in 2 counties in northeast Florida.

Results: The affected patients were mostly elderly persons with multiple medical conditions. They were frequently transferred between healthcare facilities. This *Salmonella* serovar was capable of long-term colonization of chronically ill patients. All *S. Senftenberg* isolates tested shared a similar pulsed-field gel electrophoresis (PFGE) pattern.

Conclusions: A prolonged outbreak of infection and colonization with multidrug-resistant *S. Senftenberg* was identified in several healthcare facilities throughout the Jacksonville, Florida, area and became established when infection control measures failed. The bacterial agent was capable of long-term colonization in chronically ill patients. Because the dispersal pattern of this strain suggested a breakdown of infection control practices, a multipronged intervention approach was undertaken that included intense education of personnel in the different institutions, interinstitutional cooperation, and transfer paperwork notification.

R.S. Kay, A.G. Vandeveld, **P.D. Fiorella**, R. Crouse, **C. Blackmore**, **R. Sanderson**, C.L. Bailey, M.L. Sands, "Outbreak of healthcare-associated infection and colonization with multidrug-resistant *Salmonella enterica* serovar Senftenberg in Florida," *Infection Control and Hospital Epidemiology*, 2007, Vol. 28, No. 7, pp. 805-11.

Voluntary Rapid Human Immunodeficiency Virus (HIV) Testing in Jails

Objectives: To provide human immunodeficiency virus (HIV) rapid testing to persons in jails, identify previously undiagnosed cases of HIV infection, and refer HIV-infected inmates to care, treatment, and prevention services.

Design: Four state health departments (Florida, Louisiana, New York, and Wisconsin) collaborated with jails to implement stand-alone voluntary rapid HIV testing programs. Inmates requested or were referred by medical staff for rapid HIV testing. HIV testing was provided by the health department, correctional facility, or a community-based organization. Inmates whose rapid test was reactive were offered confirmatory testing, medical evaluation, prevention services, and discharge planning.

Results: From December 2003 through May 2006, rapid HIV testing was provided to 33,211 inmates, more than 99.9% of whom received their test results. Most of the inmates tested were male (79%), black (58%), and less than 35 years of age (60%). A total of 440 (1.3%) rapid HIV tests were reactive, and 409 (1.2%) of the results were confirmed positive. The testing programs identified 269 (0.8%) previously undiagnosed cases of HIV infection. In the multivariate analyses, new HIV diagnoses were associated with race/ethnicity, report of risky behaviors, and with no report of HIV risk behavior. Almost 40% of diagnoses were for inmates whose only reported risk was heterosexual contact.

Conclusions: Rapid HIV testing in jails identified a considerable number of previously undiagnosed cases of HIV infection. Rapid HIV testing should be available to all inmates, regardless of whether inmates reported HIV risky behaviors.

R. MacGowan, A. Margolis, A. Richardson-Moore, T. Wang, **M. LaLota**, T. French, J. Stodoloa, J. McKeever, J. Carrel, J. Mullins, M. Llanas, S.D. Griffiths, "Voluntary Rapid Human Immunodeficiency Virus (HIV) Testing in Jails," *Sexually Transmitted Diseases*, 2007, Vol. 34, No. 11.

Detecting an Association Between Socioeconomic Status and Late Stage Breast Cancer Using Spatial Analysis and Area-Based Measures

Objectives: To assess the relationship between socioeconomic status (SES) and late stage breast cancer using the cluster detection software SaTScan and U.S. census-derived area-based socioeconomic measures.

Methods: Florida's 18,683 women diagnosed with late stage breast cancer (regional or distant stage) between 1998 and 2002 as identified by Florida's population-based, statewide, incidence registry were analyzed by SaTScan to identify areas of higher-than-expected incidence. The relationship between SES and late stage breast cancer was assessed at the neighborhood (block group) level by combining the SaTScan results with area-based SES data.

Results: SaTScan identified 767 of Florida's 9,112 block groups that had higher-than-expected incidence of late stage breast cancer. After controlling for patient level insurance status, county level mammography prevalence, and urban/rural residence in the logistic regression model, women living in neighborhoods of severe and near poverty were respectively 3.0 and 1.6 times more likely to live in areas of higher-than-expected incidence of late stage breast cancer when compared with women living in nonpoverty. Additionally, areas in the lowest quartile of mammography usage were almost seven times more likely to have higher-than-expected incidence than areas in the higher quartiles.

Conclusions: In addition to confirming the importance of mammography, results from the present study suggest that "where" you live plays an important role in defining the risk of presenting with late stage breast cancer. Additional research is urgently needed to understand this risk and to leverage the strengths and resources present in all communities to lower the late stage breast cancer.

J.A. MacKinnon, R.C. Duncan, **Y. Huang**, D.J. Lee, **L.E. Fleming**, **L. Voti**, M. Rudolph, J.D. Wilkinson, "Detecting an association between socioeconomic status and late stage breast cancer using spatial analysis and area-based measures," *Cancer Epidemiology Biomarkers Prevalence*, 2007, Vol. 16, No. 4, pp. 756-62.

Outbreak of Cutaneous Larva migrans at a Children's Camp--Miami, Florida, 2006

On July 19, 2006, the director of a children's aquatic sports day camp notified the Miami-Dade County Health Department (MDCHD) of three campers who had received a diagnosis of cutaneous larva migrans (CLM), or "creeping eruption," a skin condition typically caused by dog or cat hookworm larvae of the genus *Ancylostoma*. MDCHD conducted an investigation to determine the source and magnitude of the outbreak and prevent additional illness. This report summarizes the results of that investigation, which identified exposure to cat feces in a playground sandbox as the likely source of infection. Although CLM outbreaks are reported rarely to the Florida Department of Health, evidence indicates that CLM is a potential health hazard in Florida. This disease cluster highlights the importance of appropriate environmental hygiene practices and education in preventing CLM.

E. O'Connell, **J. Suarez**, **F. Leguen**, **G. Zhang**, **M. Etienne**, A. Torrecilla, A. Jimenez, F. Farahi, M. Alzugaray, D. Rodriguez, S. Pizano, **C. Blackmore**, **D. Goodman**, **R.S. Hopkins**, **P. Ragan**, **J. Schulte**, **T. Doyle**, "Outbreak of cutaneous larva migrans at a children's camp--Miami, Florida, 2006," *Morbidity and Mortality Weekly Report*, Vol. 56, No. 49, 2007, pp. 1285-7.

Costs of Voluntary Rapid HIV Testing and Counseling in Jails in 4 States-Advancing HIV Prevention Demonstration Project, 2003-2006

Objective: To assess the costs of rapid human immunodeficiency virus (HIV) testing and counseling to identify new diagnoses of HIV infection among jail inmates.

Study Design: We obtained program costs and testing outcomes from rapid HIV testing and counseling services provided in jails from March 1, 2004, through February 28, 2005, in Florida, Louisiana, New York, and Wisconsin. We obtained annual program delivery costs-fixed and variable costs-from each project area. We estimated the average cost of providing counseling and testing to HIV-negative and HIV-infected inmates and estimated the cost per newly diagnosed HIV infection.

Results: In the 4 project areas, 17,433 inmates (range, 2185-6463) were tested: HIV infection was diagnosed for 152 inmates (range, 4-81). The average cost of testing ranged from \$29.46 to \$44.98 for an HIV-negative inmate and from \$71.37 to \$137.72 for an HIV-infected inmate. The average cost per newly diagnosed HIV infection ranged from \$2,451 to \$25,288. Variable costs were 61% to 86% of total costs.

Conclusion: The cost of identifying jail inmates with newly diagnosed HIV infection by using rapid HIV testing varied according to the prevalence of undiagnosed HIV infection among inmates tested in project areas. Variations in the cost of testing HIV-negative and HIV-infected inmates were because of the differences in wages, travel to the jails, and the amount of time spent on counseling and testing. Program managers can use these data to gauge the cost of initiating counseling and testing programs in jails or to streamline current programs.

R.K. Shreshtha, S.L. Sansom, A. Richardson-Moore, T. French, B. Scalco, **M. LaLota**, M. Llanas, J. Stodola, R. MacGowan, A. Margolis, "Costs of Voluntary Rapid HIV Testing and Counseling in Jails in 4 States – Advancing HIV Prevention Demonstration Project, 2003-2006," *Sexually Transmitted Diseases*, 2007, Vol. 34, No. 11.

Mobilizing mobile medical units for hurricane relief: the United States Public Health Service and Broward County Health Department response to hurricane Wilma, Broward County, Florida

Objectives: To describe the outcomes of a collaborative response of federal, state, county, and local agencies in conducting syndromic surveillance and delivering medical care to persons affected by the storm through the use of mobile medical units.

Methods: Nine mobile medical vans were staffed with medical personnel to deliver care in communities affected by the storm. Individual patient encounter information was collected.

Results: A total of 14,033 housing units were approached and checked for occupants. Of residents with whom contact was made, approximately 10 percent required medical assessment in their homes; 3,218 clients were medically evaluated on the mobile medical vans. Sixty-two percent of clients were female. The most common presenting complaints included normal health maintenance (59%), upper respiratory tract illness (10%), and other illness (10%). Injuries occurred in 9 percent. A total of 1,531 doses of medications were dispensed from the mobile medical units during the response.

Conclusion: Mobile medical units provided an efficient means to conduct syndromic surveillance and to reach populations in need of medical care who were unable to access fixed local medical facilities.

M.M. Taylor, W.S. Stokes, R. Bajuscak, M. Serdula, K.L. Siegel, B. Griffin, J. Keiser, L. Agate, **A. Kite-Powell**, D. Roach, N. Humbert, K. Brusuelas, S.S. Shekar, "Mobilizing mobile medical units for hurricane relief: the United States Public Health Service and Broward County Health Department response to hurricane Wilma, Broward County, Florida," *Journal of Public Health Management and Practice*, 2007, Vol. 13, No. 5, pp. 447-52.

Benefits and Adverse Effects of Hepatitis C Screening: Early Results of a Screening Program

Objective: Early benefits and adverse effects of hepatitis C screening among people who screened anti-hepatitis C virus (HCV) positive were investigated.

Methods: Hepatitis screening program records were abstracted to identify the target population and obtain information about hepatitis A and B vaccination (recommended vaccines if anti-HCV positive). Telephone interviews were conducted using a standardized questionnaire with items regarding clients' medical evaluation, behaviors to prevent liver damage and prevent HCV transmission, and adverse effects experienced. **Results and Conclusions:** Of 269 eligible clients, 147 were susceptible to hepatitis A (IgG negative), and 116 (78.9%) received at least 1 hepatitis A vaccine dose. Of 119 clients susceptible to hepatitis B, 101 (84.9%) received at least one dose of hepatitis B vaccine. Fifty-six (20.8%) were reached by phone, and 44 (78.6%) consented to the interview. All interviewed clients reported one or more positive behaviors to protect their liver or prevent HCV transmission; 51.2 percent

reported at least one adverse effect related to knowing their positive anti-HCV status, most commonly difficulty obtaining health insurance; and 86.0 percent reported satisfaction with their decision to be tested. Results suggest that most anti-HCV-positive clients had some benefit from screening, and highlight the need for further studies.

M.J. Trepka, **G. Zhang, F. Leguen**, K. Obiaja, R.M. Malow, M. De La Rosa, "Benefits and Adverse Effects of Hepatitis C Screening: Early Results of a Screening Program," *Journal of Public Health Management and Practice*, Vol. 13, No. 3, 2007, pp. 263-9.

Carbon Monoxide Poisoning in Florida During the 2004 Hurricane Season

Background: During August-September 2004, four major hurricanes hit Florida, resulting in widespread power outages affecting several million households. Carbon monoxide (CO) poisonings during this period were investigated to identify ways to prevent future poisoning.

Methods: Medical records from ten hospitals (two with hyperbaric oxygen chambers) were reviewed to identify individuals diagnosed with unintentional CO poisoning between August 13 and October 15, 2004. Multiple attempts were made to interview one person from each nonfatal incident. Medical examiner records and reports of investigations conducted by the U.S. Consumer Product Safety Commission of six fatal poisonings from five additional incidents were also reviewed.

Results: A total of 167 people treated for nonfatal CO poisoning were identified, representing 51 incidents. A portable, gasoline-powered generator was implicated in nearly all nonfatal incidents and in all fatal poisonings. Generators were most often located outdoors, followed by inside the garage, and inside the home. Telephone interviews with representatives of 35 (69%) incidents revealed that concerns about theft or exhaust most often influenced the choice of location. Twenty-six (74%) households did not own a generator before the hurricanes, and 86% did not have a CO detector at the time of the poisoning. Twenty-one (67%) households reported reading or hearing CO education messages before the incident.

Conclusions: Although exposure to public education messages may have encouraged more appropriate use of generators, a substantial number of people were poisoned even when the devices were operated outdoors. Additional educational efforts and engineering solutions that reduce CO emission from generators should be the focus of public health activities.

D. Van Sickle, **D.S. Chertow, J.M. Schulte**, J.M. Ferdinands, **P.S. Patel, D.R. Johnson, L. Harduar-Morano, C. Blackmore, A.C. Ourso**, K.M. Cruse, K.H. Dunn, R.L. Moolenaar, "Carbon monoxide poisoning in Florida during the 2004 hurricane season," *American Journal of Preventative Medicine*, 2007, Vol. 32, No. 4, pp. 340-6.

Could Syndromic Surveillance Data Be Used Effectively with Other Data Sources? A Transposable Local View

In April 2007, Duval County Health Department (DCHD) Epidemiology/Bioterrorism Surveillance Division, under the program director Dr. Saad Zaheer, was selected to host to an International Society of Disease Surveillance (ISDS) panel member consultation regarding syndromic surveillance data. It involved expert personnel in their respective area to address specific, priority questions confronting researchers, developers, and public health practitioners in the field of syndromic surveillance (SS). The purpose of this consultation was to develop expert, consensus-based recommendations that address specific, unsettled problems or unanswered questions that hinder advances in utilization of syndromic surveillance data in combination with other data sources. Recommendations arising from the consultation should facilitate efforts by researchers, developers, or practitioners to be able to stride ahead and make progress.

Sarah Winn, Sa'ad Zaheer, Taj Azarian, Antoinette Alaimo, "Could Syndromic Surveillance Data Be Used Effectively with Other Data Sources? A Transposable Local View," *Advances in Disease Surveillance*, 2007, Vol. 4, p. 208.

Additional reports and articles regarding infectious disease incidence, disease surveillance activities, reportable disease notifications, and health studies conducted in Florida can be accessed in *EpiUpdate*. *EpiUpdate* is a publication of the Bureau of Epidemiology and compiles information related to Department of Health activities from around the State. The current issue, as well as archived issues, of *EpiUpdate* can be accessed at http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/index.html.

