

Late-Breaking Reports

Epidemic Intelligence Service



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Annual EIS Conference

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Friday, April 15, 2011

10:30 SESSION R: LATE-BREAKING REPORTS

Atrium Ballroom B and C

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Rishi Desai

The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Human Immunodeficiency Virus Transmitted from a Living Organ Donor — New York City, 2009

Teeb Al-Samarrai, P. Gounder, C. Kwan, M.A. Bernard, L.V. Torian, S.M. Owen, W.M. Switzer, A. Shankar, H. Gortakowski, J.T. Brooks, M.P. Joyce, W. Heneine, P. Sprinkle, J. Eavey, L.C. Smith, E.C. Farnon, M. Kuehnert, C. Shepard

Background: Human immunodeficiency virus (HIV) transmission through living-donor organ transplantation has not been confirmed in the United States (US) since introduction of HIV laboratory screening in 1985. However, no national policy for living-donor screening exists. In 2010, HIV infection diagnosed in both recipient and donor of an organ transplant performed in 2009 prompted investigation of suspected transplant-related HIV-1 transmission..

Methods: Donor and recipient clinical information was collected through medical record review and interviews of donor, recipient, and medical providers. Archived pre- and posttransplant clinical specimens from donor and recipient underwent nucleic acid amplification testing (NAT) with APTIMA[®] HIV-1 RNA qualitative assay or polymerase chain reaction (PCR), sequence, and phylogenetic analysis.

Results: The recipient had no HIV risk factors and had repeatedly tested HIV-negative by enzyme immunoassay (EIA) pretransplant. The donor was male and reported a history of sex with men during pretransplant evaluation; HIV screening by EIA was negative 79 days pretransplant. Additional pretransplant HIV testing was not performed. During the public health investigation, the donor reported unprotected sex with men between pretransplant HIV screening and organ recovery. Archived donor leukocytes collected 11 days pretransplant were positive by PCR. Archived recipient serum collected 11 days pretransplant was APTIMA nonreactive; recipient serum collected 12 days posttransplant was reactive. Donor and recipient HIV sequences demonstrated >98% identity and tight phylogenetic clustering.

Conclusions: This is the first confirmed US case of HIV transmission via organ transplant from a living donor since 1985. The donor acquired HIV near or after HIV screening by EIA. This case highlights the need for repeat HIV screening by NAT for living organ donors as close to the time of organ recovery as possible.

Keywords: living donor, human immunodeficiency virus, organ transplantation, standard of care, nucleic acid amplification techniques

High-Mortality Outbreak of Acute Hepatitis B Virus Infection Associated with Assisted Blood Glucose Monitoring in an Assisted Living Facility — North Carolina, August–October 2010

Natalie J.M. Dailey, Z. Moore, J-M. Maillard, M. Davies

Background: Sharing of blood glucose monitoring equipment in assisted living facilities (ALFs) has resulted in ≥ 16 outbreaks of hepatitis B virus (HBV) infection in the United States since 2004. On October 12, 2010, the North Carolina Division of Public Health was notified of suspected acute HBV infections among 4 residents of a single ALF. We investigated to identify risk factors.

Methods: We performed a retrospective cohort study, including all 87 persons who had resided in the facility during January 1–October 13, 2010. We defined a case in an ALF resident as either (1) positive hepatitis B surface antigen or core IgM results or (2) jaundice or serum aminotransferase levels ≥ 2 times the upper limit of normal, with onset ≥ 6 weeks after ALF admission. We observed and interviewed ALF staff to identify potential infection control breaches.

Results: Of the 87 residents during the study period, 47 were excluded from analysis because of HBV immunity (20), chronic infection (1), or unknown HBV status (26). We identified 8 cases with illness onsets during August–October 2010. All 8 patients were hospitalized; 6 (75%) died from hepatitis complications. All 8 also were among 15 residents whom facility staff had assisted with blood glucose monitoring; no cases were identified among 25 residents who had not been assisted. No other exposures were associated with HBV infection. Facility staff reported using fingerstick lancing devices and blood glucose meters for multiple residents without cleaning or disinfecting between uses.

Conclusions: Sharing of blood glucose monitoring equipment continues to place ALF residents at risk for severe illness and death. This outbreak underscores the need for increased efforts to promote compliance with infection control guidelines.

Keywords: hepatitis B virus, disease outbreaks, assisted living facilities

Role of Social Media in Investigating an Outbreak: The Good, the Bad, and the Ugly — Los Angeles, February 2011

Caitlin G. Reed, K. Fleming-Dutra, D. Terashita, N. Kozak, P. Marquez, L. Garrison, M. Stephens, C. Lucas, J. Sturgeon, E. Brown, L. Hicks, L. Conklin, L. Mascola

Background: On February 11, 2011, public health officials received a journalist's inquiry about an outbreak of respiratory illness reported through social media by attendees of a conference held during February 1–3. Several attendees indicated a legionellosis diagnosis. We investigated to characterize illnesses, identify etiology, and determine associated exposures.

Methods: We reviewed blogs, Twitter[®], and Facebook[®], and emailed a SurveyMonkey[®] survey to all 715 conference attendees from 30 countries to assess symptoms, illness onset, and exposures. A case was defined as fever and ≥ 1 symptom (headache, cough, dyspnea, or myalgias) with onset after February 1. Specimens from 20 ill attendees were tested for *Legionella* and other respiratory pathogens. Environmental samples from conference venues were tested for *Legionella*.

Results: Seventy-nine persons self-reported illness through social media. Of 715 attendees surveyed, 439 responded, of which 300 responded within 2 days. Of 439 respondents, 123 met the case definition; 69 (56%) reported illness onset on February 5, suggesting a point-source outbreak. The relative risk for illness associated with attending a Venue A party on February 3 was 3.8 (95% confidence interval: 1.9–7.4). *Legionella pneumophila* was isolated from a Venue A whirlpool spa ; however, no case of legionellosis has been confirmed among attendees. Three attendees tested positive for 2009 pandemic influenza A (H1N1). Patient serology for *Legionella* and influenza is pending.

Conclusions: Exposure to Venue A was associated with increased risk for illness; epidemiologic and environmental findings indicate the potential involvement of *Legionella pneumophila* or influenza. Social media helped identify this outbreak among geographically dispersed persons and facilitated rapid survey response. However, unconfirmed social media rumors might have influenced recall among attendees and the public health investigation.

Keywords: blogging, twitter messaging, respiratory disease, *Legionella*, influenza

Evaluation of Travel Health Alert Notices as a Health Communications Tool During the Haiti Cholera Outbreak — Florida, 2011

Monica U. Selent, A. McWhorter, V. Beau De Rochars, R. Myers, D. Hunter, C. Brown, N. Cohen, K. Warwar, D. Robbins, A. Newton, K. Heiman, A. Schmitz, N. Marano

Background: Travel Health Alert Notices (T-HANs) have been used in previous outbreaks to provide health information to international travelers arriving in the United States. By early December 2010, five confirmed cholera case-patients related to the Haiti outbreak had been reported in Florida. Beginning December 20, T-HANs were distributed at Passport Control to all travelers on direct flights from Haiti in the four U.S. airports that received them. The cholera T-HAN advised travelers to seek medical care for diarrhea. The distribution of THANs and their effectiveness as a health communications tool were evaluated.

Methods: T-HANs were evaluated by three mechanisms: the number of views on a dedicated T-HAN web address was counted; travelers from Haiti were surveyed in the Miami International Airport on January 10-11, 2011; and U.S. cholera case-patients were asked about T-HAN receipt and its influence on their healthcare-seeking behavior.

Results: By March 7, 53,000 T-HANs were distributed; 67 web views were counted. Of 1,348 travelers from Haiti, 890 (66%) were surveyed; 509 (57%) were male. Among 664 (75%) who received a T-HAN, 245 (37%) had read it. T-HAN readers were more likely to report they would seek healthcare if they developed diarrhea (adjusted odds ratio: 1.86 [95% confidence interval: 1.06-3.28]) than non-readers. Two of 8 (25%) confirmed cholera case-patients who traveled from Haiti received a T-HAN; both stated the T-HAN influenced their decision to seek healthcare.

Conclusions: Travelers' healthcare-seeking behavior was positively influenced by receiving T-HANs; however, not all travelers from Haiti received them. Since T-HAN distribution is resource intensive and logistically challenging, further evaluation is needed of the efficacy of T-HANs and alternate methods of providing health information to travelers.

Keywords: Haiti, cholera, travel, health communication

Population-Based Survey To Define the Incidence of Yellow Fever During an Outbreak in Northern Uganda — Aremo Central and Golgota Villages, 2011

Jeffrey R. Miller, A. Geissler, B. Apio, K. Griffith, J.E. Staples, P. Mead, S. Gupta, J. Borchert, J Laven, O. Kosoy, A. Panella, R. Lanciotti, M. Musenero, J. Wamala, M. Fischer, I. Makumbi, A.K. Mbonye

Background: In December 2010, the first outbreak of yellow fever (YF) in Uganda since 1975 was identified in several remote, northern districts. We performed a population-based community survey to define the incidence and epidemiology of disease in two affected villages.

Methods: We screened all households for residents with a history of febrile illness from October 2010–January 2011. Patient demographics, clinical symptoms, YF vaccination history, and possible risk factors were obtained from suspect cases. A blood sample was collected to test for evidence of YF. We defined a probable case of YF disease as a person with a febrile illness and presence of anti-YF virus IgM antibodies or YF viral RNA.

Results: Of 1,100 village residents screened, 357 (32%) persons with a recent febrile illness were enrolled. Among 349 persons tested, 14 (4%) had preliminary laboratory evidence of YF virus infection for a maximum attack rate of 13 per 1,000 residents. The median age of probable YF case-patients was 22 years (range: 10–82), 7 (50%) were male, and 7 (50%) had illness onset in the 2 weeks between November 7–21 (range: October 18–December 23). Ten (71%) case-patients resided in Golgota (21 per 1,000); two resided in the same homestead with illness onset 21 days apart. Among the 14 case-patients, 4 (29%) reported having jaundice and 2 (14%) reported hematemesis; one fatal case had both hematemesis and jaundice. Confirmatory testing and risk factor analysis are ongoing.

Conclusions: These findings help define the incidence and epidemiology of YF in two villages during the first outbreak in Uganda in 35 years, and support the need for YF vaccination to prevent future cases and outbreaks.

Keywords: yellow fever; epidemiology; Uganda; serology

Investigation of HIV and Gonorrhea Transmission in the Adult Film Industry — Los Angeles, California, 2010

Francisco A. Meza, M. McGrath, R. Butler, K. Katz, P.R. Kerndt

Background: The adult film industry (AFI) employs 1,500 actors in Los Angeles. A case of human immunodeficiency virus (HIV) infection in an AFI actor who had worked in heterosexual and homosexual productions was reported to Los Angeles County Department of Public Health in December 2010. The actor had received a diagnosis of acute HIV infection and pharyngeal gonorrhea in October 2010. We conducted a multistate investigation to characterize the source and transmission of infections.

Methods: We interviewed the actor regarding potential exposures since his last negative HIV test in September 2010. We contacted production companies, talent agencies, and testing laboratories to obtain records to complete a contact investigation. Through interviews and review of film, we assessed actor and producer compliance with occupational regulations during occupational exposures.

Results: The actor identified 15 sexual contacts (14 occupational, one nonoccupational), including 5 men and 10 women, during the 8 weeks preceding the October diagnosis. Potential occupational exposures involved 12 filming locations and 10 production companies. The actor reported using condoms in productions involving anal exposure but not during vaginal or oral exposures. Contact was made with 5/15 sexual contacts. Laboratory information revealed 1 nonoccupational contact had pharyngeal gonorrhea; 2 occupational contacts were HIV-infected; 2 occupational and 1 personal contact were HIV-uninfected. Nine had unknown status; investigation and testing is ongoing.

Conclusions: Limited cooperation from AFI companies restricted this contact investigation. AFI workers have a high occupational risk for acquiring and transmitting HIV and other sexually transmitted infections; and, production companies need to comply with occupational health recommendations for informed risk reduction to prevent infection. Cal/OSHA is now considering an occupational standard specific to this industry.

Keywords: occupational health, human immunodeficiency virus, gonorrhea, herpes, adult film

Contributing Factors to the Domestic Violence Burden in a Rural Community — Indiana, 2007–2009

Aybaniz Ibrahimova, K. Freire, C. Lawrence, J. Logan, D. McDaniel, R. Noonan, D. Reidy, M. Ritchey, R. Shults

Background: Annually, approximately 7.7 million intimate partner-related physical assaults occur in the United States. In May 2010, local officials in County A, Indiana notified state health officials that their rural community had experienced an apparent increase in domestic violence (DV) and DV-related homicides. We conducted an investigation to explore potential circumstances contributing to DV and recommended preventive measures.

Methods: We conducted stakeholder interviews and abstracted records at the Prosecutor’s Office, three law enforcement agencies, and two social service groups. We defined a case as either a homicide/suicide that was deemed by law enforcement to be domestic violence-related, or a criminal charge filed in County A, during 2007–2009, for DV, physical battery, attempted murder, or murder of a current or former intimate partner, relative of the intimate partner, or other member of the perpetrator’s family/household.

Results: The 271 abstracted cases involved 272 perpetrators, 290 victims, and 10 persons simultaneously categorized as both. Of the 300 victims, 246 (82%) were female and 6 (2%) were fatally injured. Of the 282 perpetrators, 202 (72%) were current or former intimate partners, 157 (56%) were found guilty, 47 (17%) had a prior DV charge, and 91 (32%) underwent a batterer’s treatment program. Stakeholders reported the following contributing factors: economic downturn; intergenerational transmission of violence; community norm of “keeping everything in the family”; substance abuse; limited community resources; and inadequate communication among DV-related agencies.

Conclusions: To decrease the DV burden, the community should consider implementing a coordinated community response to DV; strengthening primary prevention efforts, particularly in schools; expanding batterers’ and victims’ services, including substance abuse treatment; expanding community education and outreach efforts; and improving data collection.

Keywords: domestic violence, abuse, prevention interventions, community response

Norovirus Outbreak Among Players and Staff of a Professional Sports Association, November–December, 2010

Rishi Desai, M. Wikswa, C. Yen, N. Gregoricus, A. Hall

Background: Norovirus is a highly contagious pathogen and the leading known cause of acute gastroenteritis (AGE) outbreaks worldwide. In December 2010, media reports indicated that 20 players from 13 teams in professional sports association A were noted to have a “stomach virus”. In response, CDC began an investigation to describe the extent of the outbreak, confirm the etiology, and assess for evidence of player-to-player and team-to-team transmission of illness.

Methods: Team physicians completed a case report form for each player or staff member with AGE (diarrhea or vomiting) between November 10, 2010 and December 20, 2010. Individuals with AGE were asked to submit stool specimens for norovirus diagnostic testing via reverse transcription polymerase-chain reaction.

Results: Twenty-seven of 30 (90%) team physicians provided information on 400 players and 378 staff, among whom 21 players (5%) and 3 staff members (<1%) on 13 teams had AGE. Multiple ill players (2-6) were reported on four separate teams with illness onset dates consistent with person-to-person transmission. Two games were identified as potential instances of team-to-team disease transmission. In both cases, one team with ill or shedding players played a second with previously healthy players who then developed illness within 72 hours. Four (80%) of 5 stool specimens, from two teams, received from both players and staff tested positive for norovirus genogroup II. Sequencing genotyped this outbreak as a GII.1 norovirus, an uncommon strain.

Conclusions: An outbreak of norovirus gastroenteritis affected as many as 13 teams in professional sports association A, with evidence suggesting transmission within teams and, potentially, between teams. Strict hand-washing and isolation measures may reduce norovirus spread and prevent future sports-associated outbreaks.

Keywords: norovirus, professional sports, outbreak