Ebola and Beyond—Developing an Infectious Diseases Treatment Infrastructure in the United States

Sharon Vanairsdale, Emory University
Aneesh K Mehta, Emory University
Colleen S Kraft, Emory University

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665. Introduction of Preventive Vaccination of Meningococcal Meningitis using MenAfriVac in Northern Uganda 2017
Fred Ssewankambo, MPH; Naguru Referral Hospital, Ministry of Health, Uganda, Kampala, Uganda
Session: 73. Outbreaks and Public Health Across the Globe
Thursday, October 5, 2017: 12:30 PM
Background. Major outbreaks of meningococcal meningitis Sero-type A are cyclic, occurring every 10 years, with over 75% of the outbreak occurring within age category of 1–29 years. The overall objective of the preventive campaign was to reduce morbidity and mortality caused by meningococcal meningitis serotype A in Uganda. The specific objective of the campaign was to conduct a 90% coverage of MenAfriVac conjugate Vaccine in a target population of 1–29 years in 39 meningitis high risk districts.

Methods. The 5 days' campaign was conducted in 39 districts of northern Uganda with a total population of 10,142,326. A target population of (1–29 years) 7,198,555 was reached. Activities conducted during the preparation and implementation of the campaign included; district coordination meetings, district/health facility micro-planning meetings, district/sub county trainings of health workers and provision/distribution of logistics. The preventative campaign was conducted from 19th-23rd January 2017.

Results. A total of 7,282,554 (1–29 years) and 37,377 (>30 years) were vaccinated in a period of 5 days. The age categories of 1–5, 6–15, and 16–29 years were 10,842,831(15%), 1,879,426 (26%), and 2,096,281 (29%) in total population covered, respectively. Training at district level, 893 (males, 71%) health workers were trained while at sub county level 12,150 health workers were trained and 6,076 post mobilizers were sensitized. A total of 663 vaccination post was established in the 39 districts and 5,094,588 doses of MenAfriVac conjugate vaccine were utilized. The coverage achieved during the campaign was 104% with wastage factor of 2.3%. Adverse events following immunization (AEFI) were 108 cases (minor 101 and major 7).

Conclusion. The preventive campaign was successful conducted despite massive influx of refugees from southern Sudan in some participating districts as noted by coverage of 104%. The MenAfriVac conjugate vaccine was safely introduced in Uganda.

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666. Ebola and Beyond: Developing an Infectious Diseases Treatment Infrastructure in the United States
Sharon Vanatsdale, MS, APRN; ACNS-BC, NP-C, CEN2; Aneesh K Mehta, MD3 and Colleen Kraft, MD, MSc;1 Serious Communicable Diseases, Emory University, Atlanta, Georgia, 2Infectious Disease, Emory, Atlanta, Georgia, 3Department of Pathology, Division of Infectious Disease, Emory University School of Medicine, Atlanta, Georgia
Session: 73. Outbreaks and Public Health Across the Globe
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Background. From 2014 to 2016, West Africa experienced the largest outbreak of Ebola in history. While a few hospitals successfully managed several patients with Ebola Virus Disease, gaps within the U.S. healthcare system became evident after two nurses were infected with Ebola while providing patient care to a patient with Ebola. In 2015, the U.S. Department of Health and Human Services (HHS) initiated programs to address Ebola clinical care preparedness and response.

Methods. In response to the 2014 Ebola outbreak in West Africa, the U.S. Department of HHS sought to increase the competency of healthcare and public health workers and capabilities of healthcare facilities in the U.S. to deliver safe and effective care to patients with Ebola and other special pathogens. The National Ebola Training and Education Center (NETEC) was established. The NETEC serves as an infrastructure to disseminate best practices, standardize patient care, expedite experimental therapeutics and improve the safety for patients and healthcare professionals.

Results. The Assistant Secretary for Preparedness and Response and the Centers for Control and Prevention have designated ten Regional Treatment Centers. The NETEC has created assessment metrics, training materials, drills, etc to support these facilities. To date, over 2000 healthcare professionals have benefited from NETEC.

Conclusion. Many of the gaps in outbreak preparedness within the U.S. healthcare systems are being addressed by NETEC and the regional Ebola treatment centers. This system has growing capacity to effectively identify, isolate, transport and treat patients with serious communicable and novel infections with appropriate clinical containment measures. The NETEC continues to expand the capacities of the U.S. healthcare system to face these challenges in order to care for these patients while protecting the safety of healthcare workers, healthcare systems and the community. It is critical to maintain continued preparedness to manage the future threats.

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667. Six-Year Surveillance of Diphtheria Outbreak in Indonesia
Dominicus Husada, MD;2 Dwiyanti Puspitasari, MD;2 Lenny Kartina, MD;2 Parwati Setono, Prof. MD;1 Ismoedijanto Moedjito, Prof. MD. DTM&H1 and Bambang Kartika, SKM;1 Child Health, School of Medicine, Airlangga University / Dr. Soetoemo Hospital, Surabaya, Indonesia, 2Surveillance, East Java Provincial Health Office, Surabaya, Indonesia
Session: 73. Outbreaks and Public Health Across the Globe
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Background. Diphtheria outbreak has become a major problem in Indonesia since 2011. East Java province in Java Island, with 35 million population, is the most severely affected area contributing approximately 80% of the total cases in the country. The objective of this study is to present a 6-year (2011–2016) surveillance report of diphtheria outbreak in East Java Indonesia.

Methods. This study was based on surveillance data collected (actively and passively) at East Java Provincial Health Office from all districts since January 2011 until December 2016. The data came from the district and provincial hospitals, the health officers, the patients and families, and also the contacts. Microbiology cultures were performed at an international standard diphtheria laboratory in Surabaya.

Results. For six years period since 2011, there were 3,353 cases reported from 35 among 38 districts (92.1%), with the peak at 2012 (955 cases). This number was the second rank in the world after India. The case fatality rate was 3.3% (110 patients). Male (1,790, 53.4%) slightly outnumbered female. Although most patients were below 15 years old (2,343, 69.4%), the trend showed the increasing proportion of adolescents and adults. The largest proportion was on below 10 years of age. Based on the immunization status, the percentage of unimmunized patients, partially immunized, and completely immunized by age were 39%, 49.3%, and 11.7%, respectively. The youngest and oldest age among those deceased were 11 month and 70 year old. Only 197 nasal and throat swab specimens were positive for toxicogenic Corynebacterium diphtheriae. Among serotypes, mitis was the most followed by gravis. There was only one case of intermedius. Most of the belfanti serotypes were non toxicogenic. Despite many efforts such as multiple outbreak response immunization (ORI) especially in 2011–2013 this outbreak could not be stopped.

Conclusion. For six years (2011–2016) there have been a diphtheria outbreak in East Java Indonesia. The highest number of patient was recorded in 2012. Most of the patients affected were not completely immunized. Each year, the positivity rate of throat and nasal swab culture were low. Until today, many efforts in severely affected area could not stop the high incidence of diphtheria cases.

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669. Physician and Infection Preventionists Perceptions on Communicable Disease Reporting—Indiana, 201
Shawn Richards, BS;1 Mugdha Golwalkar, MPH2 and Madhura Sundararajan, MPH1
1Infectious Diseases, Indiana State Department of Health, Indianapolis, Indiana, 2Indiana State Department of Health, Indianapolis, Indiana
Session: 73. Outbreaks and Public Health Across the Globe
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Background. Regarding mandatory reporting of communicable diseases, studies have previously examined the compliance rate of physicians, but not barriers or preferred public health outreach methods. This study assessed perceptions for reporting communicable diseases and identified the preferred route of education for Indiana healthcare professionals.

Methods. A web-based survey was developed by the Indiana State Department of Health using SurveyMonkey and distributed via several Indiana healthcare distribution lists. The survey consisted of 17 questions and responses were collected for seven days. The target population included advanced health care providers (AHCPS), infection preventionists (IP), and nurses. Respondent responses were separated into two distinct categories, AHCPS and IP/nurses, based on reported professional role.

Results. Respondents included 183 AHCPS and 67 IP/nurses. Of these, 55% of AHCPS reported contacting the health department to report a communicable disease compared with 90% of IP/nurses. The most frequently reported barriers by AHCPS were “do not know what diseases to report” (18% of AHCPS, 1% of IP/nurses), “too much time required” (17% of both groups), and “do not know what number to call” (17% of AHCPS, 8% of IP/nurses). Only 34% of AHCPS surveyed knew how to contact the local health department, while 87% of IP/nurses knew how to contact the local health department. Both AHCPS and IP/nurses preferred to receive education from the health department through literature provided via email, videos provided via email, and lunch-and-learn session. The provider survey facilitated the design of a Lunch and Learn (L&L) presentation used to address discrepancies in reporting. The ISDH presented the L&L in Indiana’s largest hospital systems to educate health care professionals on state reporting protocol and associated procedures. The ISDH L&L were received by 400 health care professionals at 3 separate locations.

Conclusion. Barriers to reporting can significantly hinder communicable disease surveillance in Indiana. Educational outreach should use preferred methods for AHCPS and IP/nurses to reduce barriers to reporting and improve reporting compliance.

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