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Pres No: LB-47 - Viral Shedding Patterns of the Pandemic Influenza A H1N1 Virus during an Outbreak Associated with an Elementary School in Pennsylvania, May-June 2009

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Introduction: Shedding duration of pandemic H1N1 influenza A (H1N1) virus (H1N1pdm) is unknown but will be important when developing guidance for when ill patients may return to school or work. We evaluated shedding duration after fever onset among elementary school students and their household contacts during H1N1pdm outbreak in Pennsylvania during May-June, 2009.

Methods: Any elementary school student or household contact with influenza-like illness (ILI) onset within 7 days of interview day was eligible for inclusion. Nasopharyngeal specimens were collected every 48 hours until two consecutive non-positive tests. Specimens were tested by real-time reverse transcriptase polymerase chain reaction (rRT-PCR) for presence of virus genome and viral culture for presence of viable H1N1pdm virus.

Results: Twenty-six persons who were positive for H1N1pdm virus tested by rRT-PCR were included in the analysis. The overall median duration of positive rRT-PCR detection was 6 days (range 1-13) post onset of fever. In children < 9 years of age, the median duration was 6 days (range 2-13). H1N1pdm viruses were isolated by cell culture from 19 of the 26 rRT-PCR positive persons. Overall the median duration of culture-positivity was 5 days (range 1-7) after fever onset; in children < 9 years of age, the median duration was 6 days (range 2-6). H1N1pdm viruses were cultured from 13 specimens (12 persons) collected up to 6 days after resolution of fever.

Conclusions: H1N1pdm virus was detected by rRT-PCR from patients up to 13 days after onset of fever and viable viruses were detected by virus culture for up to 6 days after illness onset, including those cases after fever resolution. Data obtained from this study provides critical information for public health officials in determining influenza control measures. Future studies should be undertaken to determine the relationship between virus detection and transmissibility in order to inform exclusionary criteria for persons following influenza illness.

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