

894. Evaluating Clinical Credibility of Surveillance Definitions for Healthcare-Associated Pneumonia and Lower Respiratory Infections

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Background. Recent data show that only a minority of healthcare-associated pneumonias are mechanical ventilator-associated (VA-PNEU). Though the limitations of VA-PNEU surveillance definitions in adult patients are well known, less is known about the performance of either National Healthcare Safety Network (NHSN) definitions for PNEU in non-ventilated adults or in children (whether mechanically

ventilated or not), or lower respiratory infection (LRI) in any patient population. We evaluated the utility of PNEU for identifying clinical events in non-ventilated adults and in children (both ventilated and non-ventilated), and of LRI for identifying clinical events in any patient population.

Methods. We reviewed medical records of a random sample of patients with PNEU or LRI reported to NHSN from 8 Pennsylvania hospitals in 2011–2012, excluding adult VA-PNEU. We confirmed PNEU/LRI case classification with CDC staff and recorded documented clinical diagnoses corresponding temporally to the PNEU/LRI case.

Results. We reviewed 250 (30%) of 838 eligible NHSN-reported PNEU/LRI events; 29 (12%) did not fulfill PNEU or LRI criteria. Differences interpreting radiology reports accounted for most reclassification. Of 81 PNEU in non-ventilated adults, 68 (84%) had clinician-diagnosed PNEU; 17 (25%) were explicitly attributed to aspiration. Of 36 pediatric PNEU, 26 (72%) were VA, and 70% corresponded to a clinical PNEU diagnosis. Of 43 adult LRI, 38 (88%) were in mechanically ventilated patients, 14 (33%) with no corresponding clinical diagnosis (infectious or non-infectious) documented at the time of LRI. Of 61 pediatric LRI, 51 (84%) were in mechanically-ventilated patients, and 21% had no corresponding clinical diagnosis documented.

Conclusion. NHSN-defined PNEU in non-ventilated adults and in children regardless of ventilation status corresponded in most cases to a compatible clinical event. LRI occurred mostly in ventilated patients, and the definitions performed poorly in both adults and children, with no discernable clinical event documented during the same time frame in a large proportion of patients. Definitions that are objective and clinically credible are needed to improve surveillance and prevention of healthcare-associated PNEU.

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