BACKGROUND

- Pertussis incidence has resurfaced in the United States (US) after a nadir in the 1970s and is now among the most prevalent vaccine-preventable infections.
- Infants are at greatest risk for severe pertussis-related morbidity and mortality (~10% of infant cases require hospitalization) and account for the majority of cases.
- Recent surveillance indicates a resurgence of overall pertussis incidence in the US, but limited data exist on the cost and mortality burden of severe infantile cases.

OBJECTIVE

- We sought to quantify the cost and mortality burden of infant pertussis cases severe enough to prompt hospitalization.

METHODS

STUDY DESIGN

- Retrospective database analysis
- U.S. sources:
  - Discharge data from the 2000-2011 Healthcare Cost and Utilization Project (HCUP) Nationally Inpatient Sample (NIS)
- The NIS is the largest all-payer inpatient care database in the US.
- The NIS includes many variables for each inpatient stay, including demographics, diagnosis codes, length of stay (LOS), total charges, admission, and discharge status.
- Sampling weights allow for generating nationally representative estimates.

INCLUSION CRITERIA

- Infant discharges containing a diagnosis code (primary or nonprimary) for pertussis (International Classification of Diseases, 9th Revision, Clinical Modification codes 033.0-033.9, 033.3-033.5, 033.9).

LIMITATIONS

- Patient discharges were identified based upon diagnosis codes that, if recorded inaccurately, may cause misidentification of pertussis.
- Because unique patient identifiers were not provided, we were unable to follow patients who moved from facility to facility; results may be biased somewhat if the experiences of patients who transferred from facility to facility differed from those who remained in the analytic sample.

CONCLUSIONS

- Infant pertussis hospitalizations typically exceed 3 days and are associated with high costs compared with hospitalizations for other causes.
- Observed CFRs were consistent with the ~2% fatality rates previously derived from surveillance by the Centers for Disease Control and Prevention, although some substantial differences in CFRs by race/ethnicity were noted.
- These data may help inform economic and cost-effectiveness evaluations of future pertussis vaccination programs.
- The stratified analysis of CFRs by race/ethnicity highlights the need for increased focus on minorities, particularly blacks, in pertussis vaccination programs.

REFERENCES


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CONTACT INFORMATION

Keith L Davis, MA
Senior Director, Health Economics
RTI Health Solutions
200 Park Offices Drive
Research Triangle Park, NC, 27709
Phone: +1 919.541.2723
Fax: +1 919.541.7222
E-mail: kbdr@rits.org

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