Outbreak of Respiratory Illness Associated with a Long-Term Care Facility — Reno County, February 2011

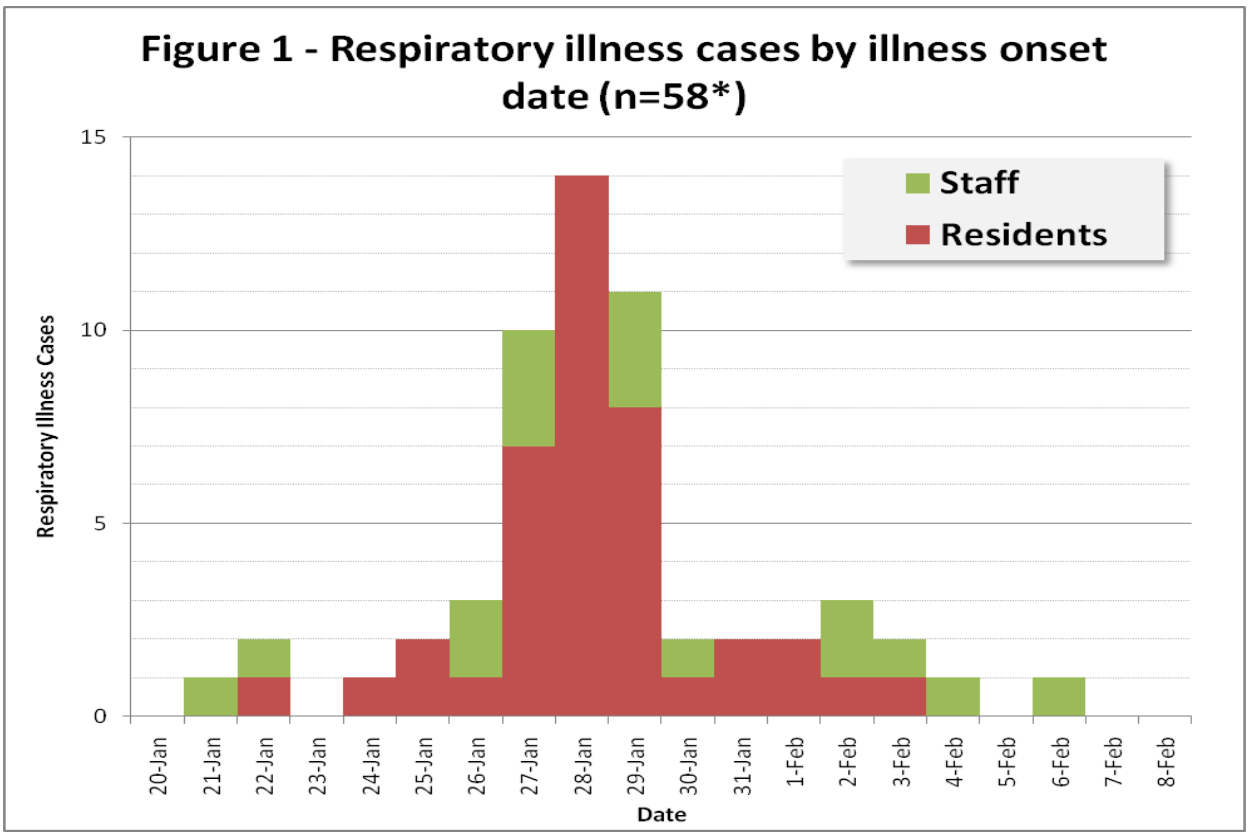
Background

On February 7, 2011, the Reno County Health Department (RCHD) was notified of a possible outbreak of respiratory illness among residents and staff of a 126-bed Long-Term Care Facility (LTCF) in Reno County. The facility indicated that approximately 30 illnesses had occurred over the past ten days, and five residents had been hospitalized. Symptoms included fever, fatigue, poor appetite, cough, crackles, and bronchitis. Laboratory tests had not yet been successful in identifying the causative agent. In response to this report, an outbreak investigation was initiated on February 7 by the Kansas Department of Health and Environment (KDHE) and RCHD. The purpose of the investigation was to quantify and characterize the illnesses, determine the cause of illness, and to prevent additional cases.

Key Findings

RCHD contacted the Director of Nursing to obtain a line list of all residents and staff that had symptoms of respiratory illness (e.g. fever, cough, sore throat, crackles, shortness of breath, pneumonia, bronchitis, myalgia, or fatigue) since the outbreak began. Other information collected included illness onset date, laboratory test results, room number or job duty, influenza vaccination status, and pneumococcal vaccination status.

The linelist included 78 individuals who reported illness since January 20, 2011. A case was defined as an individual who resided or worked at the LTCF and became ill with a fever and cough, or was hospitalized with a cough, between January 20, 2011 and February 6, 2011 — 42 residents and 16 staff met the case definition (See Figure 1).



The illness onset date of one resident is not known.

The most frequently reported symptoms were cough (n=58), fever (n=56), poor appetite (n=37), myalgia (n=38), shortness of breath (n=26), and crackles (n=24). KDHE was not able to obtain the duration of illness for the cases.

Eight cases were hospitalized; two of these eight cases died, and four additional, non-hospitalized cases died during the outbreak. Death certificates filed for the six deceased individuals did not list infectious agents as primary or secondary causes of death. Laboratory tests conducted at the LTCF and a local hospital were unable to identify a cause of illness. One case tested positive for *Streptococcus* by rapid assay, but another tested negative. Four cases tested negative for influenza by rapid assay. Five individuals — three cases and two individuals who did not meet the case definition — were tested for influenza by Polymerase Chain Reaction (PCR) at the Kansas Health and Environmental Laboratories (KHEL). One non-case was positive for influenza A; the specimen was too weak to determine a subtype. Viral cultures were performed on the specimens that were negative by PCR. One case's specimen grew Herpes Simplex Virus Type 1. The remaining viral cultures were negative.

Conclusion

The cause of the LTCF's respiratory outbreak was not determined. One case tested positive for *Streptococcus* by rapid assay, and one non-case tested positive for influenza A by PCR. This individual was reported to experience crackles, fatigue, and myalgia, and did not meet the outbreak's case definition due to a lack of fever and cough. While PCR testing was performed on five individuals, only two of those specimens were collected within 48 hours of illness onset, as is recommended for influenza PCR testing.

Three of the four negative results may be due to a lag in specimen collection rather than the absence of influenza infection. No additional cases were identified after RCHD and KDHE began their investigation, which precluded additional testing.

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