

knowledge of the extent and symptoms of ILI and any likelihood of a pandemic.

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### Using the MCRISP Network to Study Acute Gastroenteritis and Influenza-Like Illness Outbreaks in Child Care Centers Compared to Statewide Epidemics

Dr. Andrew Hashikawa<sup>1</sup>, PhD. Student Peter DeJonge<sup>2</sup>,  
Dr. Stuart Bradin<sup>1</sup>, Dr. Emily Martin<sup>2</sup>

1. University of Michigan - Department of Emergency Medicine, Ann Arbor, United States
2. University of Michigan School of Public Health, Ann Arbor, United States

**Introduction:** Biosurveillance is critical for early detection of disease outbreaks and resource mobilization. Child care center (CCC) attendance has long been recognized as a significant independent predictor for respiratory and gastrointestinal diseases, but CCC surveillance is currently not part of the statewide disease surveillance system. The Michigan Child Care Related Infections Surveillance Program (MCRISP) is an independent, online reporting network with >30 local CCCs that was created to fill this surveillance gap.

**Aim:** To describe the capability of a novel CCC biosurveillance system (MCRISP) to report pediatric Influenza-Like Illness (ILI) and Acute Gastroenteritis (AGE) illness over three years

to (i) assess both the timing and magnitude of epidemics in CCCs and (ii) compare CCC outbreak patterns with those of the state database.

**Methods:** MCRISP collates real-time syndromic reports of illness from local county CCCs. The statewide Michigan Disease Surveillance System (MDSS) collects reports of diagnosed illness from designated laboratories, clinics, and hospitals statewide. We assessed epidemic curves based on MCRISP incidence rates and MDSS case counts for ILI and AGE over three seasons (2014–7).

**Results:** A total of 4,627 MCRISP cases (2,425 ILI and 2,202 AGE reports) were reported during the three years of study surveillance. Epidemic patterns (seasonal peaks, troughs, and breadth) for both ILI and AGE in CCCs mirrored those reported at county and state levels, respectively. Two distinguishing features of CCC ILI outbreaks were noted in all three seasons: MCRISP ILI rates remained elevated after MDSS influenza counts abated, and MCRISP rates consistently peaked prior to MDSS influenza peaks. Neither of these phenomena were observed in comparing AGE outbreaks between surveillance systems.

**Discussion:** ILI and AGE incidence rates from the MCRISP network appeared to broadly mirror epidemics from the established state surveillance system. MCRISP may act as a sentinel system for larger community outbreaks of respiratory disease.

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