Pandemic Preparedness: Influenza Vaccination Surveillance Using an IIS

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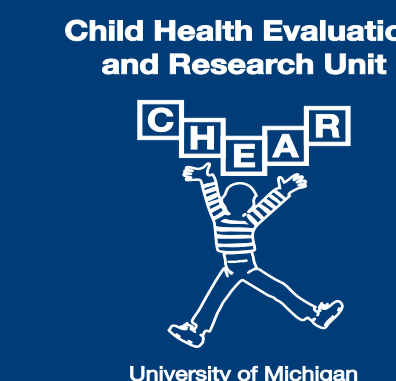
Background

- Children with chronic conditions have increased risk of complications from influenza (flu) and are considered priority cases for flu vaccination.
- Mechanisms to conduct surveillance of flu vaccination delivery to priority cases is needed and may be especially important during pandemic events.

Objective

To assess the feasibility of using the Michigan Care Improvement Registry (MCIR) to gauge H1N1 and seasonal influenza vaccination rates among priority cases as the flu season progresses.

Methods

Study Setting and Population
- Since 2006, children in Michigan with high risk conditions (HRCs) have been identified using administrative claims, which are used to populate an indicator in MCIR.
- MCIR, a statewide Immunization Information System (IIS), was retrospectively used to identify children who received H1N1 or seasonal flu vaccination during the 2009-2010 flu season.
- Children who received ≥1 flu dose were stratified by high risk status.
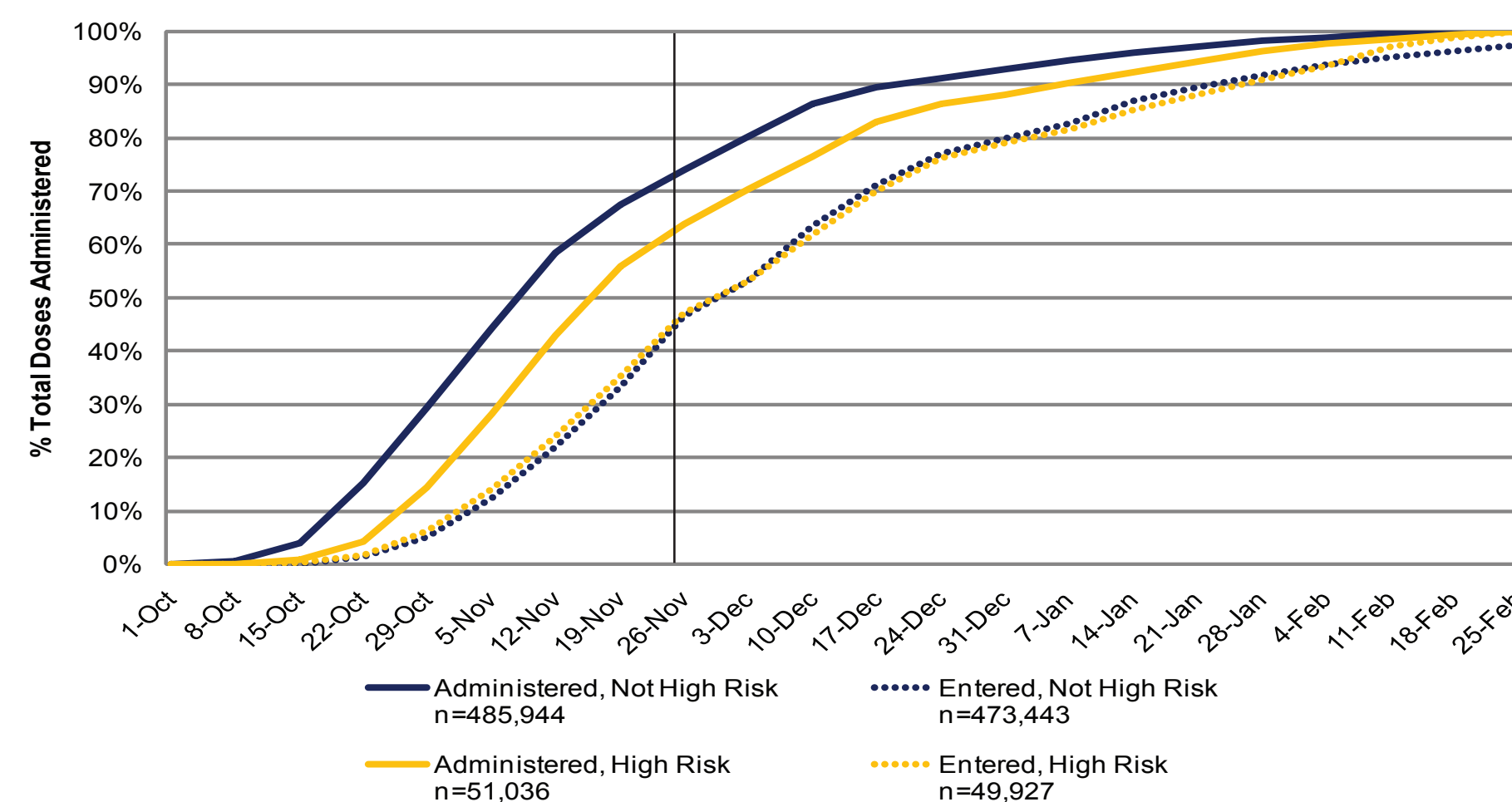
Outcome Measures
- H1N1 and seasonal vaccination doses were measured in MCIR by:
  - date of dose administration
  - date of dose entry into MCIR
- Doses were assessed, September 2009-February 2010.

Results

H1N1 Dose Administration and Data Entry
- H1N1 dose administration for the 2009-2010 flu season occurred early in the season, primarily in 2009 (**Figure 1**).
- The data entry of H1N1 doses lagged dose administration.
- Overall, 67% of all H1N1 doses had been administered by November 26, 2009, but only 48% had been entered into MCIR.

Figure 1. Week of H1N1 First Dose Administration and Data Entry, by High Risk Status (n=536,980 doses administered)

Administered, Not High Risk n=485,944 · Entered, Not High Risk n=473,443
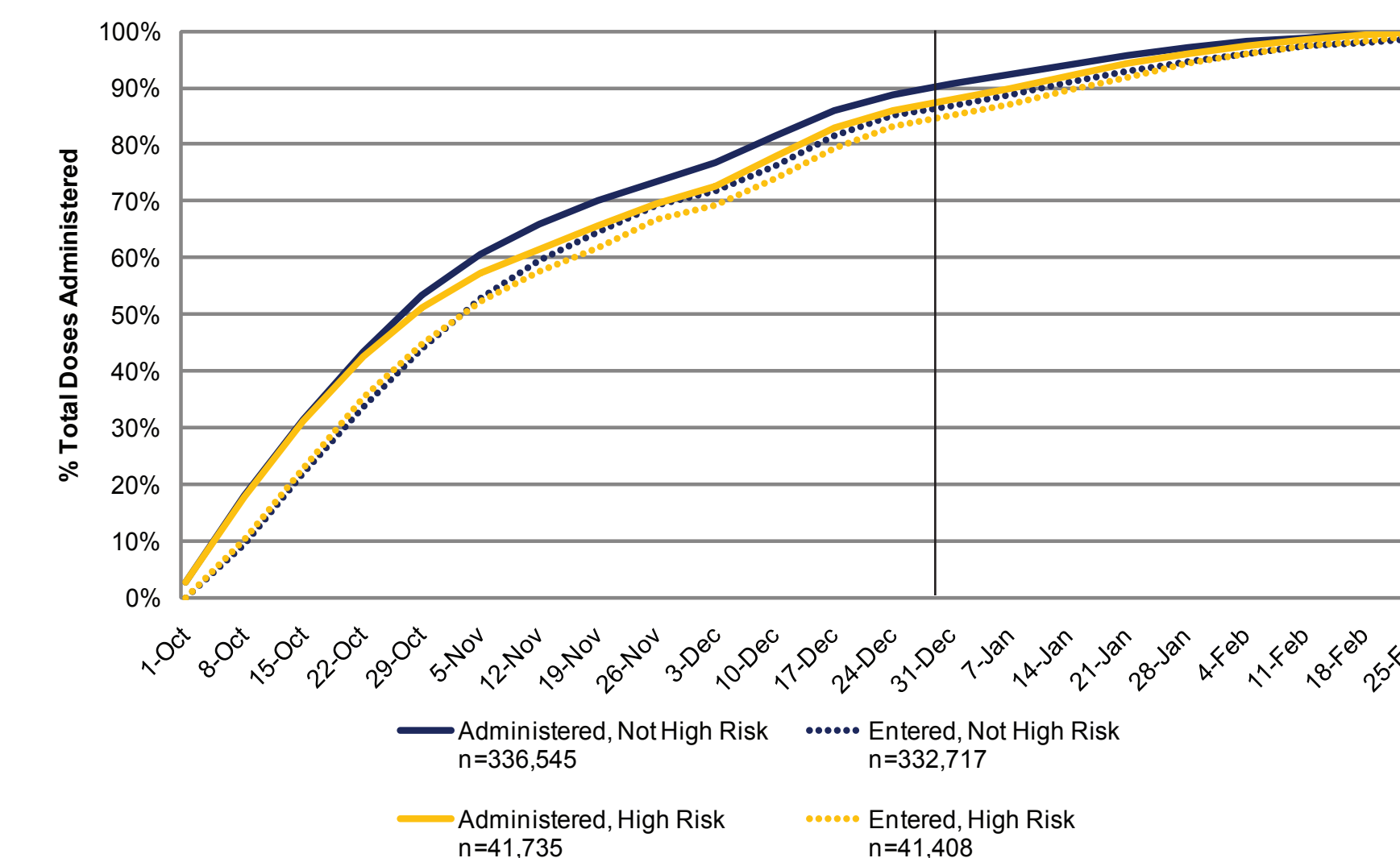Administered, High Risk n=51,036 · Entered, High Risk n=49,927

- Median lag days for H1N1 vaccination:
  - overall: 5 lag days (range: 0-224 days)
  - children with HRCs: 4 lag days (range: 0-230 days)
  - children without HRCs: 6 lag days (range: 0-230 days)

Results (cont.)

Seasonal Influenza Dose Administration and Data Entry
- Seasonal influenza vaccination occurred early in the flu season (September 2009-February 2010) (**Figure 2**).
- Over 85% of seasonal influenza doses had been administered by the end of 2009.

Figure 2. Week of Seasonal Influenza First Dose Administration and Data Entry, by High Risk Status (n=378,280 doses administered)

Administered, Not High Risk n=336,545 · Entered, Not High Risk n=332,717
Administered, High Risk n=41,735 · Entered, High Risk n=41,408

- Median lag days for seasonal influenza vaccination:
  - overall: 2 lag days (range: 0-224 days)
  - children with HRCs: 2 lag days (range: 0-253 days)
  - children without HRCs: 2 lag days (range: 0-253 days)

Conclusion

- Entry of H1N1 and seasonal flu vaccine doses into MCIR lagged administration dates, but these lags diminished as the flu season progressed.
- Data entry lags were greater for H1N1 than seasonal flu vaccine, but similar by risk status (HRC, no HRC).