Comparison of H1N1 and Seasonal Influenza Vaccine Usage Rates in Massachusetts, December 2009

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Objective

We analyzed data with respect to H1N1 and seasonal influenza vaccine usage to determine how availability of both H1N1 and seasonal flu vaccine affects self-reported usage rates among age-specific groups in the Commonwealth of Massachusetts.

Background

Vaccination strategies targeting age-specific high-risk groups have been prioritized to mitigate and respond to the recent H1N1 epidemic. However, there were marked differences in vaccine availability in Massachusetts. By 11/30/2009, half as much H1N1 vaccine was available (1.4 million doses) compared to seasonal influenza vaccine (2.75 million). In addition, H1N1 vaccine was available six weeks later than seasonal influenza vaccine: 10/2/2009 marks H1N1 availability versus 8/13/2009 for seasonal. The Behavioral Risk Factor Surveillance System (BRFSS) and the National 2009 H1N1 Flu Survey (NHFS) are state-based, random-digit-dialed telephone surveys that collect immunization history information.

Methods

We calculated descriptive statistics and compared rates of vaccine usage in Massachusetts for December 2009. We used BRFSS data to analyze adult rates and NHFS data for pediatric rates.

Results

Cumulative H1N1 vaccination rates for those <18 years was 39% (n=237, 95% CI 30-48%) versus 56% (n=233, 95% CI 46-66%) for seasonal flu; high-risk 18-49 year-olds was 26% (n=65, 95% CI 13-47%) versus 39% (n=66, 95% CI 24-57%)[1]. For those aged >65 years, cumulative H1N1 vaccination rates were 5% (n=230, 95% CI 3-10%) versus 73% (n=232, 95% CI 64-80%) for seasonal influenza[2]. Statistical differences between vaccine types within age-specific groups were $p<0.001$, $p=0.1085$, and $p<0.001$, respectively.

Conclusion

These results pre-date widespread availability of H1N1 vaccine, but correspond to a period of widespread availability for seasonal influenza vaccine. As a result of increased vaccination time and availability, rates for seasonal influenza vaccination are dramatically higher than H1N1 vaccination in all age groups in this mid-season assessment.

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[1] MMWR 2010;59:366-367.
[2] CDC. CRA Novel Influenza (H1N1) 09 Event Summary.

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Final Estimates for 2009–10 Seasonal Influenza and Influenza A (H1N1) 2009 Monovalent Vaccination Coverage – United States, August 2009 - May, 2010[3]

Table 1. Estimated seasonal influenza vaccination coverage*– US†, BRFSS and National 2009 NHFS, Aug2009 - May 2010

Subgroup	Un–weighted sample size No.	Coverage		Persons vaccinated	
		%§	95% CI¶	No. (million)	95% CI**
Persons aged ≥6 mos	511,357	41.2	(±0.4)	123.3	(±1.2)
Children, 6 mos to 17 yrs	149,872	43.7	(±0.9)	31.6	(±0.7)
Persons ≥18 yrs	361,485	40.4	(±0.4)	91.6	(±0.9)
Persons 18–49 yrs, at high risk††	22,233	38.2	(±1.3)	8.6	(±0.3)
Persons 18–49 yrs, not at high risk	97,936	28.4	(±0.6)	31.2	(±0.6)
Persons 50–64 yrs	119,754	45.0	(±0.6)	25.4	(±0.3)
Persons aged ≥65 yrs	115,018	69.6	(±0.6)	26.4	(±0.2)

Table 2. Estimated influenza A (H1N1) 2009 monovalent vaccination coverage*— US†, BRFSS and NHFS, October 2009 -May 2010

Subgroup	Un–weighted sample size No.	Coverage		Persons vaccinated	
		%§	(95% CI¶)	No. (million)	(95% CI)
Persons aged ≥6 mos	453,581	27.0	(±0.4)	80.8	(±1.2)
Children, 6 mos to 17 yrs	146,579	40.5	(±0.8)	29.3	(±0.6)
Persons ≥18 yrs	307,002	22.7	(±0.4)	51.5	(±0.9)
Persons in initial target groups**	235,668	34.2	(±0.6)	53.7	(±1.0)
Persons 25–64 yrs, at high risk††	49,234	28.6	(±1.1)	9.9	(±0.4)
Persons 25–64 yrs, not in initial target groups	145,988	18.7	(±0.6)	19.9	(±0.6)
Persons aged ≥65 yrs	97,490	28.9	(±0.7)	11.0	(±0.3)

* Coverage estimates are for persons with reported vaccination during October 2009–May 2010 who were interviewed during November 2009–June 2010.
† Excludes U.S. territories
§ Month of vaccination was imputed for respondents with missing month of vaccination data. Percentages are weighted to the U.S. population.
¶ Confidence interval
** Pregnant women, health–care and emergency medical services personnel, children and young adults aged 6 months—24 years, and persons aged 25—64 years who have medical conditions that put them at higher risk for influenza–related complication
†† High risk includes asthma, other lung problems, diabetes, heart disease, kidney problems, anemia, weakened immune system caused by a chronic illness or by medicines taken for a chronic illness.

[3] http://www.cdc.gov/flu/professionals/vaccination/coverage_0910estimates.htm