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West Virginia EPI-LOG

2009-2010 H1N1 vaccination campaign continues

The 2009-2010 H1N1 pandemic influenza vaccination campaign began on October 5, 2009, with early shipments of monovalent 2009 H1N1 influenza vaccine being shipped directly to hospitals across West Virginia. At the outset, Bureau for Public Health (BPH) leadership made the decision to require the reporting of all H1N1 vaccine doses administered by any provider that registered with BPH to be an H1N1 influenza vaccine provider. In addition, providers were required to report their administered doses to the West Virginia Statewide Immunization Information System (WVSIIS) within 7 days of the vaccination date. The primary reason for this requirement was for vaccine accountability purposes; it also enabled BPH to track the use of H1N1 doses throughout West Virginia, and provided a unique opportunity to describe and document a pandemic influenza vaccination campaign. The following is a snapshot of the data collected on H1N1 vaccinations given across the West Virginia from early October 2009 through early February 2010.

WVDHHR Secretary Patsy Hardy prepares to administer the H1N1 vaccine to Governor Joe Manchin III during a public clinic at the State Capitol.

*(See **H1N1**, page 2)*

Statewide Disease Facts & Comparisons

A quarterly publication of the West Virginia Office of Epidemiology & Prevention Services

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West Virginia Bureau for Public Health
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Department of Health & Human Resources

Joe Manchin III, Governor
Patsy A. Hardy, Secretary (DHHR)

(*H1N1*, *continued from page 1)*

To date, nearly 650,000 doses of 2009 H1N1 influenza vaccine have been ordered through BPH and distributed to over 600 providers in West Virginia. Figure 1 depicts the number of doses distributed to various types of facilities, with local health departments receiving the bulk of doses (57.8%). Local health departments played a key role in vaccine distribution by transferring over 180,000 doses of H1N1 vaccine from their inventories to providers within their communities.

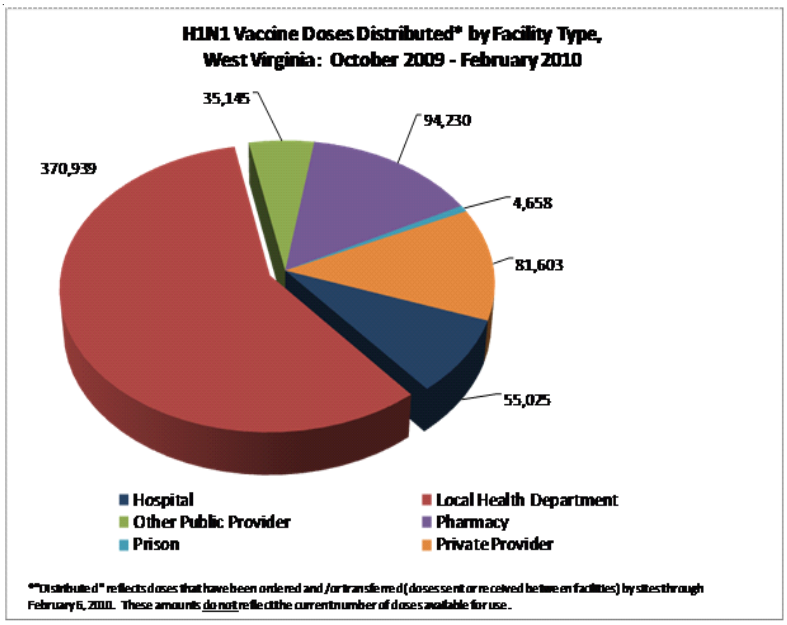


Figure 1

As of February 6, 2010, more than 320,000 H1N1 vaccinations have been reported to WVSIIS. Figure 2 depicts the categorical range of the number of H1N1 vaccinations given by each county (based on the county where the provider is located). The majority of patients receiving these vaccinations were West Virginia residents, with a relatively small number of persons documented as of out of state residents (3.9%) or missing address data (2.2%). Not surprisingly, counties with the highest populations reported administering the most vaccine.

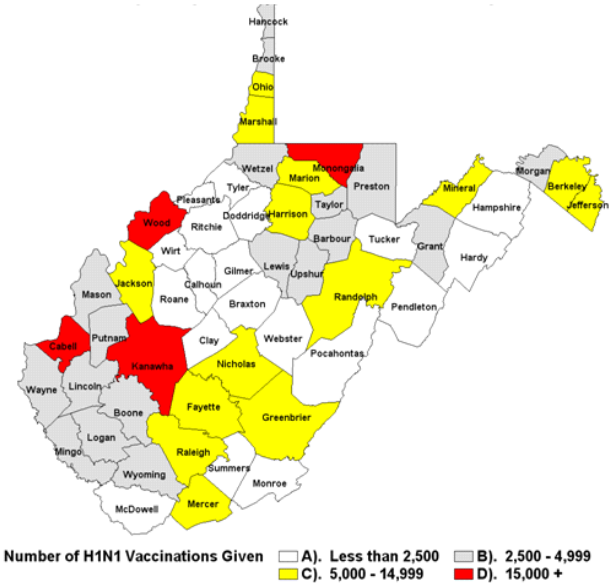


Figure 2

On July 29, 2009, the Advisory Committee on Immunization Practices (ACIP) outlined 5 population groups that were considered at highest risk for complications with 2009 H1N1 influenza based on epidemiological data: Pregnant women, caregivers and contacts of infants <6 months of age, healthcare workers, persons 25 - 64 years of age with underlying illness and all persons age 6 months to 24 years. In light of these ACIP recommendations coupled with low vaccine availability, providers were initially restricted to vaccinating only those persons within the population groups outlined by ACIP. Figure 3 shows the doses of H1N1 vaccine given by month, according to the number of persons vaccinated within various population groups. The initial focus on vaccinating healthcare workers against H1N1 is evident in Figure 3 (upper right, page 5), as all doses distributed in early October 2009 went to hospitals, and nearly all doses reported as given during this time period were given to healthcare workers. H1N1 vaccine became more widely available in November 2009, during which time local health departments received nearly all distributed doses and initiated clinics to reach other populations at high risk for complications from 2009 H1N1 influenza. Peak vaccination activity occurred during the month of November 2009 with more than 100,000 vaccinations administered. On December 14, 2009, BPH announced the release of population group restrictions and encouraged all persons wishing to be protected against H1N1 influenza seek out the vaccine.

*(See **H1N1**, page 5)*

Varicella remains tenacious in West Virginia despite widespread vaccination efforts

Following implementation of one-dose varicella vaccination program in the United States in 1995, varicella vaccination coverage has steadily increased, and the number of varicella cases has decreased. However, despite the increasing use of varicella vaccine, outbreaks of varicella continue to occur, even in settings with high vaccination coverage. (*CDC: Strategies for the Control and Investigation of Varicella Outbreaks 2008, Lopez, AS, Marin, Mona. National Center for Immunization and Respiratory Diseases*)

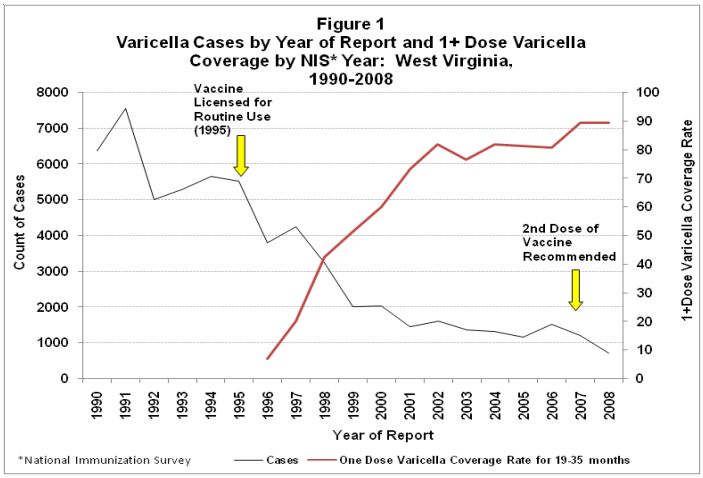


Figure 1
Varicella Cases by Year of Report and 1+ Dose Varicella Coverage by NIS* Year: West Virginia, 1990-2008

In West Virginia, a total of 493 cases and two outbreaks of varicella were reported to the West Virginia Bureau for Public Health (WVBPH) in 2009. Figure 1 illustrates the dramatic decline in the number of varicella cases reported in West Virginia by year (1990-2008) as the varicella vaccination coverage rate steadily increased among children 19-35 months of age (1996- 2008).

From 2007 to 2009, a total of 19 varicella outbreaks involving 283 cases were reported from schools in West Virginia. Table 1, below, shows the distribution of outbreak cases by year of report and type of schools. All the cases were diagnosed clinically; none of the cases were confirmed by a laboratory test. 47% percent (132 of 283 cases) were among children 5-9 years of age, followed by 31% among age-group 10-14 years old (Figure 2, below).

Year of Report	Daycare # schools (# cases)	Elementary # schools (# cases)	Middle # schools (# cases)	High # schools (# cases)	Total # school (# cases)
2007	1(34)	6(109)	1(7)	0	8(150)
2008	0	6(73)	3(20)	1(22)	9(115)
2009	0	1(8)	1(10)	0	2(18)
Total	1(34)	13(190)	5(37)	1(22)	19(283)

Table 1

Vaccination status was also obtained in 152 (54%) cases. Of these, 72% had received one dose of vaccine, and approximately 25% had no vaccination. Figure 3 (see page 4) compares the percent distribution of varicella disease severity. Among those vaccinated with two doses, 100% (n=3) had mild disease while 86% (95 of 110) of the cases who received one dose of vaccine had mild disease. Among the unvaccinated group (n=39), 68% were reported as moderate to severe disease while the remaining 32% reported mild disease. Therefore, varicella outbreaks are still occurring in the vaccinated population.

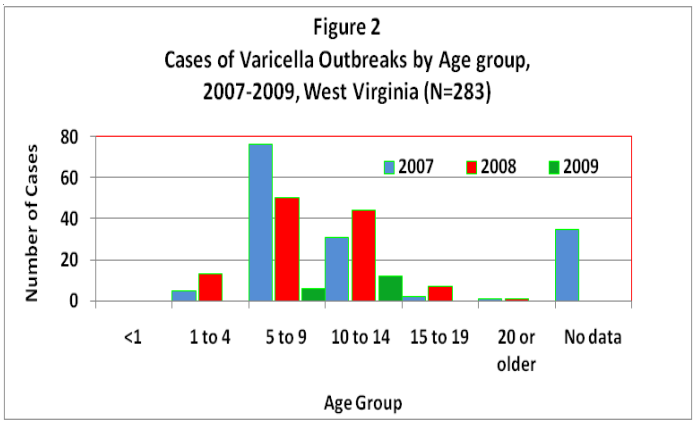


Figure 2
Cases of Varicella Outbreaks by Age group, 2007-2009, West Virginia (N=283)

In September 2009 West Virginia and five other sites in the United States received a CDC-funded grant as part of the American Recovery and Reinvestment Act (ARRA). The purpose of the grant was to assess varicella vaccine effectiveness in school settings through varicella outbreak investigations. The project will operate during

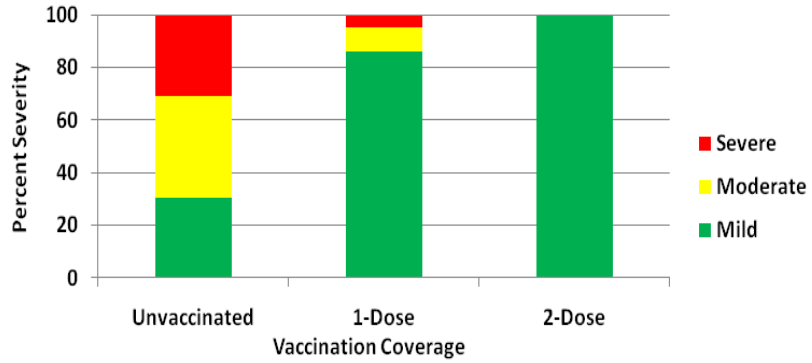
*(See **Varicella**, page 4)*

(***Varicella**, continued from page 3)*

the school years until December 2011. A total of 696 elementary, middle, and high schools will be participating. The WVBPH Varicella Team (Varicella Surveillance Nurse and Varicella Project Coordinator) was hired to conduct varicella active surveillance and outbreak investigation. Varicella vaccination coverage rate of school-aged children will be calculated using data provided by the WV Immunization Registry and WV Department of Education. Monthly varicella online surveys will be sent to WV public school nurses to complete within two weeks. School nurses shall provide school demographic information, number of varicella cases and number of outbreaks in each school during the month of the survey.

For the purposes of this project, the outbreak case definition is revised to "three or more cases" in a school setting within one incubation period (21 days). School nurses and school authorities should notify their local health department and WVBPH Varicella Team at 1-800-423-1271 or 304-558-5358 immediately when an outbreak is suspected. The varicella resource web page for school nurses can be found at http://www.wvidep.org/AZIndexofInfectiousDiseases/VaricellaSurveillanceProject/tabid/1903/Default.aspx. The WVBPH Division of Infectious Disease Epidemiology requests all healthcare providers and school authorities (including school nurses) report varicella cases in aggregate total, weekly, and varicella outbreaks to your local health department and WVBPH immediately by calling 304-558-5358.

Figure 3
Percent Severity of Varicella Disease by Vaccination Coverage among Cases* of Outbreak, 2007-2009, West Virginia (N=152)



* Cases with no information on vaccination status and/or disease severity are excluded.

Scenes from the 2009 West Virginia Public Health Symposium, Nov. 19-20 in Charleston

Keynote speaker Dr. Nathan Wolfe discussed H1N1 and other global pandemics.

Tuberculosis expert Dr. Michael Iseman shares a lighthearted moment with the audience.

Concern about the threat of H1N1 influenza drew members of the news media to the conference.

*(**H1N1**, continued from page 2)*

H1N1 vaccination rates by age group are displayed in Figure 4 at lower right. Based on the data reported to WVSIIS through February 6, 2010, persons 6 months through 18 years of age have the highest H1N1 vaccination coverage rate (30.9%). Persons 19 – 24 years of age have the lowest coverage rate (9.0%), despite this age group's inclusion with the ACIP recommendation that all persons 6 months through 24 years be vaccinated against 2009 H1N1 influenza. Furthermore, data are also being utilized to assess second-dose completion rates for persons indicated to receive two doses of 2009 H1N1 vaccine (children ages 6 months through 9 years). Based on data reported for children receiving dose #1 by November 30, 2009, 56.7% have had their second of H1N1 vaccine documented as of February 13, 2010.

Overall, vaccination data collected in WVSIIS on the 2009-2010 H1N1 influenza vaccination campaign is providing valuable information that will be used to evaluate BPH's efforts and may also prove helpful in planning for future scenarios involving the mass dispensing of medical countermeasures. The current campaign is still ongoing, as influenza season persists through late spring and active protection through immunization is still recommended. An ample supply of vaccine is currently available for any persons wishing to be vaccinated against 2009 H1N1 influenza that have not yet done so.

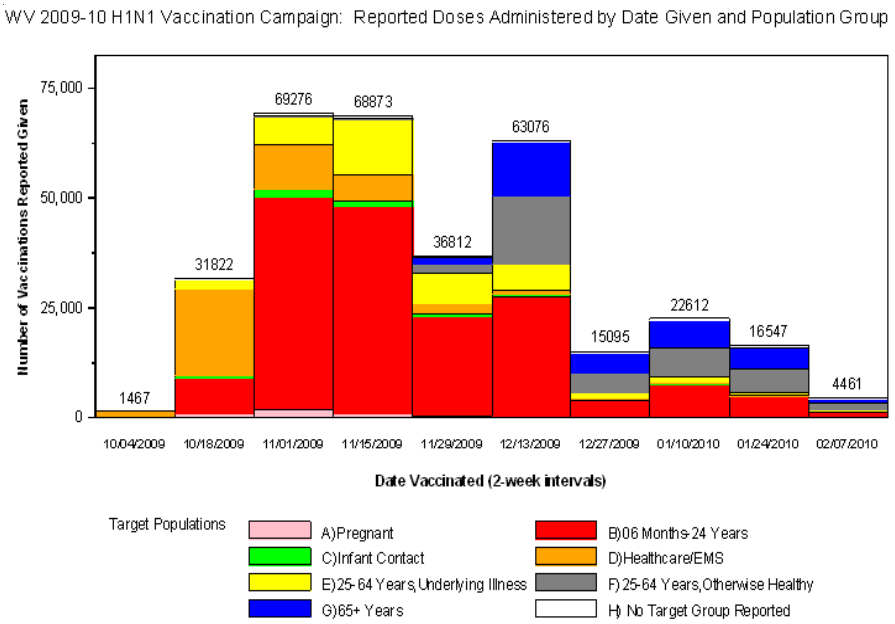


Figure 3

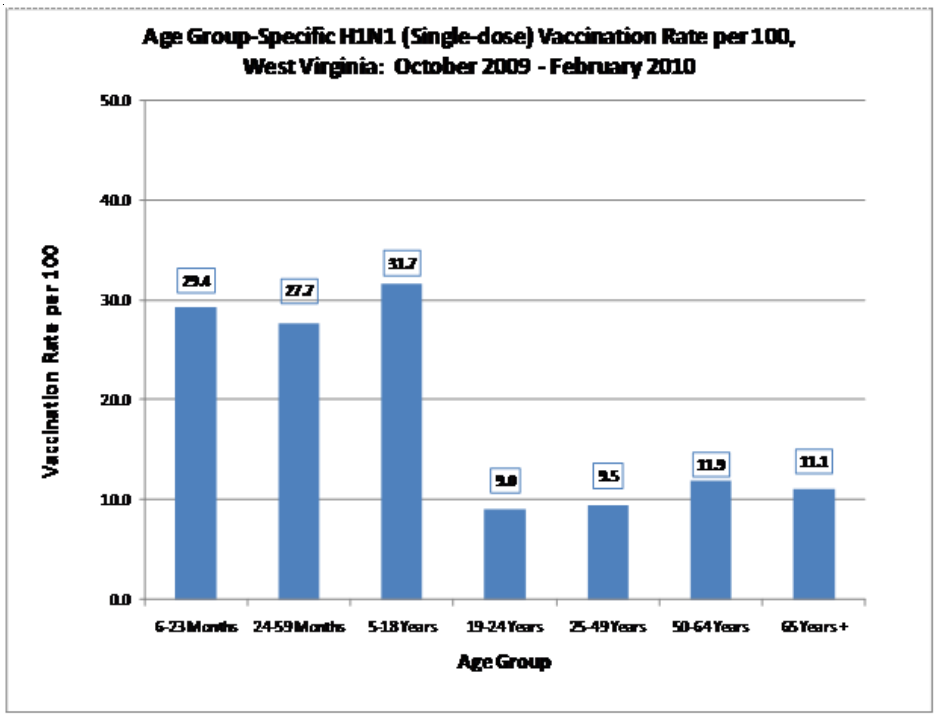


Figure 4

*The **West Virginia EPI-LOG** is published quarterly by the West Virginia Department of Health and Human Resources, Bureau for Public Health, Office of Epidemiology & Prevention Services. Graphic layout by Chuck Anziulewicz. Please call the Office of Epidemiology & Prevention Services at (304) 558-5358 if you need additional information regarding any article or information in this issue, or if you have suggested ideas you would like to contribute for a future issue.*