

## Electronic Medical Records and the Immunization Registry

The VT Immunization Registry is poised to help practices move into the age of electronic medical records. Sending immunization data to the VT immunization Registry via HL7 is one of the menu objectives for meeting meaningful use (of an Electronic Medical Record) criteria for Medicare/Medicaid incentives.

The VT Immunization Registry has begun a pilot project with Vermont Information Technology Leaders (VITL) to implement HL7 data exchange between electronic medical records and the Registry.

HL7 data exchange means real-time communication between your medical record and the Immunization Registry. By 2011, VITL hopes to complete a test of this exchange and if all goes well, we'll be able to enroll other VT practices. Currently, 21 VT practices send monthly batch files to the Immunization Registry, but monthly files means the Registry data is not always completely up to date. Many more practices are looking to send data to the Registry – we'd like to make that happen via HL7 messaging so practices can use this to meet Meaningful Use.

The challenge of real time data exchange means:

- Solving the problem of matching patient record without creating work for medical practices. For instance is “Suzy P. Jones,” the same child as “Susan Jones?”
- Working with electronic medical record vendors to get them to create a secure “feed” that contains the specific immunization data the Registry needs to import a record.
- Developing an interface that can “translate” the information from all the different electronic medical record vendors into the common standards.

If you are interested in using the VT Immunization Registry to help you meet Meaningful Use, contact Bridget Ahrens, Immunization Registry Manager at [bridget.ahrens@ahs.state.vt.us](mailto:bridget.ahrens@ahs.state.vt.us) or (802) 951-4094.

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## 2009 National Immunization Survey Results

The Centers for Disease Control & Prevention (CDC) recently released results from the 2009 National Immunization Survey for children age 19 to 35 months and teens 13-17 years from all 50 states. Overall, childhood immunization rates have remained high. However, there is considerable variation by specific vaccine type among the states.

In looking at children who have had all of the recommended doses of vaccine against 14 preventable diseases, Vermont is below the national average and the lowest in New England. Although these results need to be interpreted carefully, they are instructive for what they tell us about immunization challenges in our state.

We know that in Vermont, concerns about vaccine safety and the number of recommended vaccines for children has resulted in some parent following a delayed schedule or using an exemption to opt out of school immunization requirements. Parents have a lot of questions about vaccine safety, and are particularly concerned about autism. A new study of over 1,000 children published in Pediatrics reported that exposure to thimerosal-

containing vaccines prenatally or in the first month of life was not associated with any of the autism spectrum disorder outcomes. Thimerosal, a mercury containing preservative that prevents vaccine contamination, was removed from childhood vaccines in 2001 but is still used in multi-dose flu vaccines.

<http://pediatrics.aappublications.org/cgi/reprint/peds.2010-0309v1>

The Vermont Department of Health provides all childhood vaccines free of charge to health care providers in the state. The Health Department is working with the University of Vermont to research parental attitudes about immunization here in Vermont. Results will be used to intensify public education and outreach efforts with parents, child care facilities, schools and health care providers. The Department is also in the process of writing rules to require vaccination for all children enrolled in child care facilities, and working with VITL to ensure electronic exchange of information between health care providers and the Immunization Registry, which is housed in the Health Department.

**Vaccination Coverage for Children 19-35 months of age**

<b>Vaccine Series / Antigen</b>	<b>National 2009 %</b>	<b>Vermont 2008 %</b>	<b>Vermont 2009 %</b>
<b>4 doses DTaP</b>	<b>83.9</b>	<b>79.8</b>	<b>83.2</b>
<b>4 doses HIB</b>	<b>54.8</b>	<b>--</b>	<b>37.9</b>
<b>3 doses Hep B</b>	<b>92.4</b>	<b>92.2</b>	<b>91.5</b>
<b>1 dose MMR</b>	<b>90.0</b>	<b>88.1</b>	<b>91.9</b>
<b>3 doses Polio</b>	<b>92.8</b>	<b>91.3</b>	<b>92.7</b>
<b>1 dose Varicella</b>	<b>89.6</b>	<b>77.0</b>	<b>82.7</b>
<b>4 doses PCV</b>	<b>80.4</b>	<b>84.1</b>	<b>80.9</b>
<b>2 doses Hep A</b>	<b>46.6</b>	<b>32.8</b>	<b>43.4</b>
<b>2-3 doses Rotavirus</b>	<b>43.9</b>	<b>--</b>	<b>34.5</b>

The NIS Teen survey assesses immunization coverage rates for recommended adolescent vaccines, as well as for some recommended childhood vaccines. Vermont followed the national pattern, showing large increases in immunization rates for 13-17 year olds for vaccines targeted at teens. From 2008 to 2009, the percentage of Vermont teens (13-17 years old) vaccinated for Tdap increased 21.5 percentage points, for Meningococcal increased 24 percentage points and for Human Papillomavirus Vaccine (> 1 dose) increased 10 percentage points. Vermont state requirements for middle school entry may have supported this trend. Vermont required 3 doses of Hep B, 2 doses of MMR, 2 doses of Varicella and 1 dose of Td or Tdap for the 2009-2010 school year.

**Vaccination Coverage for Adolescents 13-17 years of age**

<b>Vaccine Series / Antigen</b>	<b>National 2009 %</b>	<b>Vermont 2008 %</b>	<b>Vermont 2009 %</b>
<b>2 doses MMR</b>	<b>89.1</b>	<b>95.2</b>	<b>96.5</b>
<b>3 doses Hep B</b>	<b>89.9</b>	<b>94.8</b>	<b>94.7</b>
<b>1 dose Varicella</b>	<b>87.0</b>	<b>93.0</b>	<b>90.0</b>
<b>1 dose Td or Tdap</b>	<b>76.2</b>	<b>79.8</b>	<b>87.0</b>
<b>1 Tdap</b>	<b>--</b>	<b>49.2</b>	<b>70.7</b>
<b>1 dose Meningococcal</b>	<b>53.6</b>	<b>20.0</b>	<b>43.9</b>
<b>1 dose HPV</b>	<b>44.3</b>	<b>50.4</b>	<b>60.7</b>

One way providers can increase immunization rates is to use Immunization Registry and avoid missed opportunities to vaccinate. Most adolescents see a primary care provider at some point in the year, but often this is not specifically for an annual visit. Progress is definitely being made but we need to continue efforts to ensure children and adolescents are optimally protected from disease.

## **Influenza Vaccination for Health Care Personnel – For Your Patient's Sake**

The single best way to reduce influenza transmission in health care settings is to increase rates of flu vaccination for health care personnel (HCP). Achieving high-rates of influenza vaccination for HCP reduces morbidity and mortality among patients, providers, ancillary staff and the community. Vaccination rates among HCP have remained low for many years, despite clear recommendations and its importance as a necessary health and safety initiative. The Vermont Behavioral Risk Factor Surveillance Survey (BRFSS) shows that in 2009, 61% of HCP received an influenza vaccine. However, studies have shown that 80% coverage is needed to achieve herd immunity and prevent influenza transmission in health care settings.

Influenza is highly contagious, causing high morbidity and mortality among the most vulnerable, especially the very young, the elderly and people who are immunocompromised. Research has demonstrated that when the vaccine and circulating viruses are considered to be antigenically similar, influenza vaccination prevents laboratory confirmed influenza illness among 70-90% of healthy adults younger than 65 years of age.<sup>1</sup> The influenza A (H1N1) 2009 monovalent vaccines were highly effective; more than 90% of adults developed anti-influenza antibody levels that were considered to be protective.

The spectrum of signs and symptoms of influenza varies widely, ranging from asymptomatic infections to severe illness and death. Individuals are generally infectious from about one day before to five days after symptom onset. Approximately 30-50% of infected persons may remain asymptomatic, but they can still transmit the virus to others. Influenza transmission has been documented among patients in a variety of clinical settings, and infections have been linked to unvaccinated HCP. Rates of influenza in patients fall in direct proportion to vaccination rates of HCP in settings such as hospitals and nursing homes.

Research has shown that HCP are susceptible to flu vaccine myths, including the concern that they will get the flu from the vaccine and a lack of awareness of their ability to transmit flu. It is essential that HCP receive accurate information through multiple sources, because research has shown that an individual's attitude toward vaccination is a key determinant for being vaccinated. HCP have a duty to protect their patients. With strong support from the leadership in health care settings, annual influenza vaccination will become a norm leading to improved patient safety.

1.CDC. Prevention and Control of Influenza with Vaccines: Recommendations of the ACIP. MMWR. 201059(ER)1-62

### **Ask the Experts: Vaccine specific Q's and A's answered by CDC experts**

**Question: Can a booster dose of Tdap be given to persons age 65 years and older?**

Answer: No brand of Tdap is approved for persons age 65 years or older. ACIP does not recommend off-label use of Tdap for this age group. However, a clinician may choose to administer Tdap to a person age 65 years or older if both patient and clinician agree that the benefit of Tdap outweighs the risk of a local adverse event.

**Question: Instead of giving tetanus/diphtheria toxoid and acellular pertussis (Tdap) vaccine to a father-to-be who needed protection against pertussis, we mistakenly gave him tetanus/diphtheria (Td) toxoid. How soon after the Td dose can we give him the dose of Tdap he needs?**

Answer: As long as they are younger than age 65 years and at least age 10 years, parents, grandparents, healthcare workers, and all others who have not already received Tdap, and who are close contacts of infants younger than age 12 months, should receive a single dose of this vaccine as soon as possible to protect infants from pertussis. When giving Tdap to protect infants, one does not need to observe a "minimum interval" between giving Td and Tdap. For example, if you had immediately realized that you had mistakenly given the father-to-be Td instead of Tdap, you could have given him the needed Tdap dose at the same visit at which you gave him the erroneous Td dose.

**Question: We have noticed that CDC recommends that we begin vaccinating with seasonal influenza vaccine as early as September or even earlier. Does protection from seasonal influenza vaccine decline or wane within 3 or 4 months of vaccination? Should I wait until October or November to vaccinate my elderly or medically frail patients?**

Answer: CDC recommends that seasonal influenza vaccine be administered to all age groups as soon as it becomes available. Antibody to seasonal inactivated influenza vaccine declines in the months following vaccination. However, antibody level at a point several months after vaccination does not necessarily correlate with clinical vaccine effectiveness. There are no studies that compare vaccine effectiveness according to the month when the vaccination was given. The authors of a review on antibody declines among the elderly after vaccination reported, "In conclusion, we found no compelling evidence for more rapid decline of the influenza vaccine-induced antibody response in the elderly, compared with young adults, or evidence that seroprotection is lost at 4 months if it has been initially achieved after immunization." (See Skowronski, et al., Rapid Decline of Influenza Vaccine-Induced Antibody in the Elderly: Is it Real, or Is It Relevant? *Journal of Infectious Diseases* 2008;197:490-502). In addition, there is a lack of evidence for late-season outbreaks among vaccinated persons that can be attributed to waning immunity.

## **In Brief**

**Pneumococcal Polysaccharide Vaccine (PPSV23) Revised Recommendations** (MMWR September 3, 2010 / 59(34);1102-1106)

In 2009, ACIP approved new and revised recommendations for the use of PPSV23 to prevent Invasive Pneumococcal Disease (IPD) among adults aged <65 years. Advisory Committee on Immunization Practices (ACIP) concluded that asthma is an independent risk factor for IPD and should be included in the group of chronic pulmonary diseases (e.g., COPD and emphysema) that are indications for PPSV23. Adults who smoke cigarettes are at significantly increased risk for IPD and it is recommended that they should also receive a single dose of PPSV23 and smoking cessation guidance.

For most persons for whom PPSV23 is indicated, ACIP does not recommend routine revaccination. A second dose of PPSV23 is recommended 5 years after the first dose for persons aged 19--64 years with functional or anatomic asplenia and for persons with immunocompromising conditions. ACIP does not recommend multiple revaccinations because of insufficient data regarding clinical benefit, particularly the degree and duration of protection, and safety.

[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5934a3.htm?s\\_cid=mm5934a3\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5934a3.htm?s_cid=mm5934a3_w)

## **Provider Portfolio**

The Immunization Program has compiled patient education materials that are up-to-date and address parental concerns regarding vaccination and information for children, adolescents and adults. These materials are in a Portfolio so that staff in primary care offices can easily review and request materials during a VDH Immunization Program visit. We encourage you to review and use these new resources.

## **Readers' Forum**

We invite readers to share successful approaches and strategies in any area of the Immunization Program. To contribute, please write to us at [ImmunizationProgram@ahs.state.vt.us](mailto:ImmunizationProgram@ahs.state.vt.us). We welcome questions and comments.

