



**Department  
of Health**

# **Pediatric Immunization Update**

**Spring 2015**

**Kathy Sen, RN, BSN**

**Bureau of Immunization**

# Overview

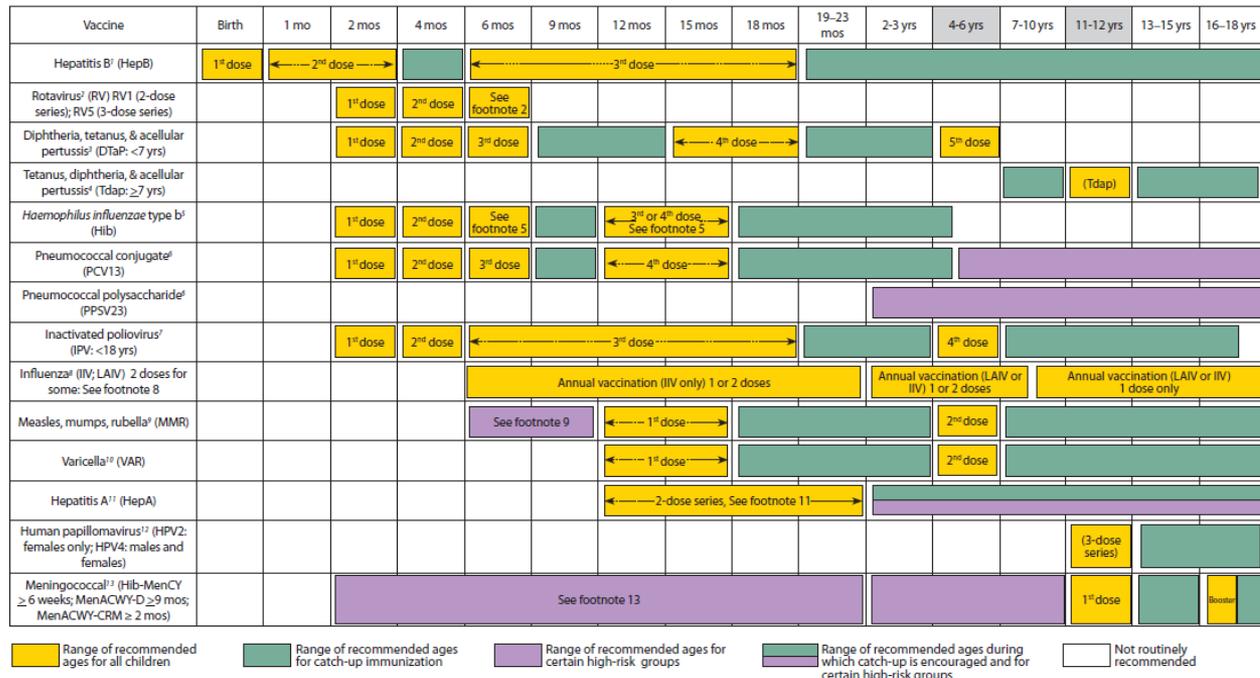
- 2015 Immunization Schedule
- Advisory Committee on Immunization Practices (ACIP) Recommendations:
  - Serogroup B Meningococcal Vaccines
  - 9-valent Human Papillomavirus Vaccine
  - Influenza Vaccine
- Pertussis Vaccine – Q & A's
- Hepatitis B Birth Dose
- School Requirements: Public Health Law § 2164 – Subpart 66-1
- New York State Immunization Information System (NYSIIS)
- Vaccine for Children (VFC) Updates



**Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – United States, 2015.**

**(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE [FIGURE 2]).**

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded.



This schedule includes recommendations in effect as of January 1, 2015. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/hcp/acip-recs/index.html>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (<http://www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm>) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/acip>), the American Academy of Pediatrics (<http://www.aap.org>), the American Academy of Family Physicians (<http://www.aafp.org>), and the American College of Obstetricians and Gynecologists (<http://www.acog.org>).

**NOTE: The above recommendations must be read along with the footnotes of this schedule.**



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# ACIP Updates

## February 2015

# Serogroup B Meningococcal (MenB) Vaccine

- MenB bacteria circulates in the U.S. and has caused recent outbreaks\*
- Until recently there were no licensed MenB vaccines in the U.S.
- FDA recently licensed two vaccines for 10-25 year olds
  - Trumenba® (Pfizer, Inc.) – 3 dose series
  - Bexsero® (Novartis Vaccines) – 2 dose series

\*From 01/01/2009 to 12/31/2014 there were 113 confirmed cases of meningococcal disease in NYS outside of NYC; 107 were serotyped, of these 40% were serogroup B.



# MenB Vaccines

- The ACIP recommendations:
  - Administer to persons 10 years and older at increased risk:
    - Persons with complement component deficiencies including those with inherited or chronic deficiencies in C3, C5-9, properdin, factor D or H, or taking eculizumab (Soliris®)
    - Persons with anatomic or functional asplenia, including sickle cell disease
    - Microbiologists routinely exposed to isolates of *Neisseria meningitidis*
    - Persons identified to be at increased risk due to a serogroup B meningococcal disease outbreak

# MenB Vaccines

- ACIP meeting - June 24-25, 2015 expected to discuss recommendations for:
  - First-year college students
  - Routine adolescent vaccination
  - Additional recommendations

# 9-valent Human Papillomavirus Vaccine (9vHPV)

- December 2014, FDA licensed Gardasil® 9 (Merck Sharp & Dohme)
  - 9-valent HPV vaccine
  - 9vHPV covers 5 additional cancer causing HPV types not included in the current HPV vaccines
  - Has the potential to prevent approximately 90% of HPV attributable cases of cervical, vulvar, vaginal and anal cancers

# 9-valent Human Papillomavirus Vaccine

- Three dose series
- Administer to boys and girls at 11-12 years of age
- Can start as young as 9 years of age
- May be administered as catch-up vaccination up to 26 years of age for females and high risk males (e.g. MSM, HIV+) or up to 21 years of age for males who have not completed the 3-dose series

# 9-valent Human Papillomavirus Vaccine

- ACIP did not state a preference for a specific vaccine formulation
- Any vaccine product can be used to complete an incomplete series for females
- 4vHPV or 9vHPV may be used for males

# 9-valent Human Papillomavirus Vaccine

- ACIP is expected to discuss whether to recommend 9vHPV to those who have already completed the 3-dose HPV vaccine series at their June 2015 meeting

# Influenza Vaccine

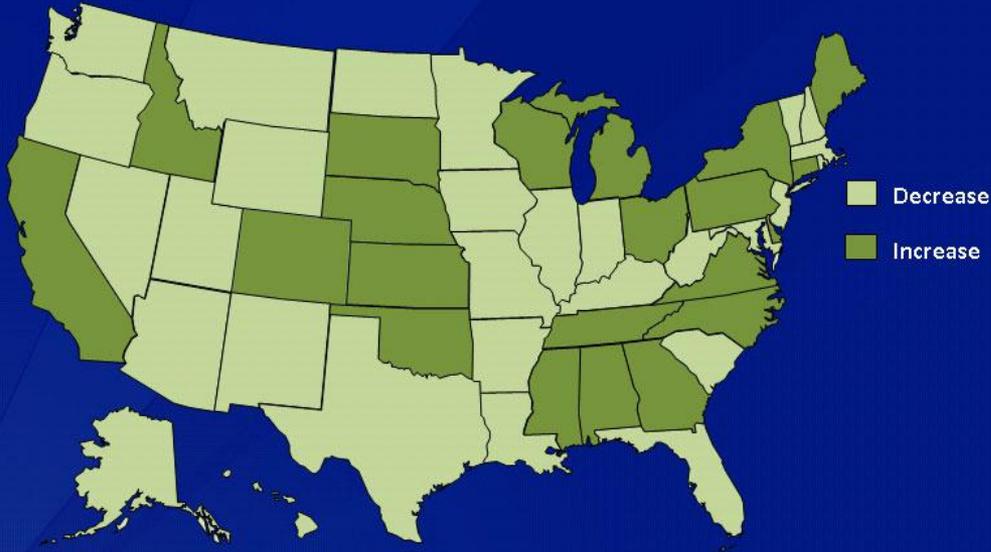
- ACIP voted on its annual vaccine recommendations for the 2015-2016 season
- No renewal of the 2014-15 preference for use of nasal spray live attenuated influenza vaccine (LAIV) in healthy children 2-8 years of age
- Recommend that all persons 6+ months of age and older receive annual flu vaccine with no preference for LAIV or inactivated influenza vaccine (IIV)

# Pertussis: Questions and Answers

# Pertussis:

- Why are we seeing so much pertussis?
  - Does vaccine immunity wane quickly
  - Does Tdap vaccine immunity wane as fast as DTaP vaccine immunity
  - Was DTP a better vaccine than DTaP
  - Are circulating strains mutating (e.g., pertactin deficient strains)
- How are we doing with DTaP and Tdap vaccine coverage?
- Is Tdap vaccine safe in pregnancy?
- Do we need a Tdap booster?

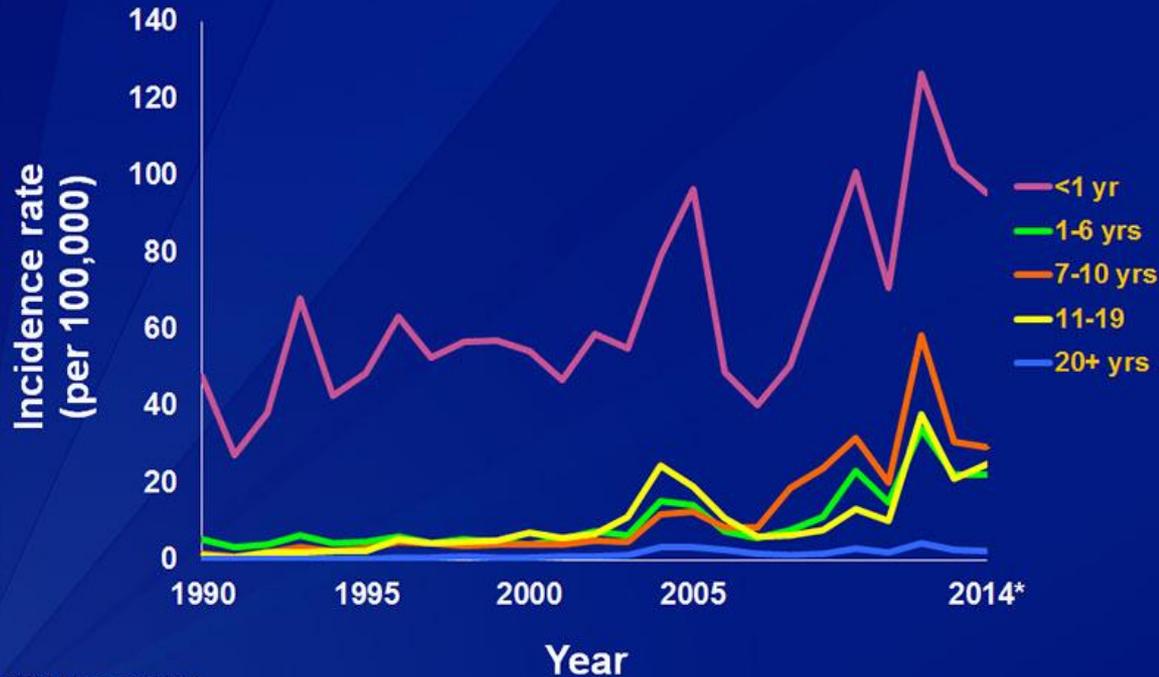
## Changes in Pertussis Reporting by State from 2013 to 2014\* †



\*Data for 2014 are provisional and subject to change. †Cases reported through Week 52 in 2013 were compared with cases reported through Week 53 in 2014.



## Reported pertussis incidence by age group: 1990-2014\*



\*2014 data are provisional.

SOURCE: CDC, National Notifiable Diseases Surveillance System and Supplemental Pertussis Surveillance System



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# Reasons for Outbreaks of Pertussis

- Pertussis is very contagious
- People with pertussis can be contagious for up to 3 weeks
- Pertussis can be difficult to recognize and diagnose
- After treatment begins, people are contagious until they have taken 5 full days of appropriate antibiotic therapy
- Immunity from prior vaccination or disease wanes over time so people become susceptible again

# DTaP Vaccine Effectiveness

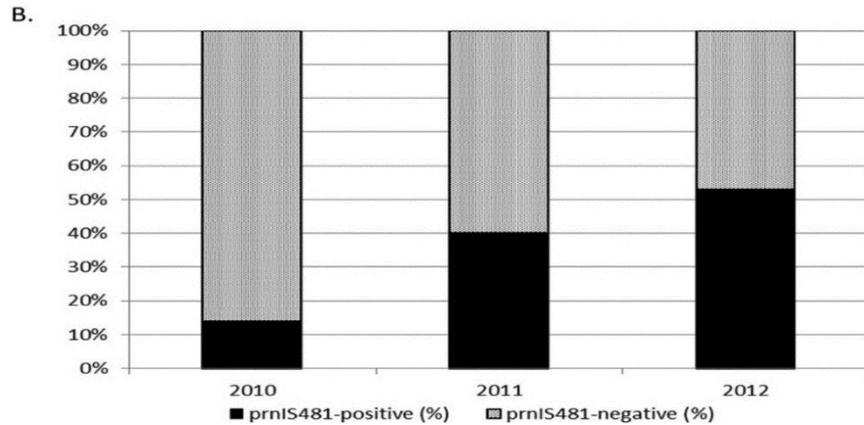
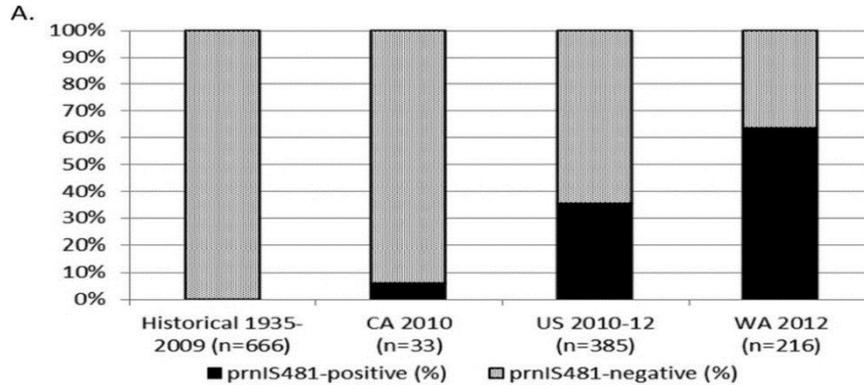
- 2010 California Pertussis Outbreak
- Evaluated association between pertussis disease and receipt of 5 DTaP doses by time since 5<sup>th</sup> DTaP dose
- Among children in 15 California counties, children with pertussis, compared with controls had:
  - Lower odds of having received the 5 dose DTaP series
  - As time since last DTaP dose increased, the odds increased, which is consistent with a progressive decrease in estimated vaccine effectiveness each year after the final dose of pertussis vaccine

# Tdap Effectiveness

Author	Year	Country	Age Range	Study design	VE (CI)
Pichichero	2005	US	11-64	Immunogenicity	85-89*
Ward	2005	US	15-65	Randomized Clinical Trial	92 (32-99)
Rank	2009	Australia	12-19	Screening	78 (61-88)
Wei	2010	St. Croix	11-18	Cohort	66 (36-91)
CDC	2011	US	11-17	Case-Control	72 (38-87)
CDC	2012	US	11-19	Cohort	69 (38-86)

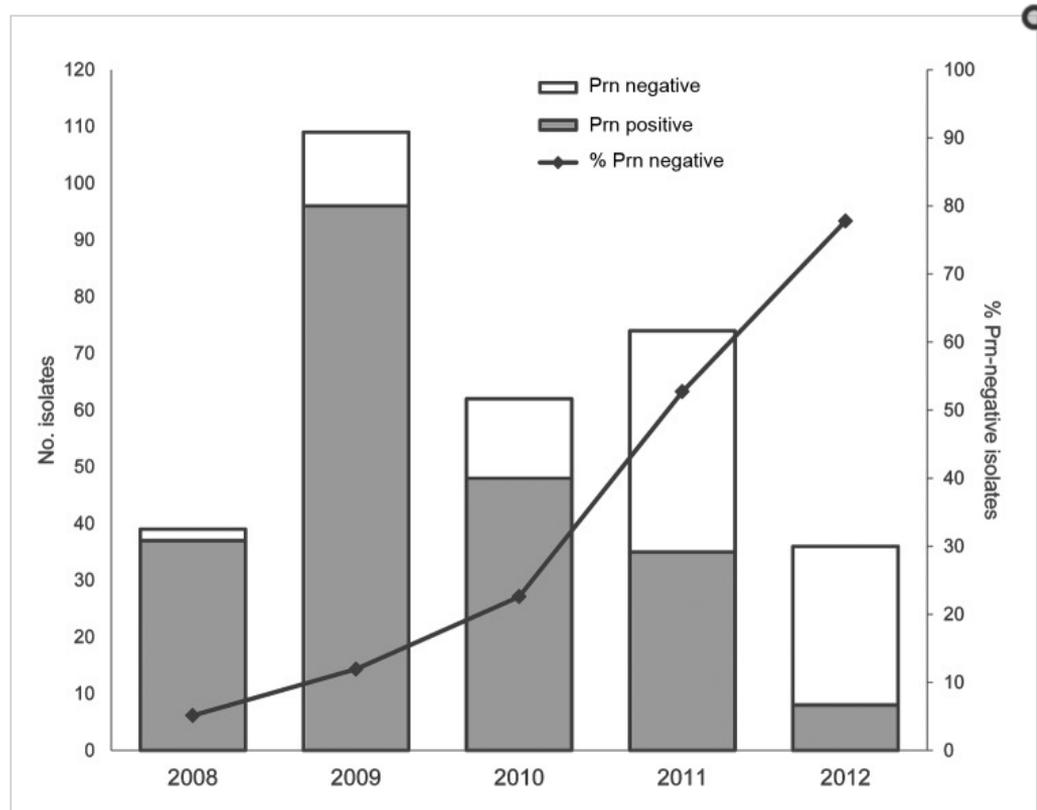
\*Gustafsson et al. NEJM 1996; 334: 349-55. Rank C, et al. Pediatr Infect Dis J. 2009 Feb;28(2):152-3. \*Schmitt et al. JAMA 1996; 275: 37-41. Wei SC, et al. CID 2010; 51(3):315-321. Pichichero et al. JAMA 2005; 293: 3003-11. Skoff et al. NIC 2011, Washington, DC. Ward JI et al. N Engl J Med. 2005 Oct 13;353(15):1555-63. Terranella et al. EIS Conference 2012, Atlanta. CDC unpublished data.



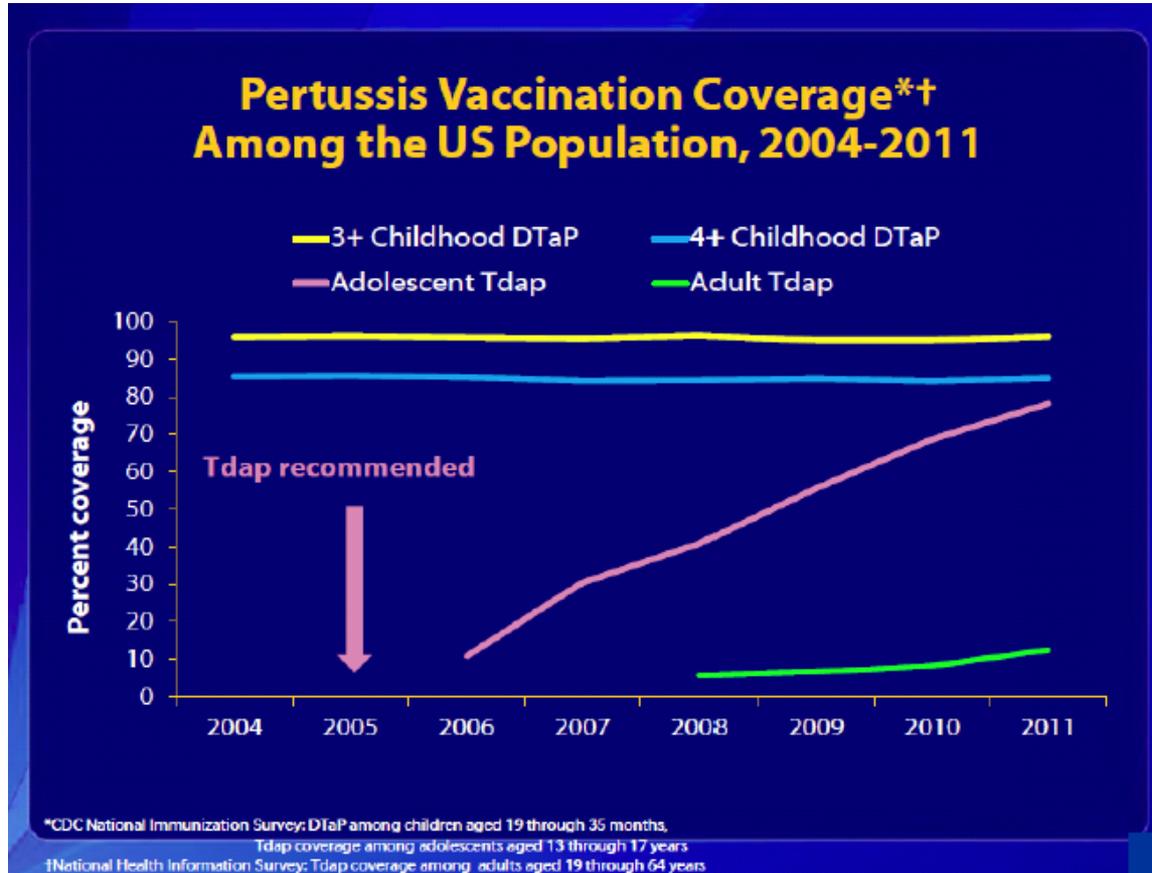


(A) Proportion of prnIS481-positive B. pertussis isolates, identified by PCR and sequencing, from the 2012 Washington outbreak, 2010-2012 U.S. collection, 2010 California outbreak, and 1935-2009 U.S. historic collection, stratified by origin and time period.  
 (B) Proportion of prnIS481-positive B. pertussis isolates from the U.S. 2010-2012 collection, stratified by year.

## Number and percentage of pertactin (Prn) negative Bordetella pertussis isolates in Australia, 2008-2012



# How are we doing with DTaP and Tdap vaccine coverage?



# Estimated vaccination coverage – children 19-35 months

## National Immunization Survey 2013

TABLE 3. Estimated vaccination coverage with selected individual vaccines and a combined vaccine series\* among children aged 19–35 months, by U.S. Department of Health and Human Services (HHS) region and state and local area – National Immunization Survey, United States, 2013<sup>†</sup>

HHS region, state and local area	MMR (≥1 dose)		DTaP (≥4 doses)		Hep B (birth) <sup>§</sup>		HepA (≥2 doses)		Rotavirus <sup>¶</sup>		Combined vaccine series*	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
<b>United States overall</b>	<b>91.9</b>	<b>(±0.9)</b>	<b>83.1</b>	<b>(±1.3)</b>	<b>74.2</b>	<b>(±1.4)**</b>	<b>54.7</b>	<b>(±1.6)</b>	<b>72.6</b>	<b>(±1.5)**</b>	<b>70.4</b>	<b>(±1.5)</b>
<b>HHS Region I</b>	<b>94.2</b>	<b>(±2.2)</b>	<b>90.9</b>	<b>(±2.5)</b>	<b>74.6</b>	<b>(±3.7)</b>	<b>63.2</b>	<b>(±4.4)</b>	<b>81.4</b>	<b>(±3.5)</b>	<b>77.1</b>	<b>(±3.7)</b>
Connecticut	91.4	(±5.4)	88.0	(±5.9)	75.2	(±7.5)	72.1	(±7.5)	81.1	(±6.3)	78.2	(±6.8)
Maine	91.0	(±4.5)	87.9	(±5.7)	68.9	(±7.4)	57.4	(±7.7)	72.0	(±7.1)	68.0	(±7.5)
Massachusetts	95.8	(±3.6)	93.3	(±4.0)	78.0	(±6.4)	62.7	(±8.0)	84.0	(±6.3)	78.5	(±6.6)
New Hampshire	96.3	(±2.6)	91.3	(±3.9)	74.1	(±6.5)	53.3	(±7.7)	78.2	(±6.7)	74.9	(±6.8)
Rhode Island	95.6	(±3.3)	91.6	(±4.9)	72.7	(±7.0)	60.9	(±8.2)	84.4	(±6.2)	82.1	(±6.7)**
Vermont	91.2	(±4.0)	85.8	(±5.1)	44.8	(±6.8)	48.5	(±6.8)**	73.4	(±6.1)**	66.9	(±6.6)
<b>HHS Region II</b>	<b>95.5</b>	<b>(±1.9)**</b>	<b>86.5</b>	<b>(±3.1)</b>	<b>62.5</b>	<b>(±4.2)</b>	<b>49.3</b>	<b>(±4.4)</b>	<b>72.3</b>	<b>(±4.0)**</b>	<b>72.4</b>	<b>(±4.1)**</b>
New Jersey	95.6	(±3.3)	86.4	(±5.3)	59.8	(±7.2)	51.2	(±7.4)	69.0	(±6.9)	72.9	(±6.8)
New York	95.5	(±2.3)**	86.6	(±3.8)	63.7	(±5.2)	48.4	(±5.5)	73.8	(±4.8)**	72.2	(±5.0)**
City of New York	96.8	(±2.5)**	86.0	(±5.3)	61.2	(±7.1)	49.4	(±7.3)	67.0	(±7.1)**	69.8	(±6.9)
Rest of state	94.2	(±3.9)	87.2	(±5.5)	66.3	(±7.6)	47.3	(±8.2)	80.7	(±6.4)	74.6	(±7.4)**

# Is Tdap vaccine safe in pregnancy?

Data Source	Observations
General experience with inactivated vaccines including Td	n=millions; no pregnancy related adverse events observed
Vaccine manufacturer pregnancy registries	registries n=hundreds; no signal to suggest pregnancy related adverse events
VAERS data over 6 years	n=hundreds/thousands; no signal to suggest pregnancy related adverse events
Specific clinical trials	n=hundreds; no adverse events

# Why Immunize at Every Pregnancy?

- Postpartum vaccination is a suboptimal strategy
- Vaccination during pregnancy is acceptably safe
- Blunting of infant immune response is not likely to be a major problem
- Pregnancy immunization is likely to prevent early infant cases of pertussis

# Two Goals for Maternal Tdap Immunization

- Protect mother from getting pertussis and transmitting it to her baby
  - Prenatal, intrapartum, post-natal maternal immunization
- Generating maternal antibody – in-utero transfer
  - Immunize at 27-36 weeks gestation
  - Re-immunize with each pregnancy

# Tdap Immunization Related to Pregnancy

- Re-immunize pregnant women every pregnancy, irrespective of the patient's prior history of receiving Tdap
- Previously unvaccinated postpartum women (who never received a dose of Tdap) should be given a dose of Tdap immediately after delivery
- Do not re-immunize women prenatally or postpartum who have already had Tdap
- Do not re-immunize the cocoon
- Do immunize the cocoon and everyone else 11 years of age and older one time with Tdap

# Cocooning Recommendation

- Adolescents and adults who have or who anticipate having close contact with an infant aged less than 12 months (e.g., parents, siblings, grandparents, childcare providers, and healthcare providers) and who previously have not received Tdap should receive a single dose of Tdap.

# Do we need a Tdap booster?

- Tdap boosters may be recommended in the future based on waning immunity
- Interval between Tdap vaccines will need to be determined
- Growing experience in Canada, Australia and other countries with a 10 year interval
- Limited experience with a 5 year interval
- Stay tuned...

## What are the recommendations for use of Tdap in children ages 7 through 10 years?

- Children ages 7 through 10 years who are not fully immunized against pertussis (i.e., did not complete a series of pertussis-containing vaccine before their seventh birthday) should receive a single dose of Tdap
- Tdap can be given to 7-10 year olds as part of the catch up schedule (i.e. if not fully immunized for pertussis)
- When Tdap is given as part of the catch up schedule, for further catch up doses for individuals >7 years old, Td should be used (i.e. Tdap is only given as a single dose at present)

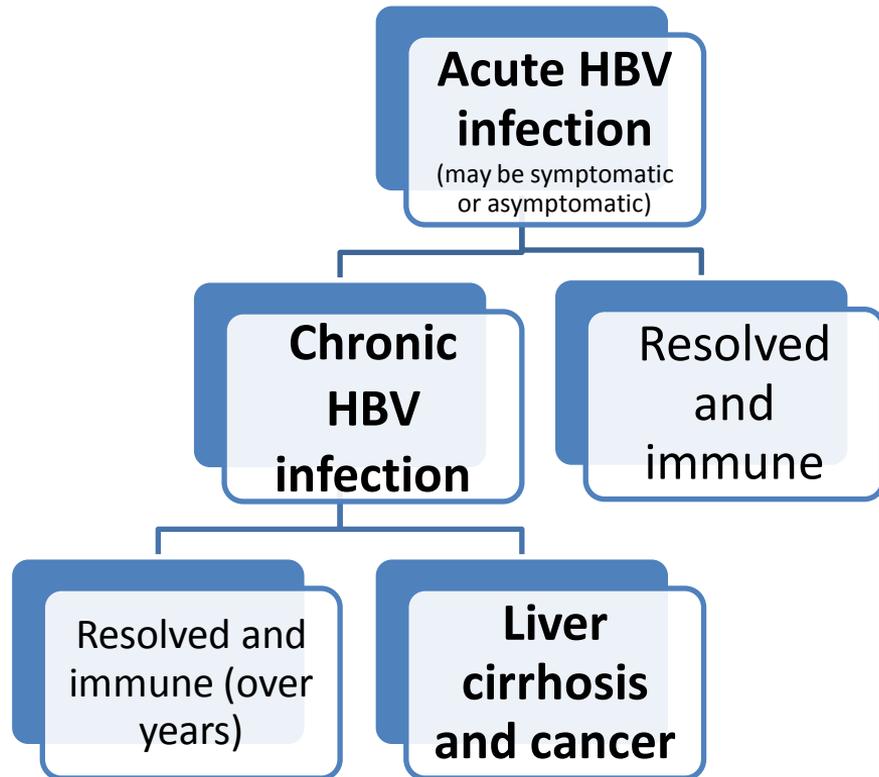
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6001a4.htm>



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# Give birth to the end of Hepatitis B: Birth dose initiative

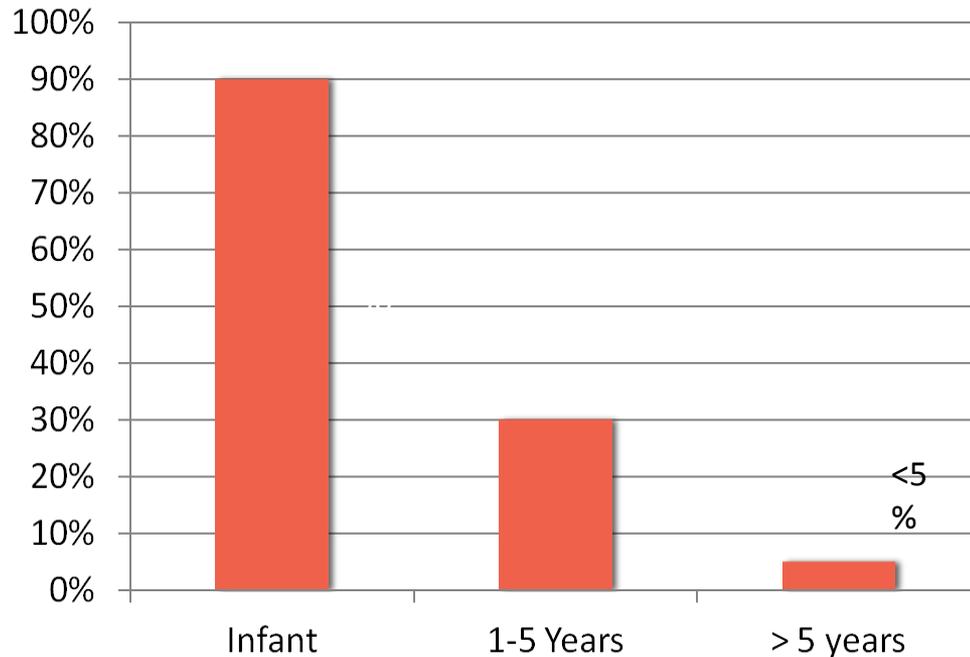
# Natural history of hepatitis B virus (HBV) infection



HBV can cause acute or chronic infection.

Chronic HBV infection can lead to liver failure and liver cancer.

# Risk of developing chronic Hepatitis B by age at infection



# Why a birth dose?

- The primary goal of administering hepatitis B vaccine at birth is to protect babies from chronic HBV infection, which can lead to liver failure and liver cancer
  - Most morbidity and mortality from HBV-related liver failure and liver cancer occurs in people with chronic HBV infection
  - Treatment can decrease liver damage and the chance of liver cancer, but there is no cure
  - Many people with chronic HBV are not aware of their infection and can unknowingly spread the infection

# Effectiveness of hepatitis B vaccine starting at birth

- Post-exposure prophylaxis of infants born to infected mothers is 85–95% effective when started within 12 hours of birth
  - Post-exposure prophylaxis: hepatitis B vaccine + hepatitis B immune globulin (HBIG) at birth, completion of hepatitis B vaccine series, post-vaccination testing for outcomes
  - Timing of the birth dose is critical to achieve the highest rates of protection
- Hepatitis B vaccination starting at birth even without HBIG will prevent transmission of the infection in 70–95% of infants born to chronically infected mothers

# The Opportunity

- Hospitals have an opportunity to protect the future health of infants born in their facilities – you, as the pediatrician, can recommend the importance of this practice
  - Each year in the U.S., more than 24,000 infants are born to mothers who are infected with HBV - not all of their infants receive post-exposure prophylaxis
  - Some infants are first exposed shortly after birth to HBV by household members or caretakers who have chronic HBV infection
- Most infants can be protected if hospitals routinely provide a birth dose of hepatitis B vaccine to all newborn infants

Smith EA. Pediatrics 2012;129:609-616; MMWR 2005;57(RR-8):1-20



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# The Problem

- Many infants in the United States are not receiving the birth dose of hepatitis B vaccine
  - Only 74.2% of U.S. infants received hepatitis B vaccine within 3 days of birth.\*
  - States' coverage rates varied between 44.8% and 88.0%.\*
- There is room for improvement in protecting newborn infants

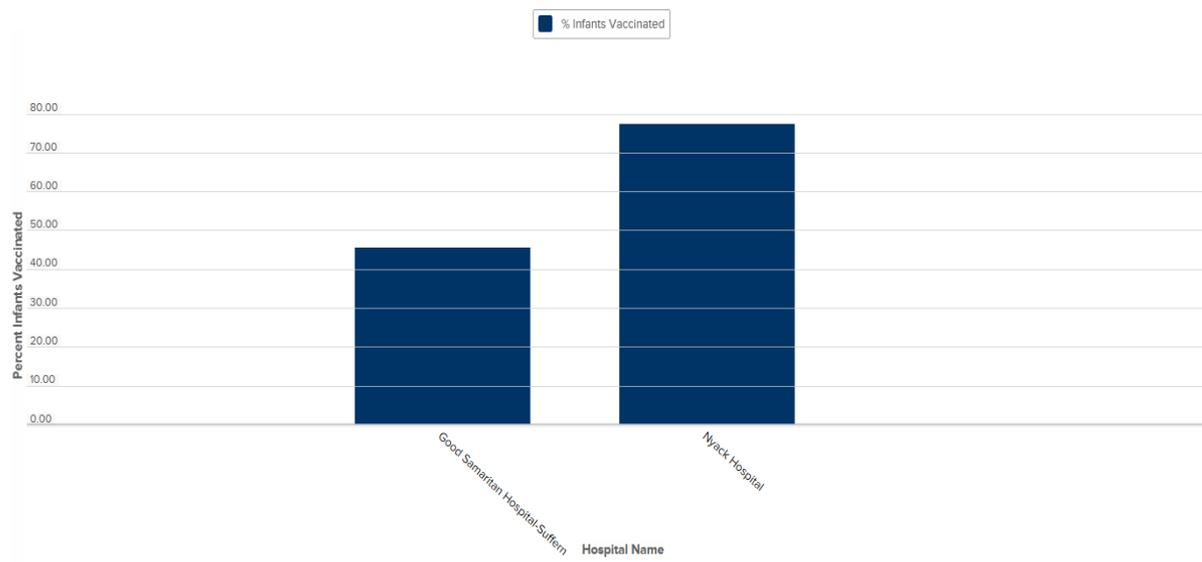
\*Reference: Data from 2013 National Immunization Survey, at [www.cdc.gov/mmwr/preview/mmwrhtml/mm6334a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6334a1.htm)



Unsaved View Save As... Revert

Based on Hepatitis B Birth Dose Percent Vaccinated by Hospital: 2014  
This chart shows the percent of infants receiving a dose of hepatitis B vaccine within 3 days of birth by hospital. The data is extracted from the New York Statewide Perinatal Data System and includes only

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Hospital Name contains

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Year is 2014

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# Why give hepatitis B vaccine to all newborns?

- Prevents mother-to-infant transmission: Prevents 70–95% of infection among infants born to HBsAg-positive women
- Prevents household transmission: Protects infants from infected family members and other caregivers
- Protects when medical errors occur: Provides a safety net to prevent perinatal HBV infection when medical errors occur

# Why is a safety net needed?

**Because medical errors happen!**

# Types of medical errors reported

- Ordering the wrong hepatitis B screening test
- Misinterpreting or an error in transcribing/keyboarding the hepatitis B test results
- Failing to communicate the HBsAg test results to or within the hospital
- Not giving Hepatitis B vaccine to infants born to mothers of unknown HBsAg status within 12 hours of birth
- Not giving prophylaxis to an infant even when the mother's HBsAg-positive status is documented

# Because of these types of errors, children are chronically infected with Hepatitis B (HBV)



**A universal hepatitis B vaccine birth dose policy helps to protect newborn infants from human error and resulting chronic HBV infection which can cause serious liver disease.**

# Hepatitis B birth dose is recommended by ACIP, AAP, AAFP, and ACOG

**“Administer monovalent  
Hep B vaccine to all newborns before  
hospital discharge.”**

**Reference:** MMWR Supplement. February 1, 2013. Vol. 62.  
Advisory Committee on Immunization Practices (ACIP) Recommended Immunization Schedules  
for Persons Aged 0 Through 18 Years and Adults Aged 19 Years and Older—United States, 2013.  
[www.cdc.gov/mmwr/pdf/other/su6201.pdf](http://www.cdc.gov/mmwr/pdf/other/su6201.pdf)

# Public Health Law § 2164: Amendments to Subpart 66-1 School Immunization Requirements

# School Requirements: Amendments to Subpart 66-1

- Note: revised regulations are currently in the comment period and not finalized

# Presentation Objectives

- Describe the rationale for updating school entry requirements
- Give a summary of the regulation update and how it will impact immunization requirements
- Describe where educational materials can be accessed
- Describe who to contact for further information

# Rationale for Updating Regulations

- Ensure children entering kindergarten or elementary school receive an adequate number of required immunizations
- Clarify acceptable certificates of immunization

# Changes to Kindergarten and Elementary School Entrance Immunization Requirements

- 2 doses of measles and mumps vaccines and 1 dose of rubella vaccine (MMR)
- Range of 4 through 6 years of age no longer allowed

# Changes to Kindergarten and Elementary School Entrance Immunization Requirements

- 5 doses of diphtheria and tetanus toxoid-containing vaccine and acellular pertussis vaccine (DTaP)
  - If 4<sup>th</sup> dose received at 4 years of age or older, only 4 doses required
- Range of 4 through 6 years of age for 5<sup>th</sup> dose no longer allowed

# Changes to Kindergarten and Elementary School Entrance Immunization Requirements

- 4 doses of poliomyelitis vaccine (IPV)
  - If 3rd dose received at 4 years of age or older, only 3 doses required
- Range of 4 through 6 years of age for 4<sup>th</sup> dose no longer allowed

# Changes to Grades 8 through 12 School Entrance Immunization Requirements

- Children enrolling in grades 8 through 12 in the 2015-16 school year deemed in compliance through graduation
  - Must have met immunization requirements of regulations in effect prior to July 1, 2014

# Certificate of Immunization

- Health care practitioner record
  - Signed by practitioner licensed in New York State
- Records acceptable without a signature
  - NYSIIS or City Immunization Registry (CIR) record
  - Official registry record from another state
  - Electronic health record
  - Official record from a foreign nation

# Planned Educational Materials

- Planned educational materials
  - Frequently Asked Questions
  - Revised NYS Immunization Requirements for School Entrance and Attendance (#2370)
  - Letter to schools
  - Letter to providers
- Materials to be posted at NYSDOH Child Care Programs, Schools and Post-secondary Institutions

[www.health.ny.gov/prevention/immunization/schools](http://www.health.ny.gov/prevention/immunization/schools)



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# School Unit Contact Information

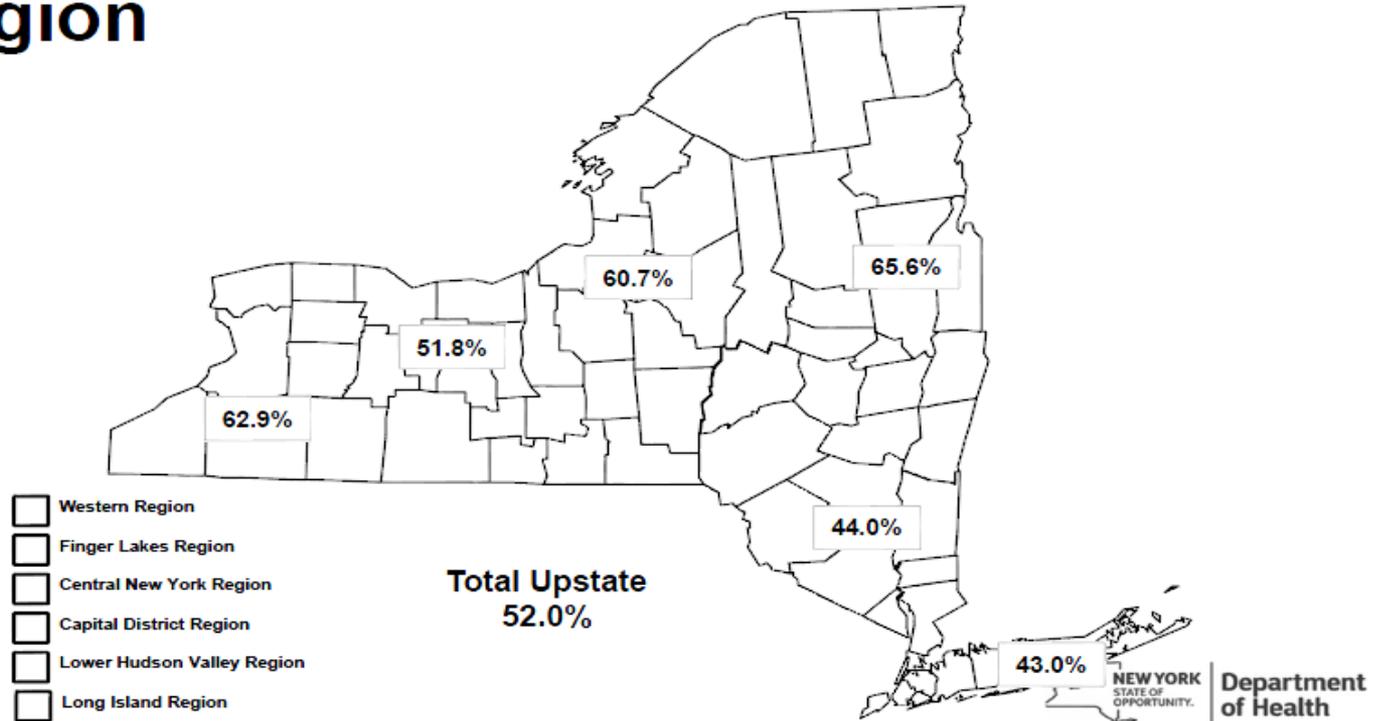
- NYSDOH, Bureau of Immunization – School Unit
  - (518) 474-1944 or [osas@health.ny.gov](mailto:osas@health.ny.gov)
- Schools in New York City (347) 396-2433

# New York State Immunization Information System: NYSIIS Update

# Children Between 19 and 35 months of age in NYSIIS who meet the 4:3:1:3:3:1:4 benchmark

3

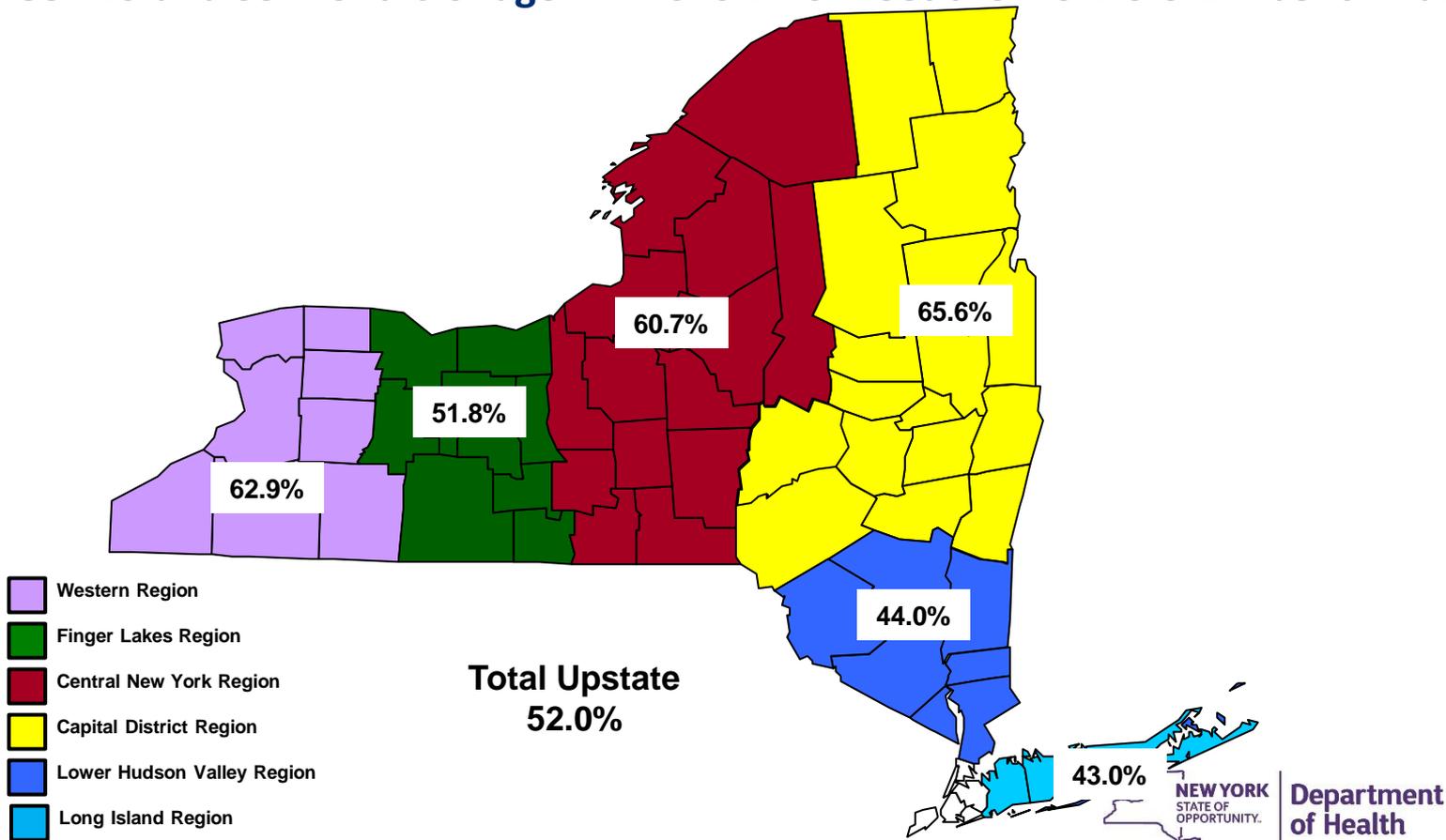
## By Region



[Clients without first name & birth\_load\_ind='N' in MYS were excluded]

Updated 02/18/2015

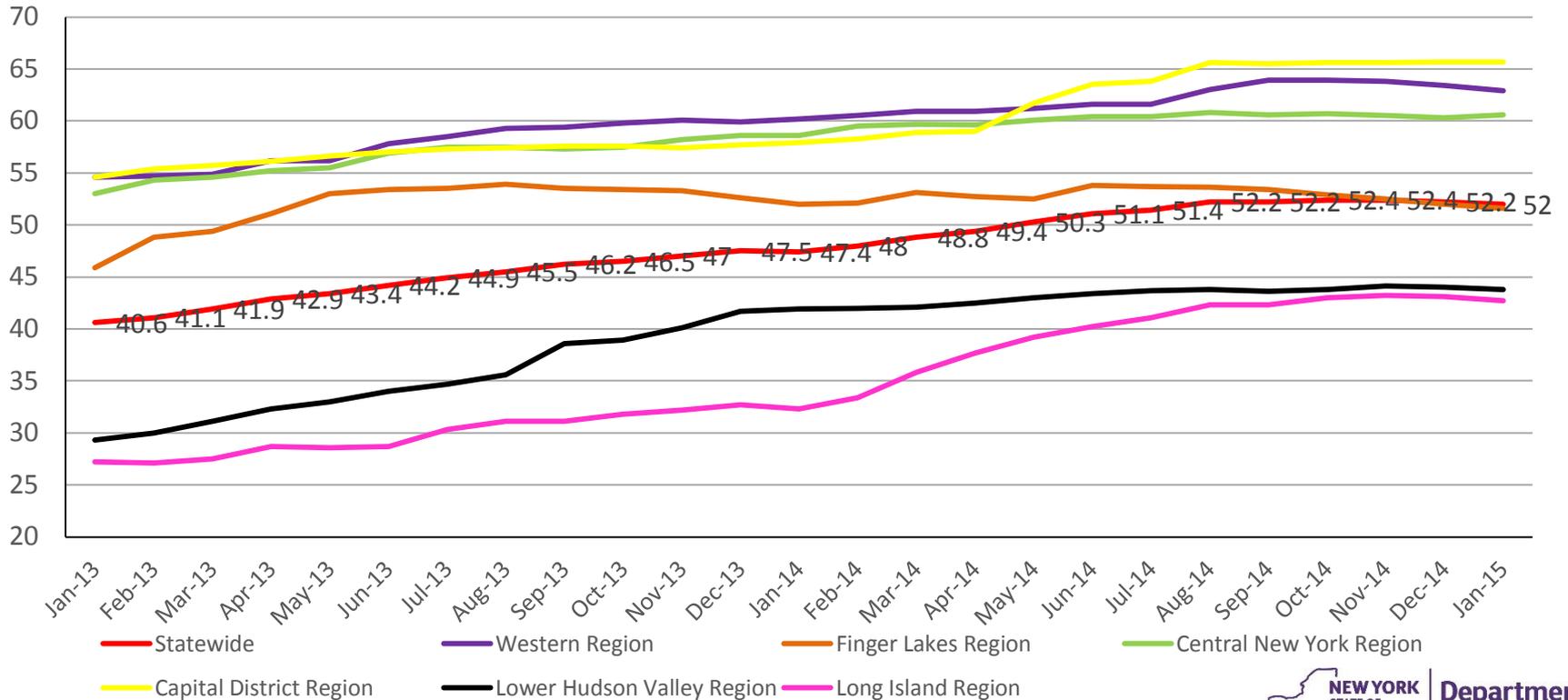
# Children Between 19 and 35 months of age in NYSIS who meet the 4:3:1:3:3:1:4 benchmark



[Clients without first name & birth\_load\_ind='N' in NYS were excluded]

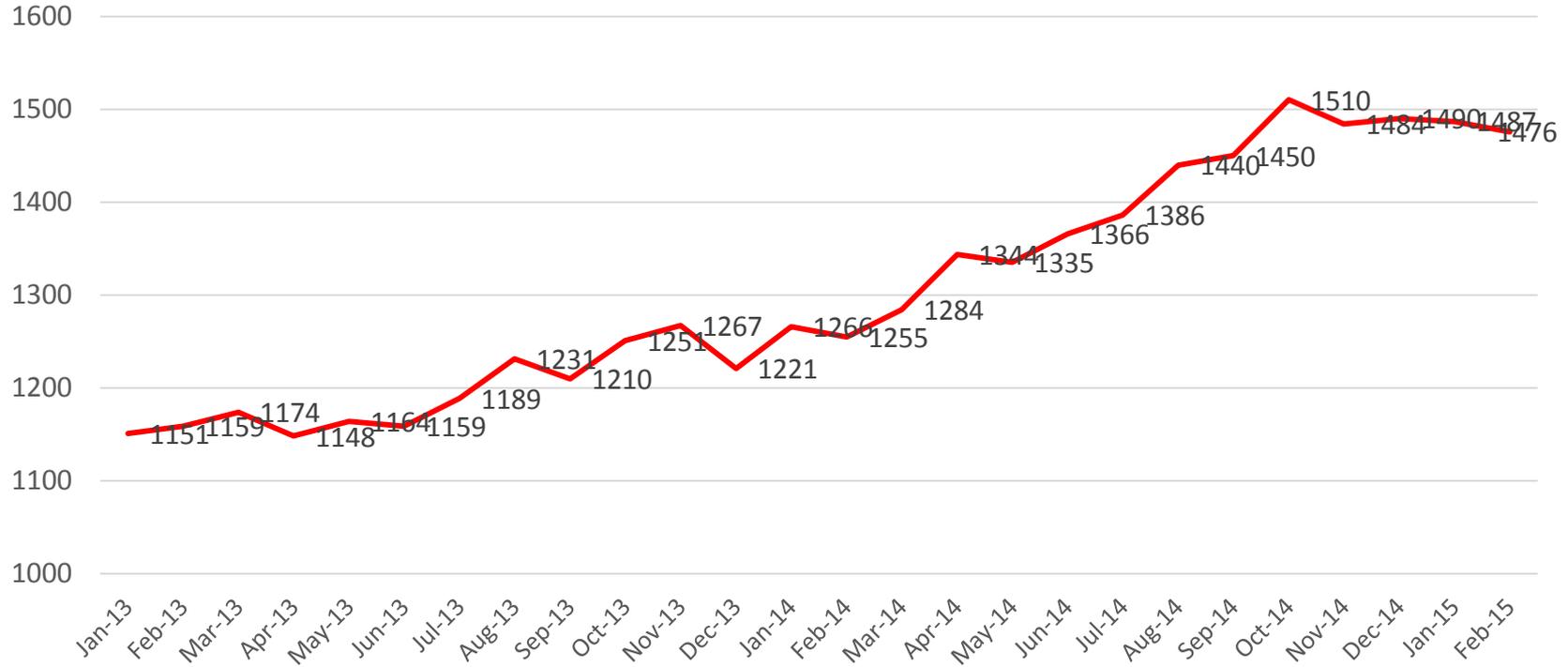
Updated 02/18/2015

# By Region Over Time

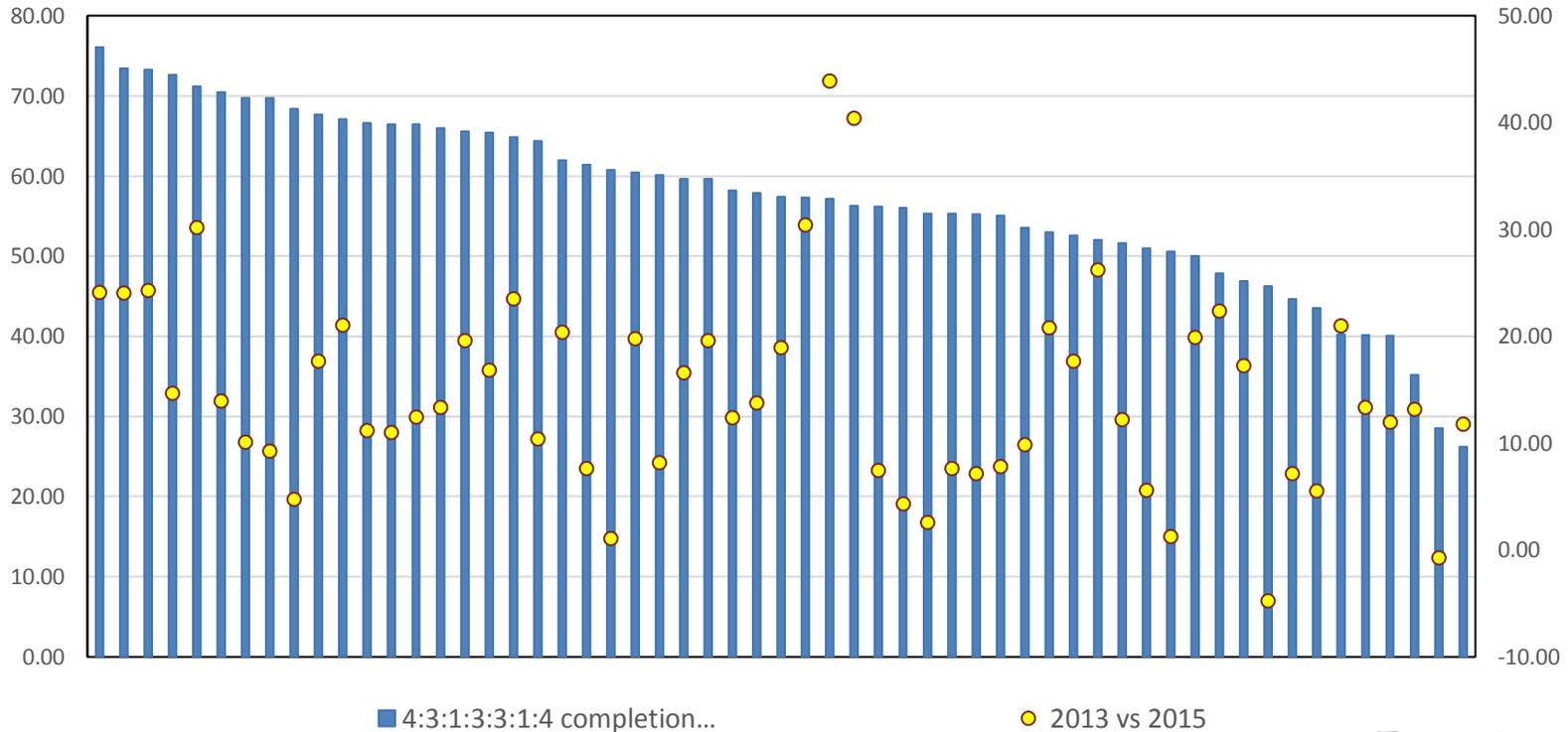


\*Clients without first name & birth\_load\_ind='N' in NYS were excluded

# Count of Provider Reporting by Month



# Rates and Percentage Change Across 57 NYS Counties



# Challenges that Impact NYSIIS Immunization Rates

- Compliance
- Incomplete/inaccurate reporting; especially histories
- Under and un-vaccinated children
- Data Quality

# Improvement Strategies

- Build and promote new functionality in NYSIIS
- Work closely with the VFC program
- Compliance activities
- Promote meaningful use
- New grant initiatives
- School nurses

Current and ongoing efforts....website updates and outreach to inactive organizations

# Vaccines for Children: VFC Update

# As of January 1, 2015...

- VFC providers are required to use the NYSIIS inventory module
- A complete and current VFC dose inventory is required to be in NYSIIS at the time of ordering
- Providers must call the Vaccine Program Call Center and request that the inventory module be activated for ordering

# Doses Administered

- Faxed VFC doses “Administered Reports” are no longer accepted
- Doses administered will ONLY be accepted electronically through NYSIIS
  - The report is generated through NYSIIS and retrieved by the Vaccine Program
  - This means you no longer have to fax this report to the Vaccine Program
  - The information needed should already be in NYSIIS if you are up-to-date in reporting and have been entering the correct VFC eligibility for patients when recording their immunizations

# Use of the temperature log module – required as of January 1, 2015

- No need to fax temperature logs to VFC
- Temperatures: must check twice daily and enter into NYSIIS within 30 days of the temperature measurement
- Providers must maintain paper logs used prior to use of the NYSIIS temperature log for a minimum of 3 years and make them available upon request
- Providers are required to have one back-up calibrated thermometer readily available
- New purchase of storage units must be stand-alone units or refrigerator compartments only of a household use and stand-alone freezer

# Questions?

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Vaccine Preventable Disease Surveillance

New York State Department of Health

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518.473.4437

# Resources

- New York State Department of Health, Immunization resources: <http://www.health.ny.gov/prevention/immunization/>
- Centers for Disease Control and Prevention: <http://www.cdc.gov/vaccines/>
- ACIP meeting: [www.cdc.gov/vaccines/acip/meetings/meetings-info.html](http://www.cdc.gov/vaccines/acip/meetings/meetings-info.html)
- Travel vaccine information, including destination-specific information, is available on the CDC website at <http://wwwnc.cdc.gov/travel>.
- For additional questions or comments, please contact the New York State Department of Health Bureau of Immunization at 518-473-4437 or email [immunize@health.ny.gov](mailto:immunize@health.ny.gov).



# Resources

- Hepatitis B Birth Dose: [www.immunize.org/protect-newborns](http://www.immunize.org/protect-newborns)
- Questions about *Give birth to the end of HepB*: [birthdose@immunize.org](mailto:birthdose@immunize.org)
- For VFC questions go to: [nyvfc@health.ny.gov](mailto:nyvfc@health.ny.gov)
- For NYSIIS questions go to: [NYSIIS@health.ny.gov](mailto:NYSIIS@health.ny.gov)
- Ask the Experts: <http://www.immunize.org/askexperts/>
- Immunization Action Coalition: <http://www.immunize.org/>