Immunization Update

Indian Health Services
Nurse Consultants
April 23, 2012
Overview

- ACIP Recommendations: Hepatitis B vaccine for adults with diabetes
- ACIP Recommendations: Quadrivalent HPV vaccine for males
- Update on ACIP MCV4 Recommendations
- Update on ACIP Tdap Recommendations
- PCV13 Reminder
- Pertussis Booster Requirement Update
- VFC Overview
- CAIR
Adults with Diabetes and Hepatitis B
Since 1996, 25 of 29 outbreaks of hepatitis B infection in long-term care facilities were reported to CDC involving adults with diabetes receiving assisted blood glucose monitoring.

Infection control initiatives alone have not been successful in halting outbreaks.
Hepatitis B Vaccine Safety and Efficacy

- Hepatitis B vaccination appears safe at any age but is less efficacious and less-cost effective among older adults.
ACIP Recommendations: Hepatitis B Vaccine and Adults with Diabetes

- Hepatitis B vaccination should be administered to unvaccinated adults with diabetes who are aged 19 through 59 years of age.
  - Complete series as soon as feasible after diagnosis.
- Hepatitis B vaccination may be administered to unvaccinated adults with diabetes who are ≥ 60 years of age at the discretion of the treating clinician.
  - Assessing their risk and the likelihood of an adequate immune response to vaccination

MMWR. December 23, 2011; 60 (50):1709-1711.
http://www.cdc.gov/mmwr/pdf/wk/mm6050.pdf
HPV Vaccine
Updated ACIP Recommendations: Quadrivalent HPV Vaccine (HPV4) for Males

• ACIP recommends routine vaccination of males aged 11 or 12 years with a 3 dose series of HPV4.
  ▪ The vaccination series can be started beginning at age 9 years.

MMWR. December 23, 2011; 60 (50):1705-1708.
http://www.cdc.gov/mmwr/pdf/wk/mm6050.pdf
Updated ACIP Recommendations: Quadrivalent HPV Vaccine for Males

- HPV4 vaccination is recommended for males aged 13 through 21 years who have not been vaccinated previously or who have not completed the 3-dose series.
- HPV4 vaccination is recommended for men who have sex with men (MSM) and immunocompromised males who are aged 22 through 26 years who haven’t been vaccinated previously or who have not completed the 3-dose series.
- Other males aged 22 through 26 years may also be vaccinated.
## VFC Eligibility: HPV Vaccine

- For VFC-eligible patients:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Bivalent HPV Vaccine</th>
<th>Quadrivalent HPV Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>9 through 18 years</td>
<td>Eligible</td>
<td>Eligible</td>
</tr>
<tr>
<td>Males</td>
<td>9 through 18 years</td>
<td>Not Eligible</td>
<td>Eligible</td>
</tr>
</tbody>
</table>
Meningococcal Conjugate Vaccine (MCV4)
ACIP Recommendations:
Meningococcal Conjugate Vaccine Booster

- Routine immunization age at 11 – 12 years
- Booster dose recommended at age 16 years for those who received a dose at age 11 through 12 years
  - If vaccinated at age 13 through 15 years, they should receive a one-time booster at age 16 through 18 years
  - Routine vaccination of healthy (non-high risk) persons is not recommended after age 21 years

http://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf
http://www.cdc.gov/mmwr/pdf/wk/mm6040.pdf
ACIP Recommendations: Meningococcal Conjugate Vaccine

- MCV4 is recommended for high-risk persons ages 9 months through 55 years
- Two-Dose MCV4 Primary Series is recommended for persons:
  - 9 through 23 months of age
  - Who have functional or anatomic asplenia, persistent complement deficiency or who are HIV positive (with an indication for MCV4 vaccination)

http://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf
ACIP Updated Tdap Recommendations
ACIP Recommendations: Tdap

• Adolescents should routinely receive a dose of Tdap at age 11-12 years.
• All adolescents through age 18 years should receive a dose of Tdap if they have not yet received Tdap.
ACIP Recommendations: Tdap

- Children age 7 through 10 years who are not fully vaccinated against pertussis and who don’t have a contraindication, should receive Tdap for pertussis protection.

http://www.cdc.gov/mmwr/pdf/wk/mm6001.pdf
ACIP Recommendations: Tdap

- For adults aged 19 years and older who previously have not received a dose of Tdap, a single dose of Tdap should be given.
  - Includes persons 65 years and older
- Tdap should be administered regardless of interval since the last tetanus or diphtheria toxoid-containing vaccine.
- Adults should receive a Tdap dose if the dose is recommended and no record of previous administration exists.
ACIP Recommendations: Tdap

- Pregnant females who have not previously received Tdap should receive a dose of Tdap, preferably after 20 weeks gestation.
  - If not administered during pregnancy, Tdap can be administered immediately postpartum.
- Tdap may be given at any time after a prior dose of Td to provide pertussis protection. There is no minimum interval.

http://www.cdc.gov/mmwr/pdf/wk/mm6041.pdf
PCV13 Supplemental Dose—Don’t Forget!

- A supplemental dose of PCV13 is recommended for all children through the age of 59 months who completed a PCV7 series.

- For high risk children, a supplemental dose of PCV13 is recommended through age 71 months and may be given through age 18 years for those high-risk children that completed the PCV7 series.

- Providers should no longer have PCV7 in their refrigerators.
Adolescent Immunizations and Pertussis Booster Requirement
AB 354 Reporting Through 4/9/12
>7,700 schools (98%)
>3.0 M students (>98%)

<table>
<thead>
<tr>
<th>Status</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Tdap</td>
<td>2,997,323</td>
</tr>
<tr>
<td>Permanent Medical Exemption</td>
<td>5,087</td>
</tr>
<tr>
<td>Personal Beliefs Exemption</td>
<td>68,658</td>
</tr>
<tr>
<td>Students Enrolled</td>
<td>3,071,068</td>
</tr>
</tbody>
</table>
Planning and Implementing Requirement: Lessons Learned

CDPH Survey - What worked well in your efforts to meet 2011-12 Tdap requirement?

- Start early – maximum lead time
- Frequent communications to families
- Persistence, hard work
- Use of CAIR, SISs, or clear provider records
- Organization, teamwork, support from administration
Resources at www.ShotsForSchool.org
Pertussis Booster Requirement

• Starting 2012-2013 and annually thereafter, the requirement for a pertussis booster (Tdap) for all students before admission to 7th grade will continue as well as students newly admitted to 8th-12th grade from out of California.

  ▪ Remind parents and providers to immunize their 6th graders now!
  ▪ Give Tdap, HPV vaccine (males and females), meningococcal conjugate vaccine, influenza vaccine.
  ▪ Catch-up on other recommended immunizations!
    • E.g., 2 doses of varicella, 2 MMR, 3 hep B
  ▪ www.shotsforschool.org
VACCINES FOR YOUR PRETEEN

Learn about vaccines to help your preteen stay healthy through adolescence and beyond.

Vaccine recommendations for 11-12 yr olds

**Tdap** protects against tetanus, diphtheria, and pertussis (or whooping cough). Whooping cough can cause vomiting, gasping for air, and trouble sleeping. It may last for months and is very contagious. The Tdap booster helps older kids because their baby shots wear off. Tdap is required for 7th grade entry in California.

**HPV** (Human papillomavirus) vaccine is recommended for preteen girls and boys. It prevents genital warts and cancer, including cervical cancer, later in life. HPV vaccine works best when given years before the start of sexual activity, which can spread HPV infection. The vaccine is given in three injections over six months.

**Flu** (Influenza) usually causes fever, chills and body aches that is different from a cold. Even healthy young people can get the flu. Children with chronic conditions like asthma or diabetes are especially at-risk for pneumonia or even death. Kids need flu vaccine every year.

**Meningococcal** protects against the devastating bacterial infection meningococcal meningitis. The infection can cause brain damage, arm and leg amputations, kidney damage, and death. It is more common among teens and young adults who are in close contact with others at home or school. The vaccine protects with one shot now and a booster at age 16.

**Chicken pox** (varicella) is more than just an itchy rash. It can cause pneumonia or serious skin infections. Many kids don’t get a recommended second booster shot. Ask the doctor if your preteen needs a chicken pox booster.

Ask the Doctor

- What vaccines does my child need today?
- Does my child need any other catch-up shots (like MMR)?
- How are preteen shots different from baby shots?
- What age should my child get the vaccines?
- Can all shots be done in the same appointment?
- Are there any side effects from these vaccines?
- How long does the protection last?
- Will any booster shots be needed later on?
- Which vaccines are required for school?
- What documentation do I need?
- Is there any cost for preteen shots?
- Can I get an updated shot record after this visit?

Your Questions

GetImmunized.ca.org  IMM-1054 (1/11)
California Department of Public Health
Immunization Branch • 850 Marina Bay Parkway • Richmond CA 94804
Recommended Immunizations and Preventive Health Care

• Preteen Health Visit
  ▪ Visit early during 6th grade school year
    • Avoid a back-to-school rush during summertime
    • Can provide early documentation to schools
  ▪ All recommended immunizations—Tdap, MCV4, HPV, influenza
  ▪ Catch-up immunizations—2 varicella, 3 hep B, 2 MMR, etc.
  ▪ Recommended preventive care
VFC Update
California’s VFC Program

- Represents approximately 10% of the nation’s enrolled providers and VFC-eligible children
  - ~4,000 public and private sites are currently enrolled
  - 4.8 M VFC eligible children (close to 50% of CA’s 0-18 year olds)

- Types of providers include Indian Health Clinics, Pediatric practices, Family practices, Community and Rural Health Centers, Colleges and Universities, Correctional Youth Facilities, Hospitals, Women’s Health Clinics and Planned Parenthoods,

- Annual vaccine distribution is 10M doses, costing over $400M
Vaccine Ordering

• The VFC Program includes all ACIP-recommended vaccines

• CA makes all product, brands and presentations available to enrolled providers.

• Providers must order “responsibly”:
  ▪ in-line with VFC populations served by the practice
  ▪ and according to their order frequency-No hoarding!
  ▪ providers are responsible for all doses of VFC-supplied vaccines
  ▪ are financially responsible for doses lost due to negligence. YES-Expiration is negligence.

• Providers must account for all doses of VFC-supplied vaccines each time they submit a vaccine order

• We recently launched online vaccine ordering for providers: MyVFCVaccines
Your Vaccine Order Confirmation

Thank you for your recent VFC Vaccine Request. Your order has been processed and submitted to VFC’s National vaccine distributor. Expect delivery within 10 business days.

Clinic Name: CADRIN E GILL MD
VFC PIN: 010026
Order Processing Date: 22-Feb-10

<table>
<thead>
<tr>
<th>Doses</th>
<th>Vaccine</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>MMR</td>
<td>&quot;Measles, Mumps, Rubella - MMR&quot;</td>
</tr>
<tr>
<td>10</td>
<td>PNU ?</td>
<td>10-PACK 1 DOSE SYRINGES</td>
</tr>
<tr>
<td>20</td>
<td>HIB</td>
<td>&quot;Haemophilus Influenzae, Type B&quot;</td>
</tr>
<tr>
<td>30</td>
<td>TD</td>
<td>10-PACK 1-DOSE VIALS</td>
</tr>
<tr>
<td>40</td>
<td>VAR</td>
<td>Varicella - Varsax</td>
</tr>
<tr>
<td>50</td>
<td>DTAP</td>
<td>DTAP-INFANRIX 10 X 1 DOSE VIAL</td>
</tr>
<tr>
<td>50</td>
<td>OPP</td>
<td>INACT. POLIO-POL-10 DOSE VIAL</td>
</tr>
<tr>
<td>50</td>
<td>MCV4</td>
<td>MENINGOCOCCAL CONJUGATE</td>
</tr>
<tr>
<td>50</td>
<td>ROTA</td>
<td>10-PACK IML TUBES</td>
</tr>
</tbody>
</table>
Provider Communications

- The program has several formats for communicating different types of information with enrolled providers and clinic staff

- **Program letters**
  - are the formal format for communicating critical program changes, requirements, new vaccines, recommendations, etc.
  - **Target audience:** Providers

- **FAX Blasts & Email Broadcasts**
  - are used to alert providers of critical communications, provide quick program updates, or share monthly VFC Tips on a variety of different topics
  - **Target Audience:** Clinic managers, Vaccine Managers, MAs

- **Order Confirmation E-mails**
  - are used to confirm submission of vaccine requests, request additional information to approve an order, and alert vaccine managers of vaccine shipments once orders are approved
  - **Target Audience:** Vaccine Managers
EZIZ: One EZ Stop for lots of IZ Resources! Sign Up to Receive Updates!
VFC Provider Locator

A one-stop shop for immunization training and resources.

Find VFC Providers Near You

Enter Address or a Zip Code: 94531
Search Within: 5 miles

Kaiser Permanente Antioch Medical Center (0.7 miles).
Phone: (925) 813-6126
5601 Deer Valley Rd, Antioch CA 94531
Get Directions

Myung B. Cho MD (1.8 miles).
Phone: (925) 756-3451
4053 Lone Tree Way Ste 200 Antioch CA 94531
Get Directions

Delta Pediatrics / Abbas Mahdavi MD (2.3 miles).
Phone: (925) 754-7200
3893 Lone Tree Way Suite 211 Antioch CA 94509
Get Directions

Gene Zimmerman MD (2.4 miles).
Phone: (925) 754-5151
3737 Lone Tree Way Antioch CA 94509
Get Directions

Diablo Valley Pediatrics Antioch (2.4 miles).
Phone: (925) 754-7978
3737 A Lone Tree Way Antioch CA 94509
Get Directions

Done
EZIZ Lessons: Administering, Storing and Monitoring Vaccines!

Have you completed these lessons?
California DPH IZ Branch, VFC Field Rep Regions

Northern California
Karen Turner, Supervisor
Souk Mouanoutoua
Adela Martinez
Isidro Fragoza

Central California
Cindy Klaisle, Supervisor
AJ Ramsey
Laurie Crowe

Southern California
John Hetsko, Supervisor
June Howe
Colleen Mallen
Nia Price

Bay Area
Steve Vantine, Supervisor
Christina Sadorra
Augustine Yoo
Brenton Louie

Los Angeles County
John Shieh, Supervisor
Joey Chin
Carol Connell
John Paras
Vyla Chan
Erik Smith
EZIZ: Contacts for VFC

Contact VFC
Phone: 1-877-243-8822
Business hours: 8:30-5
Fax: 1-877-329-9832
- Find a VFC field representative in your area
- Find other VFC provider offices in your area
- Send us your comments at eziz@cdph.ca.gov

VFC Memos
- Influenza Update 2012/03/14
- Vaccine Tips: CDC’s 1st Online National Immunization Conference March 2012
- Recommended ACIP Childhood and Adolescent Immunizations Schedules, 2012 Reminder, Ongoing Pertussis (Tdap) School Requirements for 7th Grade Entry; Vaccine Ordering 2012/03/02
- Vaccine Tips: Preteen Vaccine Week February 2012
- Vaccine Tips: Features of Online Ordering and VFC Office Closure Notice January 2012
- Quadrivalent HPV Vaccine (HPV4) Now Routinely Recommended for Males 2012/01/23
- REMINDER: VFC Recertification due January 31, 2012 2012/01/20
- Influenza Supply Update 2012/01/20
- Also see: MedImmune’s FluMist® 2011-2012 replacement program
- Tetanus Toxoid, Reduced Diphtheria Toxoid, and Acellular Pertussis Vaccine 2012/01/05
- Introducing VFC’s Online Ordering System and “MyVFCVaccines” 11/14/2011
- Also see: MyVFCVaccines How-to Guide
- Introducing MyVFCVaccines Card
- Vaccine Inventory Form
California Immunization Registry (CAIR)
The California Immunization Registry System (CAIR)

- Consortium of 9 regional registries – no current data linkage
- 7 of 9 use same ‘CAIR’ software (87% of population)
CAIR – Local User Support

• Historically, user support activities, (also help desk) were funded regionally.

• 2011: ‘VFC’ model – 10 state staff work and are supervised regionally by existing senior IZ field reps.

<table>
<thead>
<tr>
<th>CA VFC Region</th>
<th>Senior IZ Field Reps</th>
<th>Local User Support Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nor Cal</td>
<td>Cindy Klaisle</td>
<td>Jennifer Toten</td>
</tr>
<tr>
<td>Bay Area</td>
<td>Steve Vantine</td>
<td>Veronica Plaza</td>
</tr>
<tr>
<td>Central Valley</td>
<td>Karen Turner</td>
<td>Yunuen Garcia</td>
</tr>
<tr>
<td>LA</td>
<td>Laurel Fowler</td>
<td>Mollie Davis</td>
</tr>
<tr>
<td>So Cal</td>
<td>John Hetsko</td>
<td>Lindsay Obello</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heather Hendry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Christa Atkins</td>
</tr>
</tbody>
</table>
www.cairweb.org

- For contacts and other information about CAIR
Questions?
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Rate 2009</th>
<th>Rate 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Tdap</td>
<td>53.1% (46.7-59.5)</td>
<td>71.2% (65.1-76.5)</td>
</tr>
<tr>
<td>1 MCV4</td>
<td>58.4% (52.0-64.6)</td>
<td>66.7% (60.5-72.3)</td>
</tr>
<tr>
<td>1 HPV</td>
<td>49.2% (39.9-58.6)</td>
<td>56.1% (46.9-64.9)</td>
</tr>
<tr>
<td>3 HPV</td>
<td>21.8% (15.8-29.4)</td>
<td>32.0% (24.5-40.6)</td>
</tr>
<tr>
<td>2 MMR</td>
<td>87.2% (82.6-90.8)</td>
<td>87.9% (82.2-92.0)</td>
</tr>
<tr>
<td>3 Hep B</td>
<td>89.6% (85.5-92.7)</td>
<td>89.0% (83.5-92.8)</td>
</tr>
<tr>
<td>VAR disease</td>
<td>40.0% (34.1-46.2)</td>
<td>40.1% (33.9-46.6)</td>
</tr>
<tr>
<td>1 VAR*</td>
<td>88.0% (81.6-92.4)</td>
<td>90.8% (84.1-94.8)</td>
</tr>
<tr>
<td>2 VAR*</td>
<td>56.9% (48.2-65.2)</td>
<td>57.3% (48.7-65.4)</td>
</tr>
<tr>
<td>Disease or 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAR</td>
<td>74.1% (68.1-79.3)</td>
<td>74.4% (68.3-79.6)</td>
</tr>
<tr>
<td>Influenza**</td>
<td></td>
<td>54.0% (47.9-60.1)</td>
</tr>
</tbody>
</table>

*If no disease

**6 mos –17 years

Interim results thru Feb 2011 (2010-2011)

http://www.cdc.gov/vaccines/stats-surv/default.htm
# National Immunization Survey Teen, Recommended Adolescent Immunization by Age (13-17 Years) -- U.S.-- 2010

<table>
<thead>
<tr>
<th></th>
<th>13 years</th>
<th>14 years</th>
<th>15 years</th>
<th>16 years</th>
<th>17 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tdap</td>
<td>73.7%</td>
<td>77.2%</td>
<td>72.0%</td>
<td>65.4%</td>
<td>54.6%</td>
</tr>
<tr>
<td></td>
<td>(71.2-76.2)</td>
<td>(74.8-79.3)</td>
<td>(69.5-74.3)</td>
<td>(62.6-68.1)</td>
<td>(51.7-57.4)</td>
</tr>
<tr>
<td>MCV4</td>
<td>63.8%</td>
<td>66.6%</td>
<td>64.0%</td>
<td>61.8%</td>
<td>57.1%</td>
</tr>
<tr>
<td></td>
<td>(61.1-66.5)</td>
<td>(64.0-69.1)</td>
<td>(61.4-66.5)</td>
<td>(58.9-64.5)</td>
<td>(54.2-60.0)</td>
</tr>
<tr>
<td>1 HPV*</td>
<td>38.9%</td>
<td>48.5%</td>
<td>51.1%</td>
<td>51.7%</td>
<td>53.1%</td>
</tr>
<tr>
<td></td>
<td>(34.9-43.1)</td>
<td>(44.5-52.6)</td>
<td>(47.0-55.3)</td>
<td>(47.8-55.7)</td>
<td>(49.1-57.1)</td>
</tr>
<tr>
<td>3 HPV*</td>
<td>23.2%</td>
<td>30.5%</td>
<td>31.9%</td>
<td>36.9%</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>(20.1-26.6)</td>
<td>(26.9-34.3)</td>
<td>(28.3-35.6)</td>
<td>(33.2-40.8)</td>
<td>(33.7-41.5)</td>
</tr>
<tr>
<td>Completed</td>
<td>64.1%</td>
<td>68.2%</td>
<td>65.6%</td>
<td>74.3%</td>
<td>74.6%</td>
</tr>
<tr>
<td>HPV series*§</td>
<td>(55.9-71.5)</td>
<td>(61.7-74.0)</td>
<td>(59.4-71.3)</td>
<td>(69.4-78.7)</td>
<td>(68.8-79.6)</td>
</tr>
</tbody>
</table>

*Females only

§For those who had at least 24 weeks between first dose and interview
Higher Seroprevalence of Past Hepatitis B Infection in Adults with Diabetes

• NHANES 1999-2010
  ▪ 60% higher seroprevalence of HepBcAg in adults with diabetes compared to those without diabetes
    • 18-59 years: Prevalence ratio 1.7 (95% CI: 1.3-2.2)
    • 60 years +: Prevalence ratio of 1.3 (95% CI: 1.0-1.6)
Acute Hepatitis B Infection

- Emerging Infection Program Study: Odds of acute hepatitis B infection among adults with diabetes who did not have other hepatitis B risk behaviors compared to those without diabetes
  - Persons 23 through 59 years:
    - 2.1 (95% CI: 1.6-2.8) odds of developing acute hepatitis B as those without diabetes*
  - Persons 60 years and older:
    - 1.5 (95% CI: 0.9-2.5) odds of developing hepatitis B as those without diabetes*

*controlling for age, race/ethnicity, gender
Cost-effectiveness

- The estimated cost per QALY saved was $75,100 by vaccinating those 20 through 59 years.
- If 10% of unvaccinated 20 through 59 year old U.S. adults with diabetes (~528,000 persons) were vaccinated with hepatitis B vaccine series now, this would be expected to prevent:
  - 4271 HBV infections
  - 467 hospitalizations
  - 256 chronic cases
  - 33 cases of hepatocellular carcinoma
  - 13 liver transplants
  - 130 deaths
## Cost-Effectiveness of Vaccinating Adults with Diabetes

<table>
<thead>
<tr>
<th>Age at Vaccination (Years)</th>
<th>Number Vaccinated with 10% Take-up</th>
<th>Cost per QALY Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>20–59</td>
<td>528,047</td>
<td>$75,094</td>
</tr>
<tr>
<td>60+</td>
<td>774,394</td>
<td>$2,760,753</td>
</tr>
<tr>
<td>All (20+)</td>
<td>1,302,441</td>
<td>$196,557</td>
</tr>
</tbody>
</table>

Data provided by RTI International, September 2011
Presented at October 2011 ACIP meeting, Atlanta, GA

California Department of Public Health, Immunization Branch
Morbidity and Mortality

- Chronic HBV infection is associated with high morbidity and mortality
  - Cirrhosis and liver cancer in ≥15% of affected adults
National Immunization Survey Teen, 13-17 Years, California and U.S.--2010

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>CA Immunization Rate</th>
<th>U.S. Immunization Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Tdap</td>
<td>71.2% (65.1-76.5)</td>
<td>68.7% (67.5-69.8)</td>
</tr>
<tr>
<td>1 MCV4</td>
<td>66.7% (60.5-72.3)</td>
<td>62.7% (61.5-63.9)</td>
</tr>
<tr>
<td>1 HPV</td>
<td>56.1% (46.9-64.9)</td>
<td>48.7% (46.9-50.5)</td>
</tr>
<tr>
<td>3 HPV</td>
<td>32.0% (24.5-40.6)</td>
<td>32.0% (30.3-33.6)</td>
</tr>
<tr>
<td>2 MMR</td>
<td>87.9% (82.2-92.0)</td>
<td>90.5% (89.6-91.3)</td>
</tr>
<tr>
<td>3 Hep B</td>
<td>89.0% (83.5-92.8)</td>
<td>91.6% (90.8-92.4)</td>
</tr>
<tr>
<td>VAR disease</td>
<td>40.1% (33.9-46.6)</td>
<td>44.7% (43.5-46.0)</td>
</tr>
<tr>
<td>1 VAR*</td>
<td>90.8% (84.1-94.8)</td>
<td>90.5% (89.4-91.5)</td>
</tr>
<tr>
<td>2 VAR*</td>
<td>57.3% (48.7-65.4)</td>
<td>58.1% (56.4-59.8)</td>
</tr>
<tr>
<td>Disease or 2 VAR</td>
<td>74.4% (68.3-79.6)</td>
<td>76.8% (75.7-77.9)</td>
</tr>
<tr>
<td>Influenza**</td>
<td>54.0% (47.9-60.1)</td>
<td>49.0% (47.7-50.3)</td>
</tr>
</tbody>
</table>

*If no disease

**6 mos –17 years
Interim results thru Feb 2011
Preteen Vaccine Week
February 12-18, 2012
CDPH Activities for Preteen Vaccine Week

- 2012 Preteen Kit is now available on CDPH website
- PVW Monthly Support Calls
- Partners: CIC, CDE, California Adolescent Health Collaborative, the California School Health Centers Association, CA PTA, and the California School Nurses Organization
- Contact Rebeca Boyte if questions: Rebeca.boyte@cdph.ca.gov
### CAIR – Current Statistics*

<table>
<thead>
<tr>
<th>Measure</th>
<th>0-5 yrs</th>
<th>6-18 yrs</th>
<th>19+ yrs</th>
<th>All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA Population</td>
<td>3,272,863</td>
<td>7,292,336</td>
<td>27,938,390</td>
<td>38,503,589</td>
</tr>
<tr>
<td>Patients In</td>
<td>2,490,510</td>
<td>5,238,232</td>
<td>4,458,918</td>
<td>12,187,660</td>
</tr>
<tr>
<td>% of Pop. In</td>
<td>76.1%</td>
<td>71.8%</td>
<td>16.0%</td>
<td>31.7%</td>
</tr>
<tr>
<td>Patients w/ &gt;2 doses</td>
<td>1,748,637</td>
<td>3,824,220</td>
<td>2,039,398</td>
<td>7,612,255</td>
</tr>
<tr>
<td>% of Pop. w/ &gt;2 doses</td>
<td>53.4%</td>
<td>52.4%</td>
<td>7.3%</td>
<td>19.8%</td>
</tr>
<tr>
<td>Vaccine Doses</td>
<td>30,724,225</td>
<td>76,065,623</td>
<td>21,344,491</td>
<td>128,134,339</td>
</tr>
</tbody>
</table>

* As of Dec 31, 2011.
CAIR & HITECH ‘Meaningful Use’

- Federal program to incentivize the adoption and ‘meaningful use’ of electronic health records (EHR) systems
- 3 stages, each with more rigorous qualifying expectations
- MU Standards for content exchange (HL7) and message vocabulary (CVX)

<table>
<thead>
<tr>
<th></th>
<th>HITECH Starts</th>
<th>Required for payment?</th>
<th>Qualifying activity*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>2011-13</td>
<td>No</td>
<td>1 time test</td>
</tr>
<tr>
<td>Stage 2</td>
<td>2014-15</td>
<td>Yes</td>
<td>Batch, ongoing</td>
</tr>
<tr>
<td>Stage 3</td>
<td>2016</td>
<td>Yes</td>
<td>Real-time, ongoing</td>
</tr>
</tbody>
</table>

*CMS allows exemption if registry does not have capacity to receive
CAIR & HITECH ‘Meaningful Use’

- **CAIR Status - Stage 1 MU (testing)**

<table>
<thead>
<tr>
<th>Region</th>
<th>Official Readiness * (HL7, CVX)</th>
<th>Level of Qualifying Activity (testing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 ‘CAIR SW’ regions</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>CAIR San Diego</td>
<td>Yes</td>
<td>Low</td>
</tr>
<tr>
<td>CAIR San Joaquin</td>
<td>Yes</td>
<td>Low</td>
</tr>
<tr>
<td>Imperial County</td>
<td>No</td>
<td>None</td>
</tr>
</tbody>
</table>

*See [http://www.cdph.ca.gov/data/informatics/Pages/MeaningfulUseRequirements-Immunization.aspx](http://www.cdph.ca.gov/data/informatics/Pages/MeaningfulUseRequirements-Immunization.aspx)
CAIR ‘HL7Jump’ Project

- **HL7Jump** is an open source HL7 translator that we have configured to convert HL7-formatted immunization record files exported from EHRs into the standard CAIR SW ‘flat file’ format that can be imported into CAIR
- Interim MU solution
- ‘Unofficial’ pilot project, with 23 sites now live, many others pending
- Accepting participants by invitation only
- Hoping to ‘ramp up’ and support MU in future if resources become available
CAIR 2.0 Project

• **Issues**
  - 9 regional registries - *no data linkage*
  - 7 use ‘legacy’ software that is not web standard, state IT-supported, and does not support federal HITECH MU.

• **Project Goal**
  - Consolidate 7 databases (87% of CA population) into statewide immunization registry
  - Adopt new software solution that is fully-functional, web-standard, state-IT compliant to support meaningful use
  - Utilize interoperability (HL7) to connect to independent registries if they decide not to join larger group
# CAIR 2.0 Project - Timeline

<table>
<thead>
<tr>
<th>Major Milestones</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date</td>
<td>July 2012</td>
</tr>
<tr>
<td>Contractor Solicitation and Acquisition Approval</td>
<td>June 2013</td>
</tr>
<tr>
<td>SPR Approval</td>
<td>October 2013</td>
</tr>
<tr>
<td>Requirements Specifications</td>
<td>February 2014</td>
</tr>
<tr>
<td>Design Documents</td>
<td>May 2014</td>
</tr>
<tr>
<td>System Build</td>
<td>November 2014</td>
</tr>
<tr>
<td>System Testing</td>
<td>January 2015</td>
</tr>
<tr>
<td>User Acceptance Testing</td>
<td>April 2015</td>
</tr>
<tr>
<td>User Training</td>
<td>June 2015</td>
</tr>
<tr>
<td>Data Migration/System Go Live</td>
<td>June 2015</td>
</tr>
<tr>
<td>End Date</td>
<td>June 2015</td>
</tr>
</tbody>
</table>
VFC Provider Enrollment

- Any qualifying practitioner authorized to administer pediatric vaccines under CA state law and interested in providing routine childhood vaccines through the program is eligible to enroll with the CA VFC Program.

- The administrative requirements to enroll include:
  - Agreement to follow all federal participation requirements outlined in the Provider Enrollment Agreement and Capacity to Store Vaccines
  - Providing estimates of patients to be immunized with VFC-supplied vaccines (Provider Profile form), listings of all providers with prescription privileges in the practice, and vaccine delivery information
  - Having a vaccine storage unit and thermometers meeting program requirements
  - Successfully completing an initial site visit
Participation Requirements

- Requirements for participation in the VFC Program are set by CDC and clearly outlined in the Program’s “Participation Agreement”

- Initially and on an annual basis, providers must agree with set requirements in order to renew participation in the program.
VFC Eligibility: Special Populations

- **American Indian/Alaska Natives**
  - are eligible to participate in the VFC program regardless of insurance coverage.

- **Insured children with Medi-Cal as a secondary insurance are covered by VFC**
  - Private vaccines may be administered and billed to the primary insurance or VFC vaccines may be administered and bill Medi-Cal for an administration fee.

- **Incarcerated juveniles under 19 years of age**
  - an individual who loses access to health benefits under his/her insurance while incarcerated is uninsured for purposes of the VFC program.

- **Minors seeking vaccination under confidential services**
  - (as allowed by state law) at an STD/Family Planning Clinic.
Administration Fees

• While VFC vaccines are provided at no-cost to parents, providers may charge a vaccine administration fee to non-Medicaid VFC eligible children

• Administration fee cannot exceed maximum regional charges set by CMS ($17.55 per dose in CA)

• Vaccine administration cannot be denied to an established patient due to inability to pay the administration fee.
  ▪ The only fee that must be waived is the administration fee. Other visit or office fees may be charged as applicable.

• Administration fees for Medi-Cal patients must be billed to Medi-Cal and NOT to the patient (fee is currently at 9.00 per vaccine)
Life after enrollment...

- Upon enrollment approval, each site receives a unique Provider Identification Number (PIN)
- Providers may begin ordering VFC vaccines
  - Orders are submitted to the VFC Customer Service Center (on-line & FAX) for review, approval, and submission for fulfillment by the VFC Program national distributor.
  - Vaccine orders arrive within 1-2 weeks.
- Quality Assurance Reviews (QARs) are conducted by VFC Representatives every other year to monitor and ensure program compliance with federal requirements
- Recertification: Renewal of program participation is required annually
- Provider education and trainings, and general program assistance-available through VFC Reps, Customer Service Center and EZIZ
- Registry Promotion
VFC Program Background

• The creation of the VFC Program is a direct result of the 1989 – 1991 US measles epidemic which resulted in tens of thousands of cases of measles and hundreds of deaths.
  - Over 50% of these children with measles had recently seen a healthcare provider but were not immunized

• Two years after this epidemic congress passed the Omnibus Budget Reconciliation Act (OBRA) on August 10, 1993, creating the Vaccines for Children (VFC) Program, as an “entitlement” (a right granted by law) for eligible children 0-18 yrs of age.

• VFC Program became operational in 1994
VFC Program Background

- VFC is a federal program, providing publicly-purchased vaccine at no cost to enrolled providers for immunization of eligible patients without any out of pocket vaccine costs.

- Eligible patients include children 0-18 yrs of age meeting at least one of the following criteria:
  - Medi-Cal/CHDP eligible
  - Uninsured
  - American Indian, and Alaska Native
  - Underinsured in FQHCs and RHCs ONLY

- The program eliminates vaccine cost as a barrier for immunizations and provider’s up-front-costs, improves access to immunizations, and keeps children in their medical home-preventing fragmentation of immunization services, and improving the overall quality of care.

Insurance:
- Doesn’t cover any vaccines or cover certain vaccines only or covers vaccines, but has a spending cap; after this cap is reached, the patient is VFC eligible
VFC Vaccines

- The program covers vaccines recommended by the Advisory Committee on Immunization Practices (ACIP), and voted into the program through “VFC Resolutions”

- Vaccines are purchased by CDC from manufacturers at discounted prices, through annually negotiated federal contract
  - nearly 43% of all vaccine purchases in the US are purchased federally
  - significant cost savings gained due to bulk purchases

- CDC also negotiates a federal vaccine distribution contract to centrally store national vaccine supplies and distribute doses to participating providers
  - 2 national vaccine distribution warehouses-McKesson Sacramento and McKesson Memphis

ActHIB® $9.20 $25.47
Background of HPV Vaccine Licensure

- Quadrivalent HPV vaccine is directed against HPV types 6, 11, 16, and 18
  - Licensed for females for prevention of:
    - Cervical cancer and precancers, and genital warts (2006)
  - Vulvar and vaginal cancers and precancers (2008)
  - Licensed for males for prevention of:
    - Genital warts (2009)
  - Licensed for males and females for prevention of anal cancers and precancers (2010)

- Bivalent HPV vaccine is directed against the oncogenic HPV types 16 and 18
  - Licensed for females for prevention of cervical cancers and precancers (2009)