COMMUNITY PROVIDER NETWORK MEETING

1350 Arnold Drive, Conference Room #103, Martinez

Tuesday, July 26, 2011  7:30 AM to 9:00AM

Continental Breakfast will be served

I.  Call to order  J. Tysell, MD

II. Approval of Minutes  J. Tysell, MD

III. Medical Director’s Report  J. Tysell, MD

IV.  
   • HEDIS  J. Tysell, MD
   • Tdap Update  B. Jacobs, FNP
   • Provider After Hours
   • Messaging/Advise  J. Tysell, MD
   • SPD Update  B. Jacobs, FNP
   • Public Health
   • Varnish/Clinics

V.  Provider Concerns  J. Tysell, MD

VI. Adjourn  J. Tysell, MD

Next Meeting – October 25, 2011

Please RSVP: Provider Relations (925) 313-9500
# CONTRA COSTA HEALTH PLAN
Community Provider Network – East County
**Meeting Minutes – July 26, 2011**

**Attending:**
J. Tysell, MD; Beverly Jacobs, FNP; Mary Berkery, RN; Gretchen Graves, MD; S. M. Chang, MD; J. Gene Zimmerman, MD; Myhoang Nguyen, MD; Edward H. Risgalla, MD; Suresh Sachdeva, MD

**Guests:**

<table>
<thead>
<tr>
<th>Discussion</th>
<th>Action</th>
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<tbody>
<tr>
<td>I.</td>
<td>Meeting called to order.</td>
<td>J. Tysell, MD</td>
</tr>
<tr>
<td>II.</td>
<td>Agenda approved with no change.</td>
<td>J. Tysell, MD</td>
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<tr>
<td>III.</td>
<td><strong>Approval of Minutes:</strong> Minutes approved as read.</td>
<td>J. Tysell, MD</td>
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| IV.        | **Medical Director’s Report:**  
  - Discussion of possible modifications on managed care from State  
  - Changes not yet mandated, but subject to State budget guidelines  
  - No decision as yet on co-pay or reduction in reimbursement amount  
  - No additional modifications on coverage proposed | J. Tysell, MD |
| V.         | **HEDIS:**  
  - Report card from HEDIS study indicates improved standards and compliance with most measures.  
  - Improved compliance from both CPN and RMC Networks  
  - **Provider After Hours** – Review of need to have message from each practice with directions on where to access service when office closed.  
  - Message should say where to seek service after-hours, and also how to reach a specific person, should not say go to nearest emergency room. Should refer to Advice Nurse for assistance when practice is closed.  
  - **SPD Update** – Indicates number received (June approx. 1020, July approx. 500) in June and in July. Process of new assignment was relatively smooth for both RMC and CPN Networks. Numbers will vary each month depending on number of SPDs with birthdays in that period.  
  - **Public Health** – Clinics available for immunization prior to start of school year, especially for Tdap. Variance received to allow for two month postponement for schools to exclude students not yet immunized. This was necessary due to funding for year round school and special education programs.  
  - Varnish/Clinics – Review of dental varnish program. Providers encouraged to participate in program. | J. Tysell, MD |
| VI.        | **Provider Concerns:**  
  - Discussed acquisition of Brookside Health Center by Lifelong Medical Care, probably effective in Sept. | J. Tysell, MD |
| VII.       | **Adjourn:** Meeting adjourned. | J. Tysell, MD |

**Next meeting – October 25, 2011**
CONTRA COSTA HEALTH PLAN  
Community Provider Network – East County  
Meeting Minutes – April 26, 2011

Attending:  
J. Tysell, MD;  Beverly Jacobs, FNP;  Mary Berkery, RN;  Gretchen Graves, ;  Juan O’Meany, MD;  Irene Salceda, PA;  J. Gene Zimmerman, MD;  S. M. Chang, MD;  Jennifer Burgham, MD;  

Guests:

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<td>II. Agenda approved with no change.</td>
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<td>III. Approval of Minutes: Minutes approved as read.</td>
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<td>IV. Medical Director’s Report:</td>
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<tr>
<td>• explained the number of new providers available for the SPDs</td>
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<td>V. SPDs:</td>
<td>B. Jacobs, FNP</td>
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<tr>
<td>• cultural training presentation given to attendees on the Seniors and Persons with Special Needs program</td>
<td>M. Berkery, RN</td>
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<tr>
<td>• cultural training material will be posted on our Contra Costa Health Plan website at contracostaheadlthplan.org</td>
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<td>VI. Provider Concerns:</td>
<td>J. Tysell, MD</td>
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<td>• questions and answers on recommendations on working with the SPDs</td>
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<td>VII. Adjourn:</td>
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<td>Adjourned.</td>
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Next meeting – July 26, 2011
New Pertussis Vaccine Law (Assembly Bill 354)

REMINDER...
As of July 1, 2011, all students entering 7th through 12th grades need a pertussis vaccine booster (Tdap) before starting the 2011-2012 school year. *

Avoid the back-to-school rush —
vaccinate your adolescent patients now!

- Make sure you have enough Tdap (Adacel® or Boostrix®) in stock.
- Recall your preteen and adolescent patients who have not gotten Tdap.
- Document the Tdap dose clearly. Td will NOT meet the requirement.
- Be sure to provide the parent with a copy of the vaccination record.
- Combine Tdap immunization with other recommended care.
- For additional guidance, visit www.shotsforschool.org

* For the 2012-2013 school year and beyond, this requirement applies to students entering 7th grade only.
Pertussis isn’t taking summer vacation -- Immunize with Tdap now to protect your patients and reduce the back-to-school rush.

Figure: Pertussis cases by month of onset -- California, 2010 – Pertussis peaks from May-November.

Pertussis is widespread in California, with its seasonal incidence highest during summer and fall. More than 1 million adolescents in California may not yet have received a dose of Tdap booster vaccine, leaving them vulnerable to catching pertussis now and, whether from illness or the new school law, missing classes in the fall.

Please take the following steps to help your adolescent patients:

1) Keep track of which patients have and haven’t received Tdap.
2) Immunize your patients with Tdap NOW if they haven’t had it yet.

• Use every opportunity to provide routine adolescent care, including Tdap and other recommended vaccines.
3) Provide clear documentation of Tdap immunization that your patients can bring to school.

• See http://shotsforschool.org/documents/IMM-1034.pdf
4) Ensure that you have adequate vaccine supplies and proper storage for them.
5) Repeatedly remind patients about Tdap by mail, telephone, emails and clinic displays.
6) Anticipate a rush of last-minute Tdap appointments before the first day of school, 2011-2012.

• Apply seasonal flu vaccine strategies to Tdap: e.g. drop-in visits, special clinic hours.
• Reduce the rush and protect your patients by immunizing now!

For an expanded version of this checklist and additional resources for clinicians about the new Tdap school law, please visit www.shotsforschool.org/providerinfo.html.
June 2011

TO: Providers Using the California Immunization Registry (CAIR)
FROM: CAIR Coordinators
SUBJECT: New Features in CAIR

CAIR updated the software on Friday, June 3rd, with some new features that will help make data entry easier and faster. If you have any questions about these changes, please contact the CAIR State Help Desk at 1-800-578-7889.

1. Enter a series of dates into the Vaccination Quick Entry screen faster!
   A. Enter the date(s) that will be applied for multiple vaccines in the boxes at the top. If you are copying the patient’s two, four and six month shots, enter the dates 06/07/2006, 08/08/2006 and 10/26/2006.

   ![Vaccination Quick Entry Screen]

   B. Click the Fill box on the left-hand side to add the dates you entered at the top automatically. **IMPORTANT:** Make sure to only click Fill for the vaccines that were given on ALL of the dates entered at the top. In this example, the patient did not receive IPV on 10/26/2006, so the IPV Fill box was NOT checked. Instead, you can type in 06/07/2006 and 08/08/2006 directly into the IPV date boxes.

<table>
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<tr>
<th>Fill Vaccine</th>
<th>Vac Desc</th>
<th>Vac Date</th>
<th>Vac Date</th>
<th>Vac Date</th>
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<td>Polio (Inactivated)</td>
<td>06/07/06</td>
<td>08/08/06</td>
<td>10/26/06</td>
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<tr>
<td>DTP</td>
<td>Diphtheria, Tetanus, acellular Pertussis</td>
<td>06/07/06</td>
<td>08/08/06</td>
<td>10/26/06</td>
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</table>
C. To enter new dates, click the clear button at the top.

**NOTE: This feature is optional. You can still enter one shot at a time.**

2. **Quick = History**
   The Quick button has been renamed to History. Click on the History button to add old shots.

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<td>Symbols</td>
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<td>Notes</td>
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</table>

3. **Medical record numbers are now visible to all Provider IDs in a group.**
   If you are part of a provider group that enters medical record numbers into CAIR, you will now be able to view medical record numbers entered by other Provider IDs within your group. For example, ABC123-PEDS (Pediatrics Provider ID) enters a medical record number. When ABC123-FM (Family Medicine Provider ID) opens the patient record, they will also be able to see the patient's medical record number.

4. **“Multiple birth” field renamed to “Twin, triplet, etc.”**
   If your patient is a twin or triplet, make sure to mark Yes in the field “Twin, triplet, etc.” when adding a new patient or in the Birth Info tab. This will help CAIR users decide if a record is a duplicate record of the same person or a different person with very similar information.

   **Add New Patient screen:**

   - **VFC Eligibility:**
   - **Medical Record Number:**
   - **Twin, Triplet, etc.:** Yes

5. **Make sure to choose the correct Vaccine Information Statement (VIS) date in the VIS Provided field.**
   The CDC makes available a 9/18/08 VIS for multiple vaccines, including DTaP, IPV, Hib, PCV, Hepatitis B, and Rotavirus. It can be used for any or all of the routine birth through 6 month vaccine VISs. If you are giving this VIS version to your patients, make sure to select the 9/18/2008 Multiple Vaccine VIS. If you are giving your patients a single-vaccine VIS, select the correct version you are giving in the VIS Provided field.

   **VIS Provided:** 9/18/2008 Multiple Vaccines
   - **Not Given**
   - **9/18/2008 Multiple Vaccines**
   - 1/30/2008 DTP Vaccines
   - 5/17/2007 DTP Vaccines
   - 7/30/2001 DTP Vaccines
   - 6/15/1997 DTP Vaccines
Pertussis Report
June 15, 2011

- **New in this report:** Disease activity in 2011 is still at relatively increased levels throughout the state.

- **2011:** 1,428 cases with onset in 2011 have been reported to CDPH. The state rate per observed person-days is 7.8 cases/100,000.
  - Disease activity levels remain high; the number of cases occurring in the early months of 2011 was the same as the number reported during the peak months of 2005 (Figure 1).
  - 87 (8%) cases have been hospitalized (of 78% with complete data).
    - Most (67%) were infants ≤2 months of age.
  - No deaths have been reported.
  - Cases have been reported from 48 (79%) of 61 local health jurisdictions.
  - 326 new cases have been reported since the last update on 5/16/2011.

- **2010:** 9,120 cases with onset in 2010 have been reported to CDPH for a state rate of 23.3 cases/100,000.
  - This is the most cases reported in 63 years when 9,394 cases were reported in 1947, a peak year, and the highest incidence in 52 years when a rate of 26.0 cases/100,000 was reported in 1958. Previously, the peak was in 2005 when there were 3,182 cases reported (Figure 2).
  - 804 (9%) cases were hospitalized
    - 442 (55%) of hospitalized cases were infants <3 months of age and 581 (72%) were infants <6 months of age.
    - 414 (76%) of the hospitalized infants <6 months of age with known race and ethnicity were Hispanic.
  - Ten deaths were reported; 9 (90%) were Hispanic infants. Nine fatalities were infants <2 months of age at time of disease onset and had not received any doses of pertussis-containing vaccine and the remainder was an ex-28 week preemie that was 2 months of age and had received the first dose of DTaP only 15 days prior to disease onset. The majority of infant cases in 2010 have occurred in infants <3 months of age (Figure 3).
    - The case-fatality rate among infants <3 months of age is 1.3%.
  - Case Classification:
    - Confirmed: 59%
    - Probable: 19%
    - Suspect: 22%
  - The median case rate by county is 17.5 cases per 100,000 (range 0-139) (Table 1).
  - Rates are highest in infants <6 months of age (435.0 cases/100,000), in children aged 6 months to 6 years (61.8 cases/100,000), 7-9 years (67.3 cases/100,000)
and adolescents aged 10-18 years (49.0 cases/100,000) (Figure 4). The majority of adolescent cases are in 10-11 year-olds (Figure 5).

- Overall rates by race/ethnicity are highest in Hispanics (26.5/100,000) and whites (20.9/100,000), however age-specific rates indicate that the highest rates are seen in Hispanic infants <6 months of age (574.9/100,000) (Figures 3 and 4).

Figure 1. Pertussis cases by month of onset -- California, January 2005 through May 2011*

*includes cases with onset through 5/31/2011 and reported to CDPH by 6/15/2011
Figure 6. Pertussis rates by county – California, January 1, 2010 – December 31, 2010
(updated 05/16/2011)

Pertussis rate per 100,000 population
- 0 - 9.0
- 10.0 - 19.0
- 20.0 - 39.0
- 40.0 - 140.0

Prepared by the California Department of Public Health, Immunization Branch
Figure 7. Pertussis rates (person days) by county – California, January 1, 2011 – June 15, 2011

Pertussis rate per 100,000 population

- 0.0 - 9.0
- 10.0 - 19.0
- 20.0 - 39.0
- 40.0 - 60.0

Prepared by the California Department of Public Health, Immunization Branch
Table 1. Pertussis cases reported to CDPH by local health jurisdiction -- California, 2010-2011

<table>
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<th>2010 Rate</th>
<th>2011* Cases</th>
<th>2011* Rate**</th>
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<td>5.48</td>
</tr>
<tr>
<td>TRINITY</td>
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<td>0.00</td>
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<td>TULARE</td>
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<td>45</td>
<td>20.34</td>
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<tr>
<td>TUOLUMNE</td>
<td>32</td>
<td>54.49</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>VENTURA</td>
<td>346</td>
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<td>41</td>
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</tr>
<tr>
<td>YOLO</td>
<td>20</td>
<td>9.70</td>
<td>4</td>
<td>4.13</td>
</tr>
<tr>
<td>YUBA</td>
<td>5</td>
<td>6.22</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*Data are preliminary and include cases reported to CDPH as of 6/15/2011
**Rate calculated using observed person-days
†City health jurisdictions not included in county total

Prepared by the California Department of Public Health, Immunization Branch

7 of 7
Pertussis Report

Below is a report from the California Department of Public Health on our current Pertussis epidemic. Vaccinating mothers, other family members and household contacts is still the best way to prevent pertussus deaths, most of which occur in young infants too young to vaccinate.

June 15, 2011
New in this report: Disease activity in 2011 is still at relatively increased levels throughout the state.

2011: 1,428 cases with onset in 2011 have been reported to CDPH. The state rate per observed person-days is 7.8 cases/100,000.
- Disease activity levels remain high; the number of cases occurring in the early months of 2011 was the same as the number reported during the peak months of 2005 (Figure 1-see next page).
- 87 (8%) cases have been hospitalized (of 78% with complete data).
  Most (67%) were infants <2 months of age.
- No deaths have been reported.
- Cases have been reported from 48 (79%) of 61 local health jurisdictions.
- 326 new cases have been reported since the last update on 5/16/2011.

2010: 9,120 cases with onset in 2010 have been reported to CDPH for a state rate of 23.3 cases/100,000.
- This is the most cases reported in 63 years when 9,394 cases were reported in 1947, a peak year, and the highest incidence in 52 years when a rate of 26.0 cases/100,000 was reported in 1958. Previously, the peak was in 2005 when there were 3,182 cases reported (Figure 2).
- 804 (9%) cases were hospitalized
  442 (55%) of hospitalized cases were infants <3 months of age and 581 (72%) were infants <6 months of age.
  414 (75%) of the hospitalized infants <6 months of age with known race and ethnicity were Hispanic.
- Ten deaths were reported; 9 (90%) were Hispanic infants. Nine fatalities were infants <2 months of age at time of disease onset and had not received any doses of pertussis-containing vaccine and the remainder was an ex-28 week preemie that was 2 months of age and had received the first dose of DTaP only 15 days prior to disease onset. The majority of infant cases in 2010 have occurred in infants <3 months of age (Figure 3).
The case-fatality rate among infants <3 months of age is 1.3%.
Figure 1. Pertussis cases by month of onset -- California, January 2005 through May 2011*

*Includes cases with onset through 5/31/2011 and reported to CDPH by 6/15/2011

Save The Date:
Annual Medical Staff Dinner & Dance
Friday, September 9, 2011
Contra Costa Country Club-Pleasant Hill
Details to come
June 27, 2011

TO: Vaccines for Children (VFC) Providers

FROM: Claudia Aguiluz, VFC Program Coordinator

SUBJECT: 2011-2012 Seasonal Influenza Vaccine Ordering Instructions

In preparation for the 2011-2012 influenza season, the California Vaccines for Children Program has begun the initial ordering process for VFC-supplied flu vaccines. VFC’s On-line Flu Order Confirmation system is now available on www.eziz.org. Provider influenza orders will be collected in advance of vaccine availability in order to process them, and have them ready for fulfillment soon after vaccine supply becomes available this fall.

This letter will provide details on accessing and confirming flu allocations for this season, as well as submission deadlines. The annual VFC flu letter for this season, which includes information on ACIP’s recommendations, dosage and administration, storage and handling and other important information, will be distributed at a later time.

ORDER CONFIRMATION TIMELINE

VFC’s On-line Flu Order Confirmation system will be open from June 27 to July 20, 2011 for providers to log-in, review, modify, and submit confirmed vaccine allocations. All confirmation of provider allocations must be submitted by July 20, 2011. Unconfirmed allocations remaining in the system after the deadline will be removed and released into a general vaccine supply available to all providers, on a first-come, first-serve basis, during supplemental flu ordering.

SYSTEM ACCESS AND LOG-IN INFORMATION

Providers may access VFC’s On-line Flu Order Confirmation System at www.eziz.org; select the “Flu Order Confirmation” icon. Providers will need their VFC Provider Identification Number (PIN) and practice’s Zip Code to log-in.

Once logged-in, providers will notice a new page titled: MyVFCVACCINES. This new page is VFC’s new access hub for program-specific applications. Through this site, providers may review and update the practice’s contact information and access influenza allocations. Around mid-summer 2011, providers will also have access to On-line Vaccine Ordering and will be able to submit all VFC vaccine requests, report any return or transfers of VFC vaccines, and complete annual provider recertifications directly through this site.
VACCINE ALLOCATIONS

Allocated Influenza Vaccine Doses

The total doses of influenza vaccine allocated to each actively enrolled provider are based on:
1) The total doses received by the practice during the preceding flu season and,
2) VFC vaccine supply expected this season.

Sites without a history of influenza vaccine distribution in the preceding year (i.e., newly enrolled providers) will have limited allocations based on selected pediatric vaccine distribution. Providers may contact the VFC Customer Service Center or a Field Representative if the practice's population has significantly increased since the enrollment date.

If additional doses are needed in excess of allocation, providers will have the opportunity to request additional doses during supplemental ordering later in the season.

Reviewing, Modifying, and Confirming Allocated Doses

Providers must confirm allocated doses by July 20th, 2011. Unconfirmed allocations after July 20th, 2011 will be removed from the system and made available for general ordering during our supplemental ordering period.

There are four simple steps to complete this process:

1) Review of practice information and shipping address.
   Upon log-in, practices will be prompted to review this information and make any changes as necessary.

2) Review and modification of allocations.
   An allocation table displays total allocated flu doses for VFC-eligibles in two age groups and indicates specific brand allocation breakdowns. Please review information and edit as necessary—keeping in mind that the system will allow you to either confirm your allocations or reduce doses for each age group.

   - Children 6-35 months of age. Confirm doses for this age group by entering allocated doses (or desired lesser amount) in the last column of the allocation table. Doses requested cannot exceed total allocation for this age group.

   - Children 3-18 years of age. Confirm doses and brand allocation breakdown for this age group by entering allocated doses (or desired amount) within each brand in the last column of the allocation table. Providers may increase or decrease doses within each brand, as long as the total doses requested among the 3 brands do not exceed the TOTAL age group allocation.

NOTE: When confirming your brand allocations, keep in mind that FluMist® (MedImmune) doses can also be used in healthy children two years of age and older. Preservative-free Fluarix® (GSK) is only available in single dose pre-filled syringes. Keep your vaccine storage unit's available space in mind when selecting this product.
3) **Preview confirmed allocations.**
A preview page will display total doses confirmed for each of the two age groups. The preview page will also display the clinic’s brand allocation breakdown request. If you need to make any changes, you may go back using the “back” button to adjust your numbers.

**IMPORTANT:** VFC will review allocation requests and will modify and approve them based on available vaccine supply. VFC will e-mail approved brand allocation requests in late July. The brand allocation information submitted this season will also be used for pre-booking the state’s overall influenza vaccine supply for the 2012-2013 season.

4) **Submit your request and receive instant confirmation for your records.**
If no changes are necessary to the allocations, click the “submit” button to submit the request to VFC. The system will generate an instant confirmation to print for the clinic’s records. It will also e-mail a confirmation to the clinic’s provider of record and order contact person.

All confirmed allocations will remain in the queue until vaccine supplies are received at VFC’s national vaccine distributor. VFC will notify all providers via fax and e-mail when products are received and delivery of approved orders begins.

**2011-2012 VFC INFLUENZA PRODUCTS**

For this coming flu season, VFC has changed the overall supply of products for the immunization of children 3-18 years of age. Overall doses of flu vaccine in multi-dose flu vials have been reduced and doses of preservative-free (single dose syringe) products have increased. This shift in vaccine supply is reflected in provider allocations.

Products shipped to VFC providers may vary, depending on supply availability and approved brand allocation breakdown for each clinic. Below is a listing of all influenza products that may be received by providers.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Manufacturer</th>
<th>Packaging</th>
<th>Age Group Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluzone® PF Pediatric Dose</td>
<td>Sanofi Pasteur</td>
<td>10 pack – single dose syringes</td>
<td>6-35 months</td>
</tr>
<tr>
<td>Fluzone®</td>
<td>Sanofi Pasteur</td>
<td>10 dose vial</td>
<td>3-18 years (including pregnant teens)</td>
</tr>
<tr>
<td>Fluarix® PF</td>
<td>GlaxoSmithKline (GSK)</td>
<td>10 pack – single dose syringes</td>
<td>FluMist may be used in healthy children 2-16 yrs.</td>
</tr>
<tr>
<td>FluMist, Live, Attenuated Intranasal Vaccine</td>
<td>MedImmune</td>
<td>10 pack-single dose spray</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Age group indications differ from the product’s insert indications. Age indications listed above are based on VFC eligibility criteria. Products and doses available are for the immunization of VFC-eligibles under 19 years of age only. Doses of VFC-supplied influenza vaccine CANNOT be used in non-VFC eligible patients.
**VACCINE SHIPMENTS**

Influenza vaccine supplies for all different manufacturers traditionally arrive at VFC’s national vaccine distributor in multiple shipments throughout the season. Therefore, it is likely that providers will also receive allocated vaccine supplies in multiple shipments.

Once VFC has shipped your clinic’s initial shipment, our system will keep track of the remaining balance in your allocation. VFC will automatically ship doses to your practice as vaccine supplies become available.

VFC will notify you via FAX and e-mail when products are received at VFC’s vaccine distributor and delivery of approved orders begins. Weekly supply and order processing updates will be posted on the Vaccine Order Status page on www.eziz.org.

**RETURN OF UNUSED VIALS OF INFLUENZA VACCINE RECEIVED 2010-2011**

All doses of influenza vaccine received during the 2010-2011 flu season will expire on June 30th, 2011 (except Flumist doses which may have an earlier expiration date). VFC providers must remove all expired inventory from their vaccine storage unit and return all expired or spoiled influenza doses (including vials, syringes, and nasal sprayer packages) to VFC’s national vaccine distributor, McKesson Specialty.

To return vaccines:

1) Complete a VFC Return and Transfer Form, and make a copy for your records.

2) Fax a copy to the VFC Program at 877-FAXX-VFC (877-329-9832).

3) Enclose the original form in the package with the expired vaccines you are returning. When returning your vaccines, please keep doses in their original packaging and use a container in which you receive your normal vaccine shipments. Clearly label the outside of the shipping container “Non-viable vaccine enclosed”.

4) You may contact VFC to request a return label for your box.

**QUESTIONS?**

If you have any questions, please call your VFC Field Representative or the VFC Program at: 877-243-8832 (877-2GET-VFC). You can also visit our website at www.eziz.org.

cc: CDPH Immunization Branch Field Representatives
    Local Health Officers
    Local Health Department Immunization Coordinators
    Local Health Department CHDP Program Directors
    Tanya Homman, Acting Chief, Medi-Cal Managed Care Division, DHCS
    Robert Dimand, Acting Chief, Children Medical Services Branch, DHCS
    Sherie Smalley, M.D., Medi-Cal Policy, Medi-Cal Managed Care, DHCS
    Susan McClair, M.D., Medi-Cal Policy, Medi-Cal Managed Care, DHCS
    Shabbir Ahmad, D.V.M., M.S., Ph.D., Acting Chief, Maternal, Child and Adolescent Health Program, CDPH
    Shelley Rouillard, Deputy Director, Benefits and Quality Monitoring Division, MRMIB
    Emmee Nguyen, Benefits and Quality Monitoring Division, MRMIB
Jill Young, Benefits and Quality Monitoring, MRMIB
Neal Kohatsu, M.D., M.P.H., Medi-Cal Policy, Medi-Cal Benefits, Waiver Analysis, and Rates Division, DHCS
Laura Ann Halliday, M.D., Medi-Cal Policy, Medi-Cal Benefits, Waiver Analysis, and Rates Division, DHCS
Alan Morita, Pharm. D., Medi-Cal Pharmacy Policy Branch, DHCS and CDPH
Jill Abramson, M.D., M.P.H., Children Medical Services Branch, DHCS
Pertussis in Young Infants – Guidance for Clinicians

James D. Cherry MD, MSc, Rick Harrison MD, John S. Bradley MD, Peggy Weintrub MD, Sam Lehman MD, Susan Duthie MD, and Wilbert H. Mason, MD, MPH
May 2010, Updated June 2011

Pertussis in the first three months of life is frequently severe and often fatal. In California approximately three infant deaths due to *Bordetella pertussis* infections are reported each year during non-peak years and it is likely that other deaths resulting from *B. pertussis* infection occur but the etiology is attributed to other causes.

The severity of pertussis and the rapidity of its progression in young infants are affected by a number of factors such as the presence of transplacently acquired maternal antibodies to *B. pertussis*, the infectious dose of bacteria that the infant receives, co-infection with respiratory viruses and perhaps genetic factors related to the pathogen or the infant. The source of pertussis in young infants is usually a household contact (most often the mother) who has a cough illness that is not recognized by physicians or family members as pertussis.

The progression of illness in young infants is related to the risk factors mentioned above.

- Illness onset is often not alarming with the occurrence of coryza and no or minimal fever. This is followed by the onset of cough.
- Cough in young infants is often not recognized as cough, however it is occurring in paroxysms and this may lead to apnea, hypoxia and occasionally seizures.
- The lack of fever and the mildness of initial symptoms often results in clinicians underestimating the potential severity of the illness and this leads to a delay in diagnosis and effective treatment.
- Initially the chest is clear on auscultation but in fatal cases *B. pertussis* pneumonia is always present.
- Co-infection with respiratory viruses (particularly RSV and adenoviruses) can confuse the diagnoses because of a bronchiolitic picture (air trapping and expiratory distress).

**Almost all fatal cases have extreme leukocytosis with lymphocytosis and most will have evidence of pulmonary hypertension.**

Pertussis in infants should be diagnosed by culture or PCR on a properly collected nasopharyngeal specimen (swab or aspirate). Also leukocytosis with lymphocytosis (a white blood cell count of ≥ 20,000 cells/mm³ with ≥ 50% lymphocytes) in any young infant with an illness with cough is a strong indication of *B. pertussis* infection.

If pertussis is a possible diagnosis in a young infant treatment with azithromycin should be started immediately. All young infants (≤ 3 months old) with possible pertussis should be admitted to the hospital and many will require PICU care. In a review of pertussis deaths in infants < 3 months old in California, it is apparent that the primary care and emergency room physicians underestimated the impending severity of the illness, which delayed hospital admission and contributed to the fatal outcome. Because the severity of illness is unpredictable and clinical decline is often rapid, hospitalization in a major medical center with a PICU is desirable.
It has been observed in numerous small studies that pertussis infant deaths relate directly to the degree of leukocytosis.\textsuperscript{1,2} Based upon this attempt, attempts have been made, by double volume exchange transfusion, to lower the white blood cell count. Although no controlled studies have been done, there are a number of experiences in case studies which suggest that exchange transfusion has been useful. However, it must be emphasized that for exchange transfusion to be successful it must be done before the infant is in extreme distress with multiorgan failure.

A total count of $\geq 30,000$ WBCs/mm$^3$ is cause for concern and the rapidity of the WBC count rise is also an important indicator of worsening condition. If white blood cell/lymphocyte counts are increasing, they should be checked every six hours; if stable or decreasing, once a day is sufficient. If pneumonia and rapid pulse ($\geq 180$) are also present, exchange transfusion should be strongly considered.

Almost all infant deaths over the past 10 years in California have been associated with very high white blood cell counts and \textit{B. pertussis} pneumonia and none were related to irreversible apnea. However, it is possible that deaths related to untreated apnea occur. In infants with pertussis who do not have leukocytosis or pneumonia, the frequency of paroxysms and related apnea decrease sooner than the severity of the events so it is recommended that such infants not be discharged based on the decreased frequency of these events, but rather on the decreased severity of these events.

Attached in the appendices is specific information relating to pertussis in infants:

I. Laboratory diagnosis of \textit{Bordetella pertussis} infection in infants  
II. Azithromycin treatment of young infants with pertussis  
III. Guidelines for PICU care, including exchange transfusion  
IV. Four pediatric infectious diseases programs that may be called for management advice and decisions (available 24 hours a day). Also listed is one group of intensivists who may be contacted regarding PICU care (available 24 hours a day)

In addition, California Department of Public Health \textit{B. pertussis} laboratory testing recommendations can be accessed at:  

Other California Department of Public Health pertussis recommendations can be accessed at:  
http://www.cdph.ca.gov/HealthInfo/discond/Documents/Pertussisquicksheet.pdf

\textbf{Appendix I}  

\textbf{Laboratory Diagnosis of \textit{Bordetella pertussis} Infection in Infants}

In contrast with older children, adolescents and adults the laboratory diagnosis of \textit{B. pertussis} infection in young infants is very sensitive. Young infants tend to have infections with a high concentration of \textit{B. pertussis} in the nasopharynx and this persists for 2 to 6 weeks if untreated.

The California Department of Public Health has recommendations for proper specimen collection for \textit{B. pertussis} culture and PCR testing that can be accessed at:  
Please note that serologic testing has no role in the diagnosis of pertussis in young infants.

Also extremely useful in the diagnosis of pertussis in young infants is the presence of marked leukocytosis with lymphocytosis. Although this finding has not been quantitatively evaluated the following guidelines are suggested. A total count of $\geq 20,000$ WBCs/mm$^3$ with $\geq 10,000$ lymphocytes/mm$^3$ in a young infant with coryza, cough, apnea or other respiratory distress is indicative of *B. pertussis* infection. The neutrophilia in pertussis generally occurs without a significant increase in band forms.

**Appendix II**

**Azithromycin Treatment of Young Infants with Pertussis**

Although the U.S. Food and Drug Administration (FDA) has not licensed any macrolide for use in infants aged $< 6$ months the CDC recommends that azithromycin be used for the treatment of young infants with pertussis and also for the prevention of pertussis in young infants who are exposed to pertussis. Azithromycin rather than erythromycin is recommended for young infants because erythromycin is a precipitating factor in infantile hypertrophic pyloric stenosis (IHPS) and it is felt that IHPS is less likely to occur after azithromycin administration.

All infants with suspected pertussis should be treated immediately (do not wait for culture or PCR results) with azithromycin. The dose is $10\text{mg/kg}$ per day in a single dose for 5 days. All treated infants who are $\leq 1$ month of age should be watched for the development of IHPS. For exposed young infants, azithromycin should be used prophylactically. The dose and duration are the same as for treatment.

Additional California Department of Public Health recommendations for pertussis treatment, can be accessed at: [http://www.cdph.ca.gov/HealthInfo/discond/Documents/Pertussisquicksheet.pdf](http://www.cdph.ca.gov/HealthInfo/discond/Documents/Pertussisquicksheet.pdf)

**Appendix III**

**Guidelines for PICU Care**

A child with pertussis may require care in the intensive care unit for multiple reasons. Apnea, pneumonia, and seizures are the most common presenting symptoms requiring ICU care. The child with apnea may require mechanical ventilation but has an excellent prognosis for survival. Seizures are treated in the usual manner. The most critically ill children, however, often present with pneumonia and develop refractory hypoxemia, pulmonary hypertension and cardiac failure.

The pulmonary hypertension is related to the hyperleukocytosis frequently found with critical pertussis. The leukocytes aggregate within the pulmonary circulation and form a mechanical obstruction to transpulmonary blood flow with the result being severe hypoxemia and pulmonary hypertension. The pulmonary hypertension is often refractory to nitric oxide and caution should be exercised in its use. *Bordetella pertussis* tracheal cytotoxin leads to injury to the ciliated epithelial cells via induction of nitric oxide synthase. When this induction is blocked, the epithelial cell injury is not seen. Other maneuvers to decrease pulmonary artery pressure may be helpful.
The cardiac failure associated with critical pertussis is likely right sided heart failure secondary to the pulmonary hypertension and left sided failure both from inadequate filling volumes and altered stroke volume secondary to the distended right ventricle and ventricular interdependence. Thus, the pharmacologic management of the resultant low cardiac output state may be less effective than in other low output states.

Multiple authors have reported double volume exchange transfusion as an effective therapy for the pulmonary hypertension, and secondarily the hypoxemia and cardiac failure seen in the most critically ill patients. As the most critically ill patients are typically quite young, the technique of double volume exchange utilized is the same as performed for the newborn with hyperbilirubinemia.4

Briefly, the volume of the patient’s blood is assumed to be approximately 75-80 ml/kg body weight. Twice this volume of blood is prepared by the blood bank reconstituted to a hematocrit of approximately 40%. Exchange transfusion trays are available in many neonatal intensive care units and include the necessary stopcocks, syringes and tubing to facilitate the double volume exchange transfusion. In the absence of such a kit, standard stopcocks, syringes, and IV tubing can be utilized.

If an arterial catheter and secure venous catheter are available the patient's blood can be withdrawn from the arterial catheter and simultaneously an aliquot of the prepared blood can be infused via the venous catheter. With the two catheter technique 10 to 30 ml syringes are typically utilized to withdraw and infuse the aliquots. If only a single central catheter is utilized smaller aliquots of 5 to 20 ml syringes are typically utilized during the exchange to avoid significant volume changes, especially in the critically ill infant.

The double volume exchange typically takes approximately an hour to accomplish and care must be taken to insure equal volumes are withdrawn and transfused. A dedicated person should record each aliquot infused and removed and appropriate vital signs. Hypomagnesemia and especially hypocalcemia may occur from binding to the citrate in the transfused blood and some authors recommend routine calcium supplementation.

Following exchange transfusion some patients have a very significant improvement and others continue to deteriorate. Extracorporeal membrane oxygenation (ECMO) has been utilized for patients who remain with intractable respiratory or cardiac failure. The mortality rate for patients with pertussis requiring ECMO approaches 70%, higher than for ECMO performed for other reasons.

Appendix IV

Pediatric infectious diseases programs that may be called 24/7 for pertussis management advice and decisions:

1.) Mattel Children's Hospital Division of Pediatric Infectious Diseases

   Call the UCLA Health Systems page operator at 310-825-6301 and ask to speak to the Pediatric Infectious Diseases Fellow on call.

2.) Rady Childrens’ Hospital San Diego/UCSD, Division of Infectious Diseases
Call the Division of Infectious Diseases, Rady Childrens’ Hospital San Diego/UCSD, at 858-966-7785 (direct office number). After hours, the office number will connect you to the on call ID physician pager, or you can reach the on call doctor through the main Rady Children’s Hospital operator at 858-576-1700.

3.) UCSF Division of Pediatric Infectious Diseases

Call the UCSF Pediatric Access Center and ask them to reach the Pediatric Infectious Disease Fellow on call. The phone number for the access center is 877-UC Child or 877-822-4453.

4.) Children’s Hospital Los Angeles Division of Infectious Disease

Call Children’s Hospital Los Angeles Division of Infectious Disease Office 323-361-2509 week days from 8:00 am to 4:30 pm. After hours and on weekends call Children’s Hospital Los Angeles operator at 323-361-2450 and ask for the Infectious disease physician on call.

**Pediatric intensivists that may be called 24/7 with questions about PICU care:**

Rady Childrens’ Hospital San Diego/UCSD, Pediatric Intensive Care Unit

Call 858-966-5900 and ask for the intensivist on call.

**References**


New Tdap requirement - 1) Archived webinar 2) Share what your plan or provider group doing!

Attention Health Plans, Provider Groups, and Medical Professional Organizations:

1) The California Department of Public Health has archived the following May 2011 webinar (also available as slide presentations) at http://www.shotsforschool.org/providerwebinars.html.

No summer vacation for pertussis – How are health plans and provider groups implementing the new Tdap requirement?

The clock is ticking. Under the new state law (AB 354), 3 million middle school and high school students need proof of a pertussis booster (Tdap) shot in a few months before the start of the 2011-2012 school year. Meanwhile, pertussis is widespread, with its annual peak season expected through the summer and fall.

How will your organization:
- protect your patients against pertussis
- help students and schools meet this new law
- raise your Adolescent Immunization HEDIS measure performance?

In this one-hour archived webinar speakers from the following organizations will briefly review their efforts to implement this challenging new requirement, followed by comments and questions:
- Kaiser Permanente
- Palo Alto Medical Foundation
- California Department of Public Health

2) How is your organization supporting the new Tdap requirement? CDPH wants to share best practices statewide. Send a brief description of your activities to info@shotsforschool.org.
HEALTH ADVISORY – MAY 2011

Eleven Measles Cases in California in 2011
Look for Signs of this Highly Contagious Disease

Since January 2011, eleven cases of measles have been reported in California and a nationwide increase in the numbers of reported measles cases has also been noted this year. As in recent years, nearly all of the cases are known to have traveled recently to Europe or Asia or to have been in contact with international travelers (including via transit through U.S. international airports); some of the cases have been intentionally unvaccinated children.

The last large outbreak of measles in the U.S. occurred during 1989-1991, with 17,000 cases of measles and 70 deaths in California. Efforts to increase immunization rates in the 1990s were successful and endemic transmission of measles in the U.S. was eliminated in 2000. In contrast, measles is now widespread in Europe because immunization rates have declined below the 90-95% rate needed to interrupt transmission. There are currently measles outbreaks in many European countries, including a large outbreak in France. Over 9,000 measles cases were reported in France between October 1, 2010 and the end of March 2011; most cases have been teenagers. In 2010, there were two deaths (one from encephalitis and one from pneumonia) and eight patients with neurological complications. In 2011, there have been two deaths due to pneumonia and 13 cases with neurological complications (12 cases of encephalitis and one case of myelitis and Guillain-Barre syndrome). Measles is currently circulating in most regions of the world outside of North and South America.

Immunize them before they go
Unvaccinated Californians who are traveling to countries where measles is circulating should receive MMR vaccine before they go. Infants traveling to these countries can be vaccinated as young as six months of age (though they should also have the two standard doses of MMR after their first birthday).

Remember the diagnosis
The recent cases in California highlight the need for healthcare professionals to be vigilant about measles. Your expert eye and diagnostic skills can make a difference in stopping the spread of measles in your community:

- Consider measles in patients of any age who have a fever AND a rash. Fever can spike as high as 105°F. Measles rashes are red, blotchy and maculopapular and typically start on the hairline and face and then spread downwards to the rest of the body.

- Obtain a thorough history on such patients, including:
  - travel outside of North or South America or contact with international travelers (including transit through an international airport) in the prior three weeks; and
  - prior immunization for measles.

- If you suspect your patient has measles, isolate (see next page) the patient immediately and alert your local health department as soon as possible.* The risk of measles transmission to others can be reduced if control measures are implemented.
- Collect specimens for measles testing:
o Draw 1-2 ml blood in a red-top tube; spin down serum if possible. NOTE: capillary blood (approximately 3 capillary tubes to yield 100 µl of serum) may be collected in situations where venipuncture is not preferred, such as for children <1 year of age.
o Obtain a throat or nasopharyngeal swab; use a viral culturette and place into viral transport media.
o Collect 10-40 ml of urine in a sterile 50 ml centrifuge tube or urine specimen container.
o Please arrange for measles testing at a public health laboratory.*

If measles is suspected:
1. Mask suspect measles patients immediately. If a surgical mask cannot be tolerated, other practical means of source containment should be implemented (e.g., place a blanket loosely over the heads of infants and young children suspected to have measles when they are in the waiting room or other common areas).
2. Do not allow suspect measles patients to remain in the waiting area or other common areas; isolate them immediately in an airborne infection isolation room if one is available. If such a room is not available, place patient in a private room with the door closed. For additional infection control information, please see the CDC “Guideline for Isolation Precautions” at: http://www.cdc.gov/hicpac/2007IP/2007IsolationPrecautions.html
3. If possible, allow only healthcare personnel with documentation of 2 doses of live measles vaccine or laboratory evidence of immunity (measles IgG positive) to enter the patient's room.
4. Regardless of immune status, all healthcare personnel entering the patient room should use respiratory protection at least as effective as an N95 respirator.
5. If possible, do not allow susceptible visitors in the patient room.
6. Do not use the examination room for at least two hours after the possibly infectious patient leaves.
7. If possible, schedule suspect measles patients at the end of the day.
8. Notify any location where the patient is being referred for additional clinical evaluation or laboratory testing about the patient's suspect measles status and do not refer suspect measles patients to other locations unless appropriate infection control measures can be implemented at those locations.
9. Instruct suspect measles patients and exposed persons to inform all healthcare providers of the possibility of measles prior to entering a healthcare facility so that appropriate infection control precautions can be implemented.
10. Make note of the staff and other patients who were in the area during the time the suspect measles patient was in the facility and for two hours after they left. If measles is confirmed in the suspect case, exposed people will need to be assessed for measles immunity.

* Telephone numbers for all local health departments in California are available at: http://www.cdph.ca.gov/programs/immunize/Pages/CaliforniaLocalHealthDepartments.aspx

Attached: Measles Alert Poster (IMM-908) Feb. 2010
Measles Travel Poster (IMM-1046) May 2011
Measles activity reported on Promed
January 1, 2011 - April 26, 2011