Appendix 3

In the Appendix:

Discussion of the ALERT IIS Forecaster

Description of Common Errors

ALERT IIS Forecaster Module

ALERT IIS contains a forecasting module that provides real-time recommendations of which vaccines should be given to a patient based on the patient's vaccination history and, in certain instances, based on patient comments.

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ÅLERT		organization Amjen	Medical Clinic •	user Amanda Ti	mmons • role Standard	l User				
	Patient I	nformation								
Training Region 1.0.0	Patient Na EDWARD (me (First - MI - Last) CHARLES SMITH	DOB 11/30/2010	Gender Tracking M A	Schedule Par	tient ID				
Patients	Address/P	hone	1212 N. OAK ST	REET, PORTLAND,	OR 97201 (503) 555-1212					
manage patient enter new patient	Comments									
Immunizations	Current Age: 2 months, 1 day									
Reports	Patient	Notes (0) view or updat	te notes							
reminder / recall check reminder status	Add N	ew Imms Add Histori	cal Imms Edit Pa	tient Reports	Print Record Print Co	onfidential Record				
check reminder list	Immuni	zation Record								
manage custom letters check request status	Vaccine	Vaccine Group Date Admin Series Vaccine [Trade Name] Dose Owned? Reaction Hist? Edit This patient has no immunizations associated with it.								
vfc report		This	s patient has no in	munizations as:	sociated with it.					
check group status	Vaccine	s Recommended by Se	lected Tracking So	hedule Farliest Date	Perommended Date	Past Due Date				
assessment report check assessment		DTP/aP	DTaP NOS	01/11/2011	01/30/2011	02/28/2011				
benchmark report		HepA	HenA, NOS	11/30/2011	11/30/2011	06/30/2012				
ad hoc list report		НерВ	HepB, NOS	11/30/2010	11/30/2010	02/28/2011				
ad hoc count report ad hoc report status		Hib	Hib. NOS	01/11/2011	01/30/2011	02/28/2011				
Inventory		Influenza-seasni	Influenza, NOS	05/30/2011	05/30/2011	06/30/2011				
manage inventory manage orders		MMR	MMR	11/30/2011	11/30/2011	03/30/2012				
manage transfers shipping documents	Г	PneumoConjugate	PCV13	01/11/2011	01/30/2011	02/28/2011				
transaction summary		Polio	Polio, NOS	01/11/2011	01/30/2011	02/28/2011				
doses administered		Rotavirus	Rotavirus, NOS	01/11/2011	01/30/2011	02/28/2011				
		Varicella	Varicella	11/30/2011	11/30/2011	03/30/2012				
						Add Selected				

Figure 1 - ALERT IIS forecast for a 2 month old.

By reading down the left side of the table, a clinician can quickly identify which vaccines should be given today. Since recommendations are made in real-time, the forecast will be updated as soon as historical or administered vaccinations are entered into the IIS.

The forecast includes five columns:

• **Vaccine Group** – This refers to the vaccine family that is recommended. For example, the DTP/aP group includes DTaP, DT and combination vaccines that contain DTaP.

- Vaccine This column shows the specific formulation that is recommended. For example, Tdap will be displayed for a patient who is over age 7 years and has not received a Tdap vaccine.
- Earliest Date This is the soonest date that a vaccine dose may be given, based on the minimum interval from the previous dose and the minimum age at which the next dose can be given. This may be helpful when vaccinating patients who are unlikely to return later for vaccination.
- Recommended Date This date is when the patient has entered the age range identified on the annual routine immunization schedule created by the ACIP/AAP/AAFP. In general, this is when vaccines are routinely administered.
- **Past Due Date** Typically, this date is 30 days past the end of the age range identified on the annual routine immunization schedule. This information is helpful to the clinician when the patient is behind on their immunizations. If necessary, immunizations that are past due can be prioritized for administration.

Vaccines that are currently recommended or past due are highlighted in green as shown in figure 1.

The vaccine groups listed in the first column are blue hyperlinks. When clicked, a pop-up will open that shows where the forecasted dose falls in a vaccine series. An example is shown in figure 2.

Serie	Series: HepA {Vaccine Group: HepA}									
Dose	Min Age	Min Rec Age	Min Overdue Age	Min Valid Interval	Min Interval Between	Rec Interval Between	Overdue Interval Between	Max Age		
1	1 Y	1 Y	19 M							
2	18 M	18 M	25 M		6 M	6 M	13 M			

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Figure 2

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ÅIEDT		organizatio	n Amjen	Medical	Clinic • us	er Amanda Tin	mons • role	Standard U	ser	
ALEKI	Patient In	formation								
Training Region 1.0.0	Patient Nam	ne (First - MI - L	Last)		DOB	Gender Tracking	Schedule	Patien	it ID	
•••••	EDWARD C	HARLES SMITH	4	1	1/30/2010	M AG	CIP			
Patients	Address/Ph	ione		1212	N. OAK STRE	ET, PORTLAND, C	R 97201 (503) 5	55-1212		
manage patient enter new patient	Comments									*
Immunizations	Current A	Age: 2 month	s, 1 day							
Reports	Patient I	Notes (0) <u>vi</u>	iew or upda	te notes						
reminder / recall	Add Ne	w Imms	Add Histori	cal Imms	Edit Patie	nt Reports	Print Record	Print Conf	idential Recor	d
check reminder list	Immuniz	zation Record	1							_
manage custom letters	Vaccine 0	Group Dat	te Admin	Series	Vaccin	e [Trade Name]	Dose Ov	vned? Read	tion Hist?	Edit
vfc report	DTP/aP	<u>01</u>	/29/2011	1 of 5	DTaP-IP	V/Hib [Pentacel ®]	Full			1/2
group patients check group status	НерВ	12	/01/2010	1 of 3	HepB	NOS [HepB ®]			Yes	14
assessment report		<u>01</u>	/29/2011	2 of 3	HepB-Peds	s [Engerix-B Peds	®] Full			14
check assessment benchmark report	Hib	<u>01</u>	/29/2011	1 of 4	DTaP-IP	V/Hib [Pentacel ®]	Full			1
check benchmark	PneumoCo	njugate <u>01</u>	/29/2011	1 of 5	PCV1	3 [Prevnar13 ®]	Full			11
ad hoc list report ad hoc count report	Polio	01	/29/2011	1 of 4	DTaP-IP	V/Hib [Pentacel ®]	Full			14
ad hoc report status	Rotavirus	<u>01</u>	/29/2011	1 of 2	Rotavirus, N	Ionovalent [Rotari	x®] Full			14
manage inventory	Vaccines	Recommen	ded by Se	lected T	racking Sch	edule				
manage orders	Select	Vaccine Gro	oup	Vac	cine	Earliest Date	Recomment	ded Date	Past Due Da	ate
shipping documents		DTP/aP		DTaP,	NOS	02/26/2011	03/30/2	011	04/30/201	1
transaction summary doses administered		<u>HepA</u>		НерА	NOS	11/30/2011	11/30/2	011	06/30/2012	2
doses duministered		<u>HepB</u>		HepB,	NOS	05/30/2011	05/30/2	011	06/30/2012	2
		Hib		Hib, I	NOS	02/26/2011	03/30/2	011	04/30/201	1
		Influenza-sea	isnl	Influenz	a, NOS	05/30/2011	05/30/2	011	06/30/201	1
		MMR		M	/R	11/30/2011	11/30/2	011	03/30/2012	2
		PneumoConjug	gate	PC\	/13	02/26/2011	03/30/2	011	04/30/201	1
		Polio		Polio,	NOS	02/26/2011	03/30/2	011	04/30/201	1
	Rotavirus		R	otavirus, I	Monovalent	02/26/2011	03/30/2	011	04/30/201	1
		Varicella		Vari	cella	11/30/2011	11/30/2	011	03/30/2012	2
									Add Selecte	d

Figure 3 - Updated ALERT IIS forecast after vaccine administration.

There are a few patient comments that affect the forecaster, for example immunity to a disease like varicella. In those cases, the forecaster will display a message in the forecast that explains why the vaccine is not being recommended.

{1 of 1} .. 02/28/2008 ~ Immunity: varicella (chicken pox)

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Vaccine	s Recommended by Sel	ected Tracking So	chedule					
Select	Vaccine Group	Vaccine	Earliest Date	Earliest Date Recommended Date				
	DTP/aP	DTaP, NOS	03/16/2011	03/16/2011	03/16/2012			
	HepA	HepA, NOS	07/25/2011	07/25/2011	02/25/2012			
	<u>HepB</u>	HepB, NOS		Complete				
	Hib	Hib, NOS		Complete				
	Influenza-seasni	Influenza, NOS	09/16/2007	08/01/2010	10/16/2007			
	MMR	MMR		Complete				
	PneumoConjugate	PCV13	06/17/2008	06/17/2008	07/22/2008			
	Polio	Polio, NOS	03/16/2011	03/16/2011	03/16/2012			
	Varicella	Varicella	Immunity Recorded for Vaccine Group					
					Add Selected			

Figure 4 - Patient comment shows immunity to varicella. Forecaster no longer recommends varicella vaccine. If the comment for this patient was "History of varicella," the forecaster would show the varicella group as "Contraindicated."

Other conditions in a patient's record may affect the forecaster. Doses that do not meet the minimum age or the minimum interval between doses may be ignored by the forecaster. These doses will be marked in the series column of the vaccine history as not valid. Clicking on the date of a dose that is marked not valid will open a pop-up box. At the top of the box, under the heading Explanation of Status, will be a short description of why the dose is invalid, see figure 5.

Expla	Explanation of Status										
Vacci	Vaccine group MMR has a minimum interval conflict with a dose from vaccine group Varicella.										
Serie	es: MM	R {Vaccine	Group: MMR								
Dose	Min Age	Min Rec Age	Min Overdue Age	Min Valid Interval	Min Interval Between	Rec Interval Between	Overdue Interval Between	Max Age			
1	1 Y	1 Y	16 M		28 D						
2		4 Y	5 Y		28 D	28 D	2 M				

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Comments

Figure 5 – an example of the reason a dose is invalid.

The ALERT IIS tracks doses marked as subpotent. Subpotent doses are vaccines that have been administered but may not have induced immunity because of mishandling, incorrect storage or some other issue. These doses show in the patient's history but are ignored by the forecaster. Repeat doses will be recommended in the patient's forecast. Clicking on the date of a subpotent dose will bring up a message about subpotent doses. See figure 7.

-Immunization F	Record							
Vaccine Group	Date Admin	Series	Vaccine [Trade Name]	Dose	Owned?	Reaction	Hist?	Edit
DTP/aP	03/27/2007	1 of 5	DTaP-HepB-IPV [Pediarix ®]		No		Yes	1
	07/31/2007	2 of 5	DTaP-IPV/Hib [Pentacel ®]	Full	No			1
	<u>11/09/2008</u>	3 of 5	DTaP, NOS [DTaP, NOS ®]	Full	No			1
	<u>11/10/2010</u>	4 of 5	DTaP-IPV [Kinrix ®]	Full	No			1
	01/05/2011	NOT VALID	DTaP-HepB-IPV [Pediarix ®]	Full	No			1
НерА	02/09/2008	1 of 2	HepA, NOS [HepA, NOS ®]	Full	No			1
	01/09/2011	2 of 2	HepA, NOS [HepA, NOS ®]	Full	No			1
НерВ	01/27/2007	1 of 3	HepB, NOS [HepB ®]		No		Yes	1
	03/27/2007	2 of 3	DTaP-HepB-IPV [Pediarix ®]		No		Yes	1
	01/05/2011	3 of 3	DTaP-HepB-IPV [Pediarix ®]	Full	No			1
Hib	07/31/2007	1 of 2	DTaP-IPV/Hib [Pentacel ®]	Full	No			1
	01/09/2011	2 of 2	Hib-PRP-T [ActHib ®]	Full	No			1
Influenza-H1N1	09/15/2009		Influenza-H1N1-09, NOS		No		Yes	1
Influenza-seasnl	09/21/2007	1 of 2	Influenza, NOS		No		Yes	4
	01/05/2011	2 of 2	Influenza, seasonal, injectable pfree [Fluzone Pres-Free ®]	Full	<u>No</u>			1
MMR	01/27/2008	1 of 2	MMR [MMR II ®]	Full	No	Yes		4
PneumoConjugate	03/09/2007	1 of 4	PCV7 [Prevnar7 ®]	Full	No			4
	03/27/2007	NOT VALID	PCV7 [Prevnar7 ®]	Full	No			4
	07/10/2007	2 of 4	PCV13 [Prevnar13 ®]	Full	No			4
	09/21/2007	3 of 4	PCV7 [Prevnar7 ®]		No		Yes	4
Polio	03/27/2007	1 of 4	DTaP-HepB-IPV [Pediarix ®]		No		Yes	4
	07/31/2007	2 of 4	DTaP-IPV/Hib [Pentacel ®]	Full	No			4
	<u>11/10/2010</u>	3 of 4	DTaP-IPV [Kinrix ®]	Full	No			4
	01/05/2011	4 of 4	DTaP-HepB-IPV [Pediarix ®]	Full	No			4
Rotavirus	03/30/2007	1 of 2	Rotavirus, Monovalent [Rotarix ®]		No		Yes	14
	05/09/2007	SUBPOTENT?	Rotavirus, Monovalent [Rotarix ®]	Full	No			1
	05/10/2007	2 of 2	Rotavirus, Monovalent [Rotarix ®]		No		Yes	1/2
TBTest	01/12/2011		TBTest, NOS [TBTest ®]	Full	No			1

Figure 6 - This record shows several items of particular interest to a clinician. The fifth administered dose of Pediarix and second dose administered dose of PCV7 show as not valid. The first dose of MMR has a reaction recorded. The second administered dose of rotavirus is marked as subpotent.

Doses flagged as potentially subpotent are typically flagged because the vaccine that was administered has expired or has been stored or administered incorrectly. The Advisory Committee for Immunization Practices(ACIP) states:

Vaccines that have been mishandled (e.g., inactivated vaccines and toxoids that have been exposed to freezing temperatures) or that are beyond their expiration date should not be administered. If mishandled or expired vaccines are administered inadvertently, they should not be counted as valid doses and should be repeated, unless serologic testing indicates a response to the vaccine. (http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5102a1.htm)

Potentially subpotent doses will be listed on the immunization record, but will not be counted in the forecast (i.e., a dose suspected of being subpotent will be reforecast as a dose that is still needed). These doses can be counted for school law purposes, however. For more information, please call the ALERT Help Desk at (800) 980-9431.

Figure 7 – Message describing subpotent doses.

Forecasting is a complex process requiring many decisions, both dependent and independent. Figure 8 shows a diagram that illustrates pieces of the computer forecasting algorithm needed to come up with vaccine recommendations.



Figure 8 – Partial diagrammed process for forecasting decisions

Although computer-generated vaccine recommendations are extremely useful to clinicians, they do not substitute for medical judgment. Forecasts in the ALERT IIS should always be reviewed by a clinician familiar with immunization recommendations.

The ALERT IIS forecaster is a table-driven system, which makes it flexible and easy to update as immunization recommendations change. ALERT IIS staffs strive to make the system's forecaster as accurate as possible; however, there are some places where system administrators know the forecaster will not display recommendations correctly. In general, these issues will affect only a small percentage of patients.

The most common issues are described below.

Pneumococcal Conjugate

In 2010, the ACIP recommended that pneumococcal conjugate 7 valent (PCV7) vaccine be replaced with pneumococcal conjugate 13 valent (PCV13) vaccine. The committee also recommended that children under the age of five years who received a complete series of PCV7 receive a booster dose of PCV13. In order to correctly forecast the PCV13 booster, the vaccine history will show the final dose of PCV7 as not valid (figure 9). The dose is actually acceptable, but invalidating it forces the forecast of a dose of PCV13. When the hyperlink on the invalid dose is clicked, the explanation states that the dose is not valid for this dose in the series as shown in figure 10.

PneumoConjugate	03/04/2009	1 of 4	PCV7	Full	No	11
	05/08/2009	2 of 4	PCV7	Full	No	11
	07/10/2009	3 of 4	PCV7	Full	No	di.
	01/13/2010	NOT VALID	PCV7	Full	No	11
Polio	03/04/2009	1 of 4	DTaP-HepB-IPV	Full	No	di.
	05/08/2009	2 of 4	DTaP-IPV/Hib	Full	No	11
	07/10/2009	3 of 4	DTaP-HepB-IPV	Full	No	di.
Varicella	01/13/2010	1 of 2	Varicella	Full	No	1

Vaccines Recommended by Selected Tracking Schedule

Select	Vaccine Group	Vaccine	Earliest Date	Recommended Date	Past Due Date
	DTP/aP	DTaP, NOS	01/03/2010	01/10/2010	08/01/2010
	<u>HepA</u>	HepA, NOS	07/13/2010	07/13/2010	02/13/2011
	<u>HepB</u>	HepB, NOS		Complete	
	Hib	Hib, NOS		Complete	
	Influenza-seasni	Influenza, NOS	02/08/2010	09/01/2010	01/11/2011
	MMR	MMR	02/10/2010	01/01/2013	01/01/2014
	PneumoConjugate	PCV13	03/10/2010	03/13/2010	05/01/2010
	Polio	Polio, NOS	01/01/2013	01/01/2013	01/01/2014
	Varicella	Varicella	04/13/2010	01/01/2013	01/01/2015
					Add Selected

Figure 9

Explanation of Status

Trade-named vaccine is not acceptable for this dose in the series.

The patient's age and vaccination history allowed for certain doses in the series to be skipped; however, the skip did not occur due to other validation issues.

Serie	Series: PCV13 {Vaccine Group: PneumoConjugate}										
Dose	Min Age	Min Rec Age	Min Overdue Age	Min Valid Interval	Min Interval Between	Rec Interval Between	Overdue Interval Between	Max Age			
1	42 D		3 M		28 D	2 M		5 Y			
2	70 D	4 M	5 M		28 D	2 M	3 M	5 Y			
3	98 D	6 M	7 M		28 D	2 M	3 M	5 Y			
4	12 M	12 M	16 M		56 D	2 M	3 M	5 Y			
5	12 M	12 M	16 M		56 D	2 M	3 M	5 Y			

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Figure 10

Polio

On August 7, 2009, the ACIP changed its recommendations for the final dose of polio vaccine. Previously, as long as the fourth dose of polio was given 4 weeks after the third dose, it was counted as the final dose in the polio series. The ACIP now recommends that the final dose of polio be given no earlier than age 4 years.

Oregon implemented this recommendation on January 1, 2010, however the decision was made not to invalidate all of the final polio doses given before January 1, 2010. The compromise implemented in ALERT IIS is that the fourth dose of polio will be forecast no earlier than four years of age. If a child receives the fourth dose prior to age four, the ALERT IIS will not mark the dose "not valid" and will not forecast an additional dose. See figures 11 and 12.

Current A	Current Age: 2 years, 10 months, 5 days Patient's date of birth - 02/28/2010										
Patient N	Notes (0) <u>view or updat</u>	e notes									
Add Ne	Add New Imms Add Historical Imms Edit Patient Reports Print Record Print Confidential Record										
Immunization Record											
Vaccine Group Date Admin Series Vaccine [Trade Name] Dose Owned? Reaction Hist? Edit											
Polio	02/26/2010	1 of 4 Po	lio-Inject [IPOL ®]	No	Yes 🧭						
	04/30/2010	2 of 4	Polio, NOS		Yes 🥳						
	07/22/2010	3 of 4	Polio, NOS		Yes 🛷						
Vaccine	s Recommended by Se	lected Tracking	Schedule								
Select	Select Vaccine Group Vaccine Farliest Date Recommended Date Past Due Date										
	DTP/aP	DTaP, NOS	12/12/2009	12/31/2009	01/31/2010						
	НерА	HepA, NOS	10/31/2010	10/31/2010	05/31/2011						
	НерВ	HepB, NOS	10/31/2009	10/31/2009	01/31/2010						
	Hib	Hib, NOS	01/31/2011	01/31/2011	01/31/2011						
	Influenza-seasnl	Influenza, NOS	04/30/2010	08/01/2012	05/31/2010						
	MMR	MMR	10/31/2010	10/31/2010	02/28/2011						
	PneumoConjugate	PCV13	10/31/2011	10/31/2011	10/31/2011						
	Polio	Polio, NOS	10/31/2013	10/31/2013	10/31/2014						
	Varicella	Varicella	10/31/2010	10/31/2010	02/28/2011						
					Add Selected						

Figure 11 – An example of the forecast for a child under age 4 years who has received three doses of polio.

Current A	Current Age: 2 years, 10 months, 5 days Patient's date of birth - 02/28/2010										
Patient N	Patient Notes (0) view or update notes										
Add Ne	Add New Imms Add Historical Imms Edit Patient Reports Print Record Print Confidential Record										
Immuni	zation Record										
Vaccine Group Date Admin Series Vaccine [Trade Name] Dose Owned? Reaction											
Polio	02/26/2010	1 of 4 Pol	lio-Inject [IPOL ®]	No	Yes 🚿						
	04/30/2010	2 of 4	Polio, NOS		Yes 🛷						
	07/22/2010	3 of 4	Polio, NOS		Yes 🛷						
	<u>11/01/2011</u>	4 of 4	Polio, NOS		Yes 🛷						
Vaccine	s Recommended by Se	elected Tracking	Schedule								
Select	Vaccine Group	Vaccine	Farliest Date	Recommended Date	Past Due Date						
	DTP/aP	DTaP NOS	12/12/2009	12/31/2009	01/31/2010						
	HenA	HenA NOS	10/31/2010	10/31/2010	05/31/2011						
	<u>nepa</u>	HepA, NOS	10/31/2010	10/3//2010	03/31/2011						
	Нерв	HepB, NOS	10/31/2009	10/31/2009	01/31/2010						
	Hib	Hib, NOS	01/31/2011	01/31/2011	01/31/2011						
	Influenza-seasnl	Influenza, NOS	04/30/2010	08/01/2012	05/31/2010						
	MMR	MMR	10/31/2010	10/31/2010	02/28/2011						
	PneumoConjugate	PCV13	10/31/2011	10/31/2011	10/31/2011						
	<u>Polio</u>	Polio, NOS		Complete							
	Varicella	Varicella	10/31/2010	10/31/2010	02/28/2011						
		_			Add Selected						

Figure 12 – The forecast for the same child after the fourth dose of polio is administered before the fourth birthday.

Spacing Between Doses Using Combination Vaccines

Spacing between vaccine doses is extremely important for optimal immune response. When patients get behind on immunizations there is a tendency to attempt to give needed doses as soon as possible, however minimum spacing must be maintained. Vaccine doses given too close together may not provide protection against disease.

An error that is occurring frequently happens when a child has received a birth dose of hepatitis B vaccine followed by doses of PediarixÒ vaccine. When PediarixÒ is administered on schedule at two months, four months and six months, the dose given at four months will show as "not valid" for hepatitis B. The dose at six months will complete the hepatitis B series. See figure 13.

A.3 ALERT Immunization Information System

When a patient comes in a bit late for the four month shots and then on time for the doses at six months, this may cause both the third and fourth doses of hepatitis B vaccine to be invalid, since there must be at least 8 weeks between the last invalid dose and the final dose of the hepatitis B series, see figure 14.

Immuni	Immunization Record										
Vaccine	Group	Date Admin	Series	Va	ccine [Trade Nam	e]	Dose	Owned?	Reaction	Hist?	Edit
DTP/aP		01/10/2012	1 of 5	DTaF	P-HepB-IPV [Pediari	x ®]	Full				1
		03/12/2012	2 of 5	DTaF	DTaP-HepB-IPV [Pediarix ®]		Full				14
		06/08/2012	3 of 5	DTaP-HepB-IPV [Pediarix ®]		x ®]	Full				14
НерВ		11/01/2011	1 of 3	HepB-Peds [Engerix-B Peds ®]		ds ®]	Full				1
		01/10/2012	2 of 3	DTaP-HepB-IPV [Pediarix ®]		Full				1	
		03/12/2012	NOT VALID	DTaF	P-HepB-IPV [Pediari	x ®]	Full				1
		06/08/2012	3 of 3	DTaF	P-HepB-IPV [Pediari	x ®]	Full				1
Polio		01/10/2012	1 of 4	DTaF	P-HepB-IPV [Pediari	x ®]	Full				1
	03/12/2012 2 of 4		2 of 4	DTaP-HepB-IPV [Pediarix ®]		Full				1	
		06/08/2012	3 of 4	DTaF	P-HepB-IPV [Pediari	x ®]	Full				1
Vaccine	s Recom	mended by §	elected Tra	cking S	chedule						
Select	Vacc	ine Group	Vacc	ine	Earliest Date Rec		omme	nded Date	e Past	Due D	ate
	[DTP/aP	DTaP,	NOS	12/02/2012		12/08/2012		06	01/201	3
		<u>HepA</u>	HepA,	NOS	11/01/2012		11/01	/2012	06	01/201	3
		<u>HepB</u>	HepB,	NOS			Con	nplete			
		Hib	Hib, N	IOS	11/01/2012		11/01	/2012	11	01/201	2
	Influe	nza-seasnl	Influenza	a, NOS	05/01/2012		09/01/2012		06	01/201	2
	MMR		MM	R	11/01/2012		11/01	/2012	03	01/201	3
	PneumoConjugate		PCV	13	11/01/2012		11/01	/2012	03	01/201	3
		Polio	Polio, I	NOS	11/01/2015		11/01	/2015	11	01/201	6
	V	aricella	Vario	ella	11/01/2012		11/01	/2012	03	01/201	3

Figures 13 and 14 – The third dose of hepatitis B shows as not valid but the fourth completes the series (above). In figure 14 below, the fourth dose was given too soon after dose three making both invalid.

Current Age: 1 year, 29 days											
Patient Notes (0) view or update notes											
Add New Imms Add Histo		orical Imms	Edit Patient Reports Pri		Record P	rint Confidenti	nt Confidential Record				
Immunization Record											
Vaccine Group	Date Admin	Series	Vaccine [Trade	Name] D	ose Owned	? Reaction	Hist? Edit				
DTP/aP	01/10/2012	1 of 5	DTaP-HepB-IPV [Pe	ediarix ®]	Full		11				
	04/02/2012	2 of 5	DTaP-HepB-IPV [Pe	diarix ®]	Full		14				
	05/08/2012	3 of 5	DTaP-HepB-IPV [Pe	diarix ®]	Full		14				
НерВ	11/01/2011	1 of 3	HepB-Peds [Engerix-	B Peds ®]	Full		14				
	01/10/2012	2 of 3	DTaP-HepB-IPV [Pe	diarix ®]	Full		11				
	04/02/2012	NOT VALID	DTaP-HepB-IPV [Pe	diarix ®]	Full		14				
	05/08/2012	NOT VALID	DTaP-HepB-IPV [Pe	diarix ®]	Full		14				
Polio	01/10/2012	1 of 4	DTaP-HepB-IPV [Pe	diarix ®]	Full		14				
	04/02/2012	2 of 4	DTaP-HepB-IPV [Pe	ediarix ®]	Full		14				
	05/08/2012	3 of 4	DTaP-HepB-IPV (Pe	diarix ®]	Full		1/				

-Vaccines Recommended by Selected Tracking Schedule

Figure 14

Spacing Between Doses of Intranasal Influenza Vaccine and Other Live Vaccines.

Most live vaccines need to be administered on the same day or at least 28 days apart. If live vaccines are not given on the same day or at least 28 days apart, only the vaccine given first will be counted as valid. Frequently, providers are administering live, intranasal flu vaccine too soon after MMR or Varicella vaccines, or are not waiting 28 days after the intranasal flu vaccine is administered to give MMR and Varicella. In these cases, the vaccine given second must be repeated, as shown in Figure 15.

Current Age: 4 years, 10 months, 29 days												
Patient Notes (0) view or update notes												
Add New Imms Add Histori		cal Imms Edit Patient Re		Reports	Print Record Print C		Confidential Record					
Immunization Record												
Vaccine Group Date Admin		Series	Vaccine [1	rade Name	e] Dose	Owned? Re	eaction H	list? Edit				
Influenza-seasni <u>09/</u>		09/22/2010	1 of 2	FLU-Nasa	FLU-Nasal [FluMist®]] Full		1			
MMR	10/08/2010		NOT VALID	MMRV [/MRV [Proquad ®]		Full		14			
Varicella		10/08/2010	NOT VALID	NOT VALID MMRV (Proquad		Full			1			
Vaccines Recommended by Selected Tracking Schedule												
Select	Vaccine Group		Vaccine	Earlies	Earliest Date		Recommended Date		Past Due Date			
	DTP/aP		DTaP, NOS	6 02/12/	02/12/2008		03/01/2008		04/01/2008			
		<u>HepA</u>		S 01/01/	01/01/2009		01/01/2009		08/01/2009			
		НерВ	HepB, NOS	6 01/01/	01/01/2008		01/01/2008		04/01/2008			
		Hib		04/01/	04/01/2009		04/01/2009		04/01/2009			
	Influe	enza-seasni	FLU-Nasa	10/20/	2010	09/01/2012		11/17/2010				
		MMR	MMR	11/05/	11/05/2010		/2010	11/05/2010				
	Pneun	noConjugate	PCV13	01/01/	01/01/2010		/2010	01/01/2010				
		Polio	Polio, NOS	02/12/	2008	03/01	/2008	04/0	1/2008			
	Varicella		Varicella	11/05/	11/05/2010		11/05/2010		11/05/2010			
								Add S	Selected			

Figure 15