

Clinical Decision Support for Immunization (CDSi)

Clarity, Consistency, and Computability

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Topics

- ❑ **CDSi's First Year**
- ❑ **Future Initiatives**
- ❑ **Noteworthy Issues and Developments**

CDSi's First Year

- ❑ **Received good feedback through requests for support:**
 - IIS programs and vendors
 - EHRs
 - CDC
 - IISB TIPS Project
 - EIPB (NIPINFO)
 - National Immunization Survey
 - New Zealand Ministry of Health
 - National Institute for Occupational Safety and Health (NIOSH)
- ❑ **Worked with other groups to align our resources:**
 - HL7
 - Federal Health Information Model
 - Health eDecisions

Evaluation Feedback

Recent assessment of the impact and use of CDSi artifacts:

- Preliminary results show 80% (n=42) of respondents found the CDSi resources to have a Somewhat or Very Positive Impact.
- Of current CDSi users, 94% said they would use the Logic Specification and 100% said they would use the Supporting Data to modify their systems and/or seek clarification when new or changed ACIP recommendations are published.
- Others commented that they would use the resources when redesigning their CDS systems.

CDSi Next Steps

- ❑ **Maintain and sustain support for existing resources**
 - Respond to queries and support users of the resources
 - Update resources when recommendations change
- ❑ **Continue to interface with EIPB/NIPINFO**
- ❑ **ACIP Presentation**

CDSi Next Steps

❑ **Adult Vaccines**

- Project has just been funded
- Will develop the same resources for the adult schedules

❑ **Underlying conditions**

- Document
- Standardize electronic codes

❑ **Evaluation Services**

- Formal evaluation plan
- Determine impact and uptake

Key Activity Since Last AIRA meeting (9/12)

October 2012

- Expert panel consensus
- Published logic specification and supporting data

Summer 2013

- Updates to:
 - Supporting data
 - Test cases

January 2013

- Expert panel consensus
- Published test cases

Fall 2013

- Updates to:
 - Logic specification
 - Supporting data
 - Test cases

Focus for today

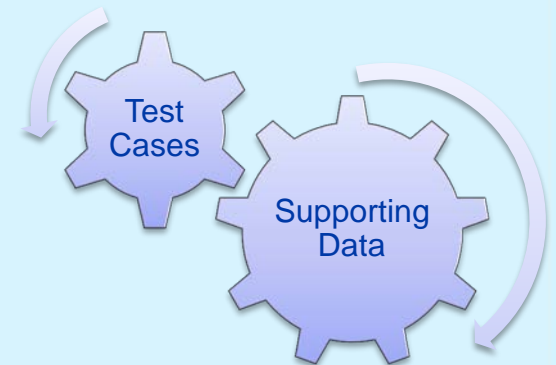
Summer 2013 Updates

❑ Supporting data

- Test case informed improvements
- Community-based improvements
- New CVX codes
- Typographical errors

❑ Test cases

- Supporting data informed improvements
- Community-base improvements
- Typographical errors



Fall 2013 Updates

❑ Logic specification

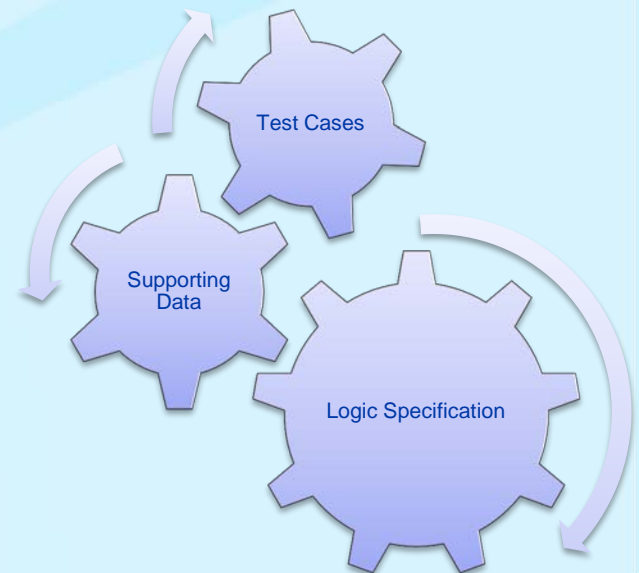
- Community-based improvements for clarity
- Business rule clarity improvements for implementers
- Logic updates to address skipping doses in a catch-up scenario

❑ Test cases

- 2013-14 influenza recommendations
- Community-based improvements
- Supporting data informed improvements

❑ Supporting data

- 2013-14 influenza recommendations
- Community-based improvements
- Test case informed improvements



Community Driven Improvements

❑ MCV at 10 years (5th grade)

- Through detailed efforts by a community member, the CDSi team, and NIPINFO, it was determined that a dose of MCV administered at 10 years can count towards the adolescent MCV series.
- This should not be a recommended practice (forecast), but it can be considered valid if administered
- The Meningococcal SMEs prefer that this dose count as many states have 5th grade school entry requiring a dose of MCV.
- This resulted in an updated to Supporting Data and Test Cases

❑ Other examples of community driven improvements

- Polio catch-up schedule dose skipping
- Hep A overdue calculation
- 161 updated test cases out of 750

Community Submission - The Question

Basic Polio ACIP Recs

Dose #	Age	Interval
1	2 mo	
2	4 mo	4 wks
3	6 mo	4 wks
4	4 yrs	6 mo

Community Submitted Scenario

Age	Interval	Eval Status	Eval Reason
≥ 2 mo		Valid	
≥ 4 mo	≥ 4 wks	Valid	
≥ 6 mo	≥ 4 wks	Valid	
< 4 yrs	≥ 6 Mo	Not Valid	Age: Too Young
≥ 4 yrs	< 6 Mo (5 mo 2 wks)	Not Valid	Interval: Too Soon

- 1) *Are the evaluations of doses correct?*
- 2) *Should this child be recommended to receive another dose of polio?*

Community Submission - The Responses

□ CDSi response

- *“I agree with the evaluation. An additional dose of polio would be forecasted in CDSi.”*



□ NIPInfo

- *“I would say you have correctly assessed the IPV scenario. [But] I do not believe immunologically that this patient would be at any greater risk than a patient who did not violate the minimum interval recommendations.”*



Community Submission - The Reasons

- Considers each case specific to the scenario given for the patient referenced
- May override strict ACIP recommendations in certain situations due to clinical perspective (e.g: likelihood of patient returning)

NIPInfo



- Applies same logic to all scenarios based on ACIP published recommendations and NIPInfo clarifications
- One-time clinical exceptions cannot be taken into consideration

CDSi

RULES				
Is the car wash open?	No	-	-	Yes
Is my car dirty?	-	No	-	Yes
Do I have enough money?	-	-	No	Yes
Is the car wash closed?	No. The car wash is closed.	No. My car is not dirty.	No. I cannot afford it.	Yes. I should wash my car.

Closing the Gap

□ CDSi and NIPInfo related improvements

- Relationship and communication between CDSi and NIPInfo teams continues to strengthen
- Understanding one-off scenarios vs. ACIP clarifications
- Working towards common vocabulary

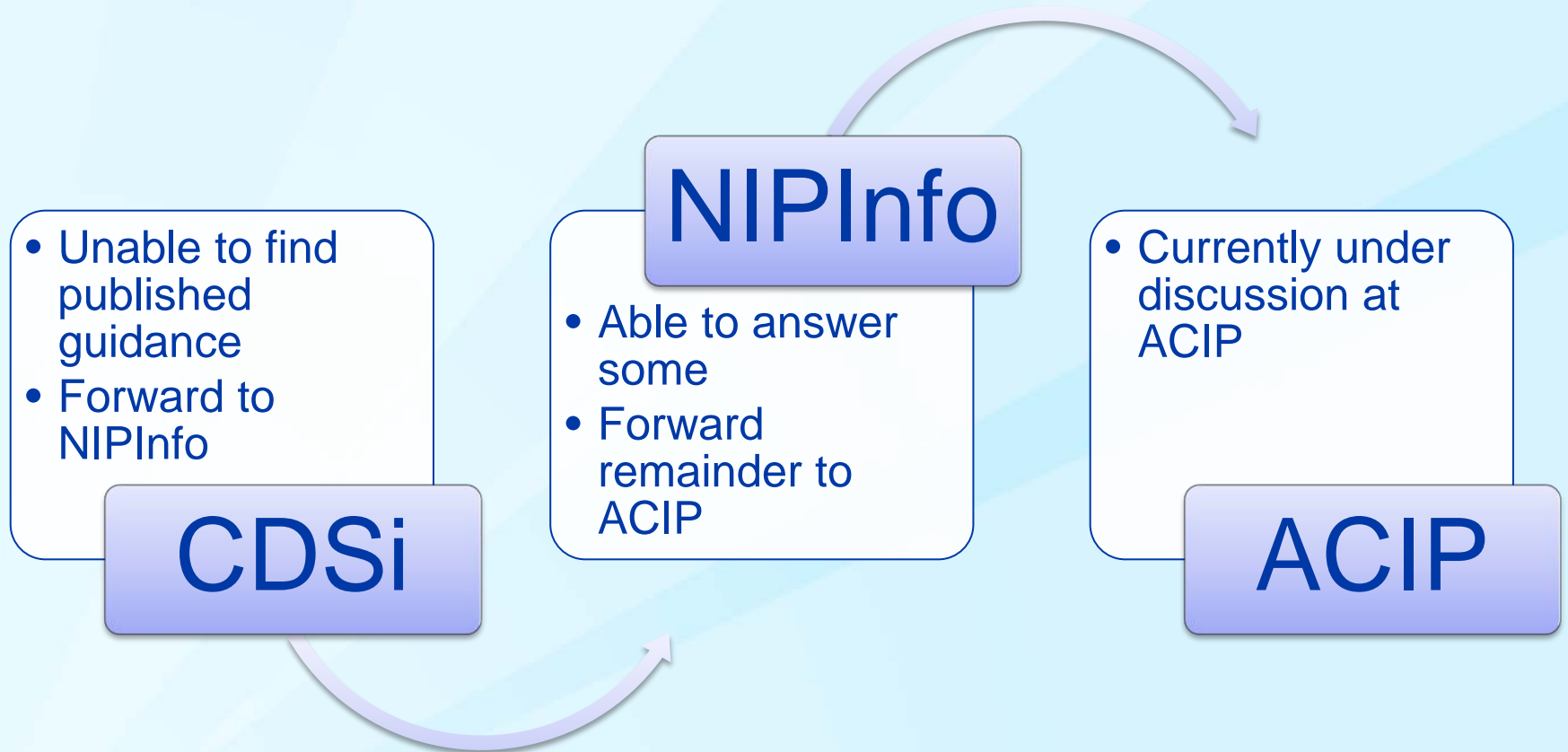
□ IIS Enhancements

- Functionality to override the base ACIP recommendations for one-off scenarios (on a per-patient basis)

Community Question: HepB 4-dose

- **2013 Harmonized schedule footnote for HepB**
 - *“Administration of a total of 4 doses of HepB vaccine is recommended when a combination vaccine containing HepB is administered after the birth dose.”*
- **Some sample questions CDSi received**
 - What are the age requirements for dose 3? dose 4?
 - What are the interval requirements between doses 2 and 3?
 - What are the interval requirements between doses 3 and 4?
 - What are the interval requirements between doses 1 and 4? doses 2 and 4? doses 1 and 3?
 - Do doses 2, 3, and 4 all have to be combination vaccines?
 - Should we recommend (forecast) the 4-dose schedule if dose 2 is a combination vaccine?

Community Question: HepB 4-dose Cont'd



Community Question: HepB 4-dose

- **Known answers to questions CDSi received**
 - What are the age requirements for Dose 4?
 - ≥ 24 weeks
 - Do doses 2, 3, and 4 all have to be combos?
 - No.
 - Should we recommend (forecast) the 4-dose schedule if dose 2 is a combo?
 - No. The standard 3-dose should always be recommended at this point.

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