Quick Overview of the next 15 mins

- **CDSi Project Background**
  - What is, isn’t, where it fits, and how it was developed

- **CDSi 3.0**
  - Risk factors, contraindications, immunities
    - AKA: the really complicated stuff!

- **Moving Forward**
  - How can you use this?
  - How can you help improve through usage?
ACIP Recommendations with Communication and Education Branch (CEB) Clarifications

Before the Clinical Decision Support for Immunization (CDSi) Project

System A
System B
System C

Individual Interpretation And Implementation

System C Recommendation
System B Recommendation
System A Recommendation

With CDSi

ACIP Recommendations with Communication and Education Branch (CEB) Clarifications

CDSi Resources

Workgroup Interpretation and Documentation

Individual Implementation

Consistent System Recommendations
Sources of Knowledge

CDSi resources translate clinical recommendations into technical information

ACIP Recommendations

Logic Specification
Supporting Data
Test Cases

The complete suite of CDSi Resources comprises:

Logic Specification
- Vocabulary
- Business Rules
- Decision Tables
- Processing Definitions
- Domain Model

Supporting Data
- Excel Format
- XML Format
- Release Notes

Test Cases
- Excel Format

Training Materials
- Brochure
- Practice Exercises
- Videos
- Quick Guides
- Quiz
v1.0 - 2013
• Birth through 18
• Limited Immunities & Contraindications

v2.0 - 2015
• Birth to Death
• Limited Immunities & Contraindications

v3.0 - 2016
• Birth to Death
• Risk Factors
• Immunities
• Contraindications
• Travel

CDSi and Adults

The “Easy”
• Routine Recommendations
  – Flu
  – Zoster
  – Td(ap)
  – Pneumococcal
• Increased Risk Schedules

The “Not-so-Easy”
• Mapping ACIP Risks to IT Codes
• Varied Language across MMWRs
• Risks not captured in IT systems
• Vague Phrases
Mapping ACIP Risks to IT Codes (SNOMED, ICD)

Varied MMWR Language

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Recommendation Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumococcal</td>
<td>“Chronic renal failure”</td>
</tr>
<tr>
<td>HepB</td>
<td>“Persons with end-stage renal disease”</td>
</tr>
<tr>
<td>Influenza</td>
<td>“Renal disorder”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Recommendation Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumococcal</td>
<td>“Chronic liver disease (including cirrhosis)”</td>
</tr>
<tr>
<td>HepA and HepB</td>
<td>“Persons with chronic liver disease”</td>
</tr>
<tr>
<td>Influenza</td>
<td>“Hepatic disorder”</td>
</tr>
</tbody>
</table>

Does this represent meaningful variation? Is cirrhosis included in HepA and HepB?
Concepts Not Known to EHR/IIS

- It may not be reasonable for a patient’s record to include certain information

- Examples:
  - “Not in a long-term, mutually monogamous relationship”
  - “Close contact with an international adoptee during the first 60 days”
  - “Travel to country with a Yellow Fever vaccination entry requirement”
  - “Microbiologists routinely exposed to Neisseria meningitides”
  - “Household contact with a pregnant woman”

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What happens in Vagueness, stays in Vagueness

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Recommendation Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various</td>
<td>“Health care personnel”</td>
</tr>
<tr>
<td></td>
<td>Does this include anyone working in a health care facility? Clinicians only? Lab staff? Front end staff?</td>
</tr>
<tr>
<td>HepB</td>
<td>“Public safety worker exposed to blood or infectious body fluids”</td>
</tr>
<tr>
<td></td>
<td>What is the definition of “public safety worker”? First responders? Police? Social workers?</td>
</tr>
<tr>
<td>Meningococcal</td>
<td>“Persons at risk during an outbreak”</td>
</tr>
<tr>
<td></td>
<td>Does this refer to classes of people (e.g. first responders, clinicians) or activities or environmental conditions?</td>
</tr>
</tbody>
</table>
Solving Challenges

Using and Improving CDSi

- Join the CDSi Informational Workgroup
  - 100% remote participation
  - Anyone and Everyone is welcome
  - Minimally meets 3-times per year following each ACIP meeting
  - May meet more as needed/desired
  - Focus: Recent ACIP votes, recent CDSi changes, Future CDSi changes

- Use CDSi Resources
  - Training Material (designed to be short)
  - Test Cases
  - Supporting Data
  - Logic Spec

- Improve CDSi
  - Communicate with CDSi project team on questions, improvements, etc.
CDSi Contributors

CDSi panel/informational group
CDC vaccine group SMEs
Andrew Kroger
Stuart Myerburg
Craig Newman
Patricia Speights
Eric Larson