Child Health Information
Technology: Progress through Collaboration

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Some Assumptions & A Disclaimer

- The development of an interoperable child health information infrastructure will improve child health care quality, outcomes and costs and contribute to improved child health outcomes.
Assumptions

- The *chasm* in the quality, safety, and equity of care also exists for children.
- Need to focus on HIT *within the context of improvement* in health care quality along six IOM dimensions.
- *States* play a critical role.
- “*It is time*” - readiness for change.
Assumptions (2)

- Significant *progress* in last year alone
- Need to promote *dialogue* between and among child health focused and broader groups
- Opportunity to *work with others*, build on progress, and support the agenda
The Disclaimer...

- Everything I know about HIT I learned not in kindergarten, but from
  - Rick Shiffman
  - Andy Spooner
  - Steve Downs
  - Kevin Johnson
  - Paul Biondich
  - Denise Dougherty... and others!
Outline

- Why focus on children?
- What do we know about HIT adoption in child health care?
- The National Child Health Data Standards Workgroup
- Other National collaborations
- Next steps
The “Four D’s” and their Implications for HIT

- **Differential epidemiology**
  - Emphasis on prevention, growth & development
  - Ambulatory & lower cost
    - *lack of attention (policy, purchasers, SDO’s, vendors, etc...)*
    - primary care and solo practices are HIT laggards

- **Dependency**
  - Diverse and often unstable family structures
    - Confidentiality, privacy issues e.g. divorced parents, emancipated adolescents

- **Developmental trajectory**
  - Rapid change in health needs
    - unique pediatric functionalities
    - reference values change over time
    - need for longitudinality

- **Differential systems**
  - Heavy reliance on public systems
  - Links to public systems, child care, schools, foster care
    - low provider reimbursements & undercapitalized practices
    - high need for interoperability

Forrest, Simpson, Clancy, JAMA 1997
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What Do We Know About HIT Adoption In Child Health Care?

- Very little
- Reasons to believe lags behind others:
  - Largely ambulatory specialty
  - Lack of margin and capital in pediatric practices
  - Heavy dependence on Medicaid and poor reimbursements
### Adoption of HIT by Medical Training, Florida Child Health Providers, 2005

<table>
<thead>
<tr>
<th>Primary Care</th>
<th>Routine office computer use</th>
<th>Routine PDA use</th>
<th>Email use with patients</th>
<th>Routine EHR use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Care Pediatrics</td>
<td>79.9</td>
<td>38.4</td>
<td>14.3</td>
<td>17.0</td>
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<tr>
<td>Family Medicine</td>
<td>78.4</td>
<td>42.2</td>
<td>21.9</td>
<td>26.8</td>
</tr>
<tr>
<td>Other</td>
<td>86.7</td>
<td>38.4</td>
<td>16.4</td>
<td>36.4</td>
</tr>
</tbody>
</table>

**p value**
- .052
- .419
- .005*
- <.001*

Note: sample size varies by question, overall N=1219
Use of Specific Pediatric Functions among Routine EHR Users, Florida CH Providers, 2005

- Routine use of EHR – 24.2%
- EHR Functions relevant to pediatric practice:
  - Weight based dosing calculations: 30.4%
  - Growth charting: 46.4%
  - Preventive service reminders: 34.3%
  - Patient education materials: 51%
  - Electronic prescribing: 56.7%
Pediatric Functionalities, Florida CH Providers, 2005

- No ability and *no plan to do in next year*:
  - Ability to interface with public and private schools: 77.4%
  - Ability to interface with public health: 62.8%
  - Ability to send reminder notice: 35.9%
  - Receives alert or prompt: 50.1%
Barriers to HIT Adoption & Use, Florida CH Providers, 2005

- Considered the following a “major barrier”:
  - Upfront costs of hardware/software: 56.2%
  - Entering data cumbersome: 43.4%
  - Lack of uniform data standards: 39.9%
  - Lack of time to implement system: 39.5%
  - Inadequate return on investment: 37.8%
  - Disrupts workflow: 26.1%
# Factors in Determining Compensation, Florida CH Providers, 2005

<table>
<thead>
<tr>
<th>Factor</th>
<th>Not a Factor (%)</th>
<th>Minor Factor (%)</th>
<th>Major Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of clinical IT</td>
<td>70.8</td>
<td>23.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Patient surveys &amp; experience</td>
<td>66.3</td>
<td>26.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Measures of clinical care</td>
<td>59.5</td>
<td>27.7</td>
<td>12.8</td>
</tr>
<tr>
<td>Productivity/Billing</td>
<td>22.8</td>
<td>18.1</td>
<td>59.1</td>
</tr>
</tbody>
</table>
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Some History...

The Pediatric Quality Standards Initiative (PediQS)
- Members: AAP, ABP, CHCA, ICHP, NACHRI, Nemours, NICHQ, MMP
- Focus:
  - Quality measures → JCAHO, NQF, CMS
  - Data standards → HL7, NCHDSWG
Partners

■ **FLICHQ**
  - To improve the quality of healthcare for all children in Florida and the nation through research, teaching and the translation of knowledge into effective policies and practices

■ **NICHQ**
  - To eliminate the gap between what is and what can be in health care for all children

■ **AHRQ**
  - To improve the quality, safety, efficiency, and effectiveness of health care for all Americans
Project Goal

- To *facilitate* the development, testing, and deployment of data standards specific to children’s healthcare.
Components

- National CH Data Standards Workgroup
- Commissioned papers
- Technical expert panel
- Dissemination
Workgroup Functions

- Identify key issues for attention
- Prioritize focus areas for standards development
- Review products
  - Commissioned papers
  - TEP
- Assist in dissemination
Five Commissioned Paper Topics

- An overview of data standards (Biondich & Downs)
- The role that advancing HIT standards could play in improving quality/safety (Spooner & Classen)
- Linking various HIT systems together in child health, including public health, schools, emergency medical systems, and social service (Hinman & Davidson)
- Regulatory and Legal Barriers to HIT adoption in child health (Rosenbaum)
- Policy and System strategies to quickly implement new HIT related standards, including the role of Medicaid, SCHIP and public financing (McTaggart & Bagley)
Priority Setting Criteria

- Reach
  - Broad Segment
  - Aligned with other EHR/HIT Initiatives

- Feasibility
  - Politically and strategically
  - Doable

- Impact
  - Important
  - Cross cutting
  - (Relatively) unique to child health
  - Supports interoperability
  - High level of inefficiency

- Improvability
  - Existing clinical consensus
  - Essential to quality and safety
TEP Focus: Pediatric Asthma

- Reach
  - Crosses ambulatory & inpatient settings

- Feasibility
  - Important to both public & private purchasers
  - Doable

- Impact
  - Most prevalent chronic condition of childhood
  - High cost due to avoidable hospitalizations & ED use
  - Affects clinical, public health, schools
  - High level of inefficiency

- Improvability
  - Existing clinical consensus with NHLBI guideline
  - Existing quality measures
  - Evidence base for improvement
*To support more specific research programs and clinical trials, the National Cancer Institute’s Thesaurus may be used in conjunction with SNOMED CT. The two terminologies will be related through mapping.*
**TEP Process & Products**

- **Review and mapping of NHLBI guideline**
  - Identification of concepts
  - Mapping to existing vocabulary standards
  - Proposing new standards for gaps found

- **Review of potential applications of standards**
  - Medicaid and SCHIP minimum data set
  - Data standards for pediatric RHIOs
  - Improve hospital data collection & reporting
  - Coding procedures
  - Define data standards linked to quality measures
  - Develop a research agenda
Dissemination

- **Primary audiences**
  - Quality community
  - Policy audience

- **Connecting Kids Conference**
  - Linked to 5th Annual NICHQ Forum
  - Orlando, March 2006

- **Session at National Health Policy Conference**
  - DC, February, 2006
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HL7

National Policy Makers
AHRQ, CMMS, Congress, States

AHRQ Pediatric IT Workgroup
- Analyze national priorities for further IT measure and standards development
- Convene stakeholders and establish technical panels for focus areas for IT standard development
- Educate stakeholder, disseminate, and implement communication approaches for new pediatric IT Standards

Create area of focus and specific technical panel

Provide New HL 7 standards or identify current standards that apply to focus areas

HL7 Pediatric Data Standards Special Interest Group (SIG)
- Identify critical pediatric-specific data standards for quality and outcomes measurement reporting
- Identify required terminology
- Create nomenclature lexicon
- Coordinate with other groups interested in using pediatric data standards
- Develop, propose and get approval for standards in HL7

Certification Commission for Health Information Technology

Health Information Technology Vendors

Pediatric Care Providers
The Pediatric Steering Group

Made up of the American Academy of Pediatrics, the American Board of Pediatrics, the Child Health Corporation of America, and the National Association of Children’s Hospitals

Five Key Principles:

- Every child should have a personal electronic health record that is available 24 hours a day, 7 days a week, in whatever location is necessary to provide care to the patient.
- All information systems must be built on national standards for both data and functionality. The Health Level 7 (HL7) EHR Draft Standard for Trial Use, its accompanying standards, and future versions should be adopted in all health care settings, including hospital, ambulatory care, and public health.
- A standard method of transmission of data among information systems must be established.
- All information systems and procedures for data transmission must protect the privacy and integrity of patient data through compliance with the Privacy and Security Rules of the Health Insurance Portability and Account Act (HIPAA) of 1996.
- The availability of planning and implementation grants to begin building local networks based on national standards and including all health care providers would greatly improve the speed at which the NHIN will develop.
AHRQ Implementation Grants: Highlights

- Focus on the implementation and diffusion of HIT; assess how HIT contributes to measurable and sustainable improvements in patient safety, cost, and quality of care
  - Implementation and evaluation of a community-wide EHR for inner-city children diagnosed with asthma
  - Implementation and evaluation of health technologies (e.g., bar coding systems, CPOE, electronic medication administration record) in an inpatient pharmacy system
AHRQ Value Grants: Highlights

- Increase the knowledge of the value of HIT (e.g., clinical, safety, quality, organizational, financial benefits)
  - Assessment of improvements in patient safety using decision support system with reminders for guideline adherence and choice prompts for medications
  - Assessment of the accuracy of health information obtained from parents using patient-centered health technology compared to information obtained by ED physicians and nurses; measuring the impact on guideline adherence and medication errors
Enable the development of HIT infrastructure that provides for effective exchange of health information within a community

- Development of a database to include diagnosis, health records, and educational information on children with special health care needs
- Development, implementation, and evaluation of a cooperative effort in using HIT to facilitate medical and developmental care for infants at-risk for neurodevelopmental problems
State & Regional Demonstrations in HIT

- Implementation of statewide information and communication technologies to enable clinicians access patient information from other clinical repositories at the point of care
  - Five year state-based contract
  - Colorado, Indiana, Rhode Island, Tennessee, Utah

[FLICHQ logo]

NICHQ
Next Steps

- Successful deliver a proposed set of standards and their applications to user audiences
  - SDO’s (HL7, SNOMED, LOINC, etc…)
  - CCHIT
  - States and Medicaid
  - RHIOs

- Keep the focus on children

- Work at two levels:
  - Nationally to promote a “CHII”
  - At state level (Florida) to integrate pediatric focus within larger RHIO efforts

- Secure additional funding for collaborative action