Interoperability – Texas Style
Interoperability – Texas Style

• Why is this important?
• What technologies are out there?
• What impacts exchange?
• What can HIM professionals do?
Goal of Meeting

• Understanding of interoperability platforms currently in use
• Understanding of value of interoperability and exchange
• Introduction to technology tools available to decrease administrative burden
• Understanding of data capture to improve patient linking
• HIM professional advocacy
Why is this important?

In the Emergency Room –

“for each 1-hour reduction in access time”:

• Visit time 52.9 minutes shorter
• Likelihood of imaging decreased
• Likelihood of IP admit decreased
• Charges decreased $1187
Interoperability Platforms...

• HITEexas
• Regional Health Information Exchanges
• Private Health Information Exchanges
• eHealth exchange
• Carequality
• Care Everywhere
• SureScripts Record Locator Service
SECURETexas: Health Information Privacy & Security Certification

THSA has developed a website devoted to SECURETexas, the first state program of its kind in the country offering privacy and security certification for compliance with state and federal laws that govern the use of protected health information. The website, www.SECURETexas.org, provides information on who should get certified, the benefits of certification and how to get started. Visit the SECURETexas website here.

HIETexas: Enabling Secure Exchange of Health Information

HIETexas is a secure network of local and private HIEs that enables health care providers to electronically exchange patients’ health information across Texas and the nation. Through HIETexas, local HIEs have the ability to connect to each other, access to a set of state-level shared services that offer operational savings and uniformity, and the ability to connect to the national eHealth Exchange. Learn about HIEs in Texas here.

The Texas Health Services Authority (THSA) is responsible for coordinating the implementation of health information exchange (HIE) in Texas.

The THSA was created by the Texas Legislature in 2007 as a public private partnership, legally structured as a nonprofit corporation, to support the improvement of the Texas health care system by promoting and coordinating HIE and health information technology (HIT) throughout the state to ensure that the right information is available to the right health care providers at the right times.

Vision

We will be recognized as a trusted leader in the development of electronic health information infrastructure that enhances health care quality and efficiency for all patients.

Mission

We will promote and coordinate the development of a seamless electronic health information infrastructure to improve the quality, safety, and efficiency of the Texas health care sector while protecting individual privacy.
eHealth Exchange

Private, public exchange of information using common standards, legal agreement and governance to securely exchange information. Largest exchange in nation.

www.squoiaproject.org, Feb 2017
eHealth: SSA, Disability Determination

• Uncompensated care costs decreased $575K per year
• Operational costs decreased by $164K per year
• Children’s receives $60K revenue per year without staff engagement
• What was weeks is now days
Carequality,
Neutral common interoperability framework to enable exchange
SureScripts National Record Locator Service

1. Patient arrives at clinic
2. Record locator service searches for patient records
3. Summary returned with documents auto-retrieved from Carequality participants
How can we safely improve interoperability across Texas Standards, Consistency....

• Automate, leverage technology
• Decrease administrative burdens with no:
  • Authorization for treatment
  • Encounter requirement
• Agreed upon patient naming conventions
• Capture and document aliases
• Capture and use mother’s maiden name
• Use telephone numbers
• Use last 4 digits of SS#
• Capture and use multiple birth indicator
“Automatic querying and limited consent requirements are organizational HIE policy decisions that impact the volume of exchange, and ultimately the information available to providers to support optimal care”.

Health information exchange policies of 11 diverse health systems and the associated impact on volume of exchange

N Lance Downing; Julia Adler-Milstein; Jonathan P Palma; Steven Lane; Matthew Eisenberg; Christopher Sharp; Northern California HIE Collaborative; Christopher A Longhurst

DOI: https://doi.org/10.1093/jamia/ocw063
Published: 14 June 2016   Article history ▼
Eliminating Consent

From: *Health information exchange policies of 11 diverse health systems and the associated impact on volume of exchange*

• Auto-query at Dallas Children’s Health System
• Optimizing technology decreasing clerical work
Fundamental, Patient Linking

• Social Security Administration with adult organizations auto-link for disability determination ~85%; pediatrics 75%

• Vendors and organizations do not utilize the same elements except; Name, DOB & gender

• Exchanging records between birthing hospitals and NICUs problematic

• Waiting on national identifier, that won’t solve all problems

How can we get closer to 100%? MORE DATA!

*Advocacy is needed*
NYC Immunization Registry

**Title:** Health Level 7 Web Service Search Success Rates in New York City's Citywide Immunization Registry

**Authors:**
- Primary contact: Hannah Mandel, hmandel@health.nyc.gov, New York City Department of Health and Mental Hygiene, Queens NY
- Additional authors: Saqeb Alam, salam4@health.nyc.gov, New York City Department of Health and Mental Hygiene, Queens NY
- Angel Aponte, aaponte@health.nyc.gov, New York City Department of Health and Mental Hygiene, Queens NY

**Abstract Summary:**
Compare match rates for searches using different data elements in the Citywide Immunization Registry’s real-time Health Level 7 (HL7) Web Service.

**Background:** The Citywide Immunization Registry (CIR) currently receives data and has supported queries from provider sites through a real-time HL7 Web Service since July 2009. As of November 2014, 564 sites have integrated their EHRs with the CIR’s Web Service to submit immunization reports electronically; 223 of these sites can perform bidirectional data exchange and query the CIR. We describe the CIR search process and match rate for patients queried over one year, exploring the factors that lead to successful queries.

**Methods:** Queries of the CIR are performed using combinations of 14 search terms to determine a unique match. We calculated the search success rate for HL7 2.3.1 queries performed between August 1, 2013 and July 31, 2014 by EHR vendor, patient age group, and different search term combinations.

**Results:** 1,938,867 searches were performed within the period of analysis, of which 81% were for children <19 years. The match rate for children (86.2%) was higher than for adults >19 years (45.6%). Searches for children had a success rate of 98.2% with a CIR unique identifier (ID) and 71.8% without; when searches lacked CIR ID and contained mother’s maiden name, the search success rate improved to 91.1%. For adult searches without CIR ID, mother’s maiden name increased the success rate from 34.2% to 67.6%. Search success rate varied by EHR vendor, ranging from 58.6% to 94.0% for children and 30.6% to 82.4% for adults.

**Conclusions:** The CIR can be successfully queried by providers, but search success varies by the data elements used as well as patient age and EHR vendor. This analysis reveals how EHRs and CIR can improve search success by identifying fields important to patient matching, and can inform EHR standards and other immunization information systems in the process of implementing bidirectional data exchange.

American Immunization Registry Association, February 20, 2017
Data Availability Makes a Difference

- No City Wide Immunization Registry ID or Medical Record Number

- Data Search:
  - Name
  - DOB
  - Gender
  - Medicaid #
  - Mother’s Name
  - Mother’s DOB
  - Father’s Name
  - Phone Numbers

American Immunization Registry Association, February 20, 2017
http://www.immregistries.org/resources/iis-meetings/2015-national-meeting-breakout-session-4
Issues with Newborn Naming

Use of Temporary Naming Conventions, July 2015, American Academy of Pediatrics, Jason Adelman, Judy Aschner, Clyde Schechter, Robert Angert, Jeffrey Weiss, Amisha Rai, Mathew Berger, Stan Reissman, Vibin Parakkattu, Bejoy Chacko, Andrew Racine and William Southern

“...nondistinct naming conventions are associated with an increased risk of wrong-patient errors and this risk can be mitigated by changing to a more distinct naming convention.”
Issues with Multiple Birth Patient Linking

• ~2.5 Million multiple birth persons are under 18
  • ~89K Triplet + birth persons
  • Same address, telephone number and date of birth

• Children’s Story
  • Three nationally respected, separate master patient index databases were found during testing prior to go-live to overlay multiple birth patients
Solution offered by:

- Adoption of a national standardized naming convention for temporary newborn names with the following naming standard:
  - Mom's name: **Katie Smith**
  - Mom’s maiden name: **Katie Miller**
    - Baby's name if she had a girl: **Smith, Girl Katie**
    - Baby's name if she had a boy: **Smith, Boy Katie**
    - Baby's name if she had an undetermined sex: **Smith, Baby Katie**
    - If the mom has twins: **Smith, Girl A Katie** and **Smith, Boy B Katie**

- Adoption of a national standard requiring maintaining temporary newborn name as an “alias” for use in matching.

- Capture and utilize mother’s maiden name,

- Capture and utilize multiple birth designation and multiple birth order

Dorothy O’Hagan, Katherine Lusk and Hannah Stevens, © Children’s Hospital Association, [www.childrenshospitals.org](http://www.childrenshospitals.org)
Published: December 19, 2016
Patient Naming Data Standards

Accurate patient identification is foundational to successful linking of patient records.

Standardized naming conventions improve data integrity and allow optimization of technology to link patient records across EMRs.

Rules and Conventions:

- The patient's name will be entered in all capitals.
- The complete legal name as reflected on government issued identification such as but not limited to birth certificate, passport, driver's license or as altered by a legal name change event. Events altering the legal name include: marriage, divorce, adoption or a court approved name change.
- If the patient does not have a middle name, this field is left blank in the registration process.
- If the patient's middle name is an initial only, this should be entered.

<table>
<thead>
<tr>
<th>Name at Registration</th>
<th>First Name</th>
<th>Middle Name</th>
<th>Last Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvey William Blake</td>
<td>HARVEY</td>
<td>WILLIAM</td>
<td>BLAKE</td>
</tr>
<tr>
<td>K.D. Lang</td>
<td>K</td>
<td>D</td>
<td>LANG</td>
</tr>
<tr>
<td>R.D. Wayne Miller</td>
<td>RD</td>
<td>WAYNE</td>
<td>MILLER</td>
</tr>
<tr>
<td>George 7 Jones</td>
<td>GEORGE</td>
<td>7</td>
<td>JONES</td>
</tr>
<tr>
<td>Elena Lusk</td>
<td>ELENA</td>
<td></td>
<td>LUSK</td>
</tr>
<tr>
<td>Gus Mask</td>
<td>GUS</td>
<td>M.</td>
<td>MASK</td>
</tr>
</tbody>
</table>

- Suffixes should be entered if a suffix appears on the legal form of identification. Examples of suffixes include but not limited to Junior, Jr., II, III, Sr. and IV.

<table>
<thead>
<tr>
<th>Name at Registration</th>
<th>First Name</th>
<th>Middle Name</th>
<th>Last Name</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>James R. Billings, Jr</td>
<td>JAMES</td>
<td>RANDOLPH</td>
<td>BILLINGS</td>
<td>JUNIOR</td>
</tr>
<tr>
<td>Charles Wayne Miller, III</td>
<td>CHARLES</td>
<td>WAYNE</td>
<td>MILLER</td>
<td>III</td>
</tr>
</tbody>
</table>

- Nicknames or diminutive forms of the name should only be entered as alternative names or aliases. They should never be entered as the legal name. When the patient's legal name is a commonly used nickname, the legal name will be entered as given.
Recommended Data Capture

- Legal Name (Last, First and Middle)
- Alias Names or Previous Names
- Age
- Date of Birth
- Gender
- Address (US Postal Service)
- Historic Addresses
- Telephone Number(s)
- Social Security Number
- Mother’s Maiden Name
- Multiple Birth Indicator
Can you champion?

- Implement Carequality, eHealth Exchange, Regional HIEs and SureScripts National Record Locator Service
- Eliminate authorization requirement for treatment purposes
- Eliminate encounter requirement
- Automate query process
- Adopt Children’s Health Association Patient Naming Conventions
- Adopt increased data capture for linking
Questions

Katherine Lusk, MHSM, RHIA, FAHIMA

Katherine.Lusk@childrens.com