Collaborations to Support Consumer Access to IIS:
Goal: Increase consumer access to online immunization records and forecasts.

October 18, 2018
Question and Answer Session
How to submit or ask questions using Ready Talk?

Submit or Ask Questions
Submit your text question and comments using the Participant Feedback
Consumer Engagement for IIS Project

Goal: Increase consumer access to online immunization records and forecasts.

Collaborative project between CTO, ONC, CDC, Audacious Inquiry (Ai), and Scientific Technologies Corporation (STC).
Project Activities 2013 - 2017

• Piloted MyIR in 5 states
• Marketing
• Evaluation
2013 - 2015 Registration Workflows

**Consumer- initiated**
- Online self-registration
- One-time in-person provider authentication and approval
- Free anytime, anywhere records access

**Provider- initiated**
- In-Office consumer recruitment & registration
- In-Office authentication & approval
- Promote in-office account activation – free anytime, anywhere records access
Consumer Registration Options – Years 1-2

Provider-Authenticate Registration: Consumer or Provider-Initiated

1. Register online at myir.net
   - Consumer
   - Provider

2. Consumer visits healthcare provider for in-person authentication and approval.

3. Healthcare provider identity-proofs consumer and provides access code to consumer.

4. Consumer enters access code to complete the authentication process and obtain access to immunization record.
Evaluation Findings – Pilot Year 2

Provider-Initiated registration process

• Forgot to go online and complete steps (27%)
• Forgot/lost PIN (22%)
• Didn’t have time to complete (17%)

Consumer-Initiated registration process

• Didn’t know had to go to provider office to complete registration (37%)
• Waiting until next scheduled visit to complete registration (23%)
• Not willing to schedule a visit just to complete registration (19%)
User Workflow

1. Login
   - Email
   - Password
   - Sign in

2. Select Record
   - Personal Certificate With Schedule
   - Certificate of Immunization

3. View
   - Download
   - Print
   - Share
Overcoming Challenges

Alternative approaches to increase consumer access:

• Implementation of Online Authentication May 2016
  1. The Online Authentication registration method allows consumers to self-register online and have an access code sent by SMS text or autodial to complete the authentication process.
  2. In the event that a record is not found (matched), consumers may request authentication by their healthcare provider/state health dept. to access their immunization record.

• Increase marketing efforts
• State-Assisted Registration
• Pharmacy pilot
Online Authentication Workflow

1. Consumer selects Self Registration
   Consumer enters registration data & multiple phone numbers

2. Registration data matching HL7 2.5.1 query/response

3. SMS Text number match?
   - yes
   - no
   - Phone number match?
     - yes
     - Access Code phoned to consumer
     - no
     - Mailed Access Code

4. Access Code texted to consumer
   - yes
   - no
   - One-time in-person visit to healthcare provider

5. Consumer enters Access Code to MyIR & substitutes personal password

6. State-assisted account registration & linkage
   - yes
   - no

7. Anytime access to official Immunization certificates and personal vaccination History and forecast

END
2018 Activities (Project Year 5)

- Support MyIR in Washington and Louisiana
- Marketing MyIR
- Evaluation
- Explore alternative methods for consumer access to immunization records

Online Authentication Implemented May 2016

Year 5 #'s as of June
Challenge: Patient Matching

Online Authentication Success Rate – Combined States

Year 3: 32%
Year 4: 39%
Year 5: 48%
Informed Decision Making

- **28%** (n=163) of survey respondents that viewed their record learned they needed a vaccine
- **41%** took action
- **74%** of those that took action received the needed vaccine

**What action did you take after you learned that a vaccine was needed?**

- Called my healthcare provider to make sure the vaccine was really needed, **15%, 9%**
- Called my healthcare provider to report that the vaccine had already been received and that the record contained an error, **19%, 12%**
- Scheduled a visit with my healthcare provider to receive the vaccine, **33%, 20%**
- Waiting to discuss it with my healthcare provider at the next scheduled visit, **46%, 29%**
- Have not taken any action yet, **49%, 30%**
Marketing Activities

• Posters/Brochures
• Mailings
• Pilot Ad Campaigns
  • Seattle Metro
  • Baton Rouge Metro
  • Caregiver bloggers
• Marketing Evaluation
Social Media Ad Campaign

• Ability to target key audiences and reach them on Facebook and Instagram
  ○ Parents with kids in specific age groups (e.g. parents with kids 6-8 years old)
  ○ Moms vs. Dads
  ○ Hispanic, African American and Asian American
  ○ People that “travel frequently”
  ○ Re-target site visitors who have not completed registration

• Ability to be flexible and relevant
  ○ Easily and quickly test different ad creative and optimize for most effective combination
  ○ Deliver ad creative relevant to target audience for increased conversion
  ○ Deliver ad
Next Steps

• Improve consumer registration process (STC)
• Explore alternative methods for consumer access through PHRs
• Implement refined marketing approach
Vision & Technology

Docket-IIS integration will give consumers ready access to their up-to-date immunization records. Upon presenting at any trusted care provider, patients may use the free Docket™ mobile app to efficiently and securely access personal and family immunization records simply by scanning their provider’s Docket™ QR code.

Solution Overview

Docket™ consists of two primary touch points: a mobile app for patients (iOS and Android) and a web-based application for providers. Our solution aggregates seven types of data: patient-reported health-risk information and medical histories, medication adherence, wearable device data (e.g. smart scales), documents (e.g. lab results) from both providers and patients, provider-patient messages, metadata, and – now – immunization records.

Our API is the first designed according to the Health Relationship Trust (HEART) specifications, leveraging cutting-edge and interoperable technologies such as HL7 FHIR® and OAuth 2.0. Docket™ supports HIPAA compliance through a User-managed Access approach and end-to-end encryption for all records. Authorization is accomplished via QR code scan and OAuth 2.0 handshake, where providers (i.e. hospital-based systems, physicians’ practices, and standalone clinics) are assigned unique Docket™ QR codes and the scanning device is the patient’s smart phone.*

* Patent Pending, United States (Application No. 15/053,494) & Canada (Application No. 2,950,629).
Core Functionality

Step 1: Complete Health Profile

Step 2: Scan provider’s unique QR code*
Installation and maintenance costs are negligible for stand-alone implementations.

Step 3: Authorize Access
Patients maintain OAuth keys to revoke and reauthorize access.

What’s special about our QR?

There are a number of methods to communicate health information. Within inpatient settings, patients are often assigned barcode wristbands. Other apps support QR code-enabled data transfer. However, with existing apps, patients are given unique QR codes and providers are responsible for installing costly and cumbersome scanning devices.

The Docket™ QR code is better. With Docket™, providers are assigned unique QR codes. The scanning device is the patient’s smart phone. This approach:

1. is more cost-effective than competing apps (implementation costs the amount of one piece of printed paper)
2. provides a high level of visibility for Docket™ within care settings

This feature and workflow design is protected* under our non-provisional utility patent application.

* Patent Pending, United States (Application No. 15/053,494) & Canada (Application No. 2,950,629).

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Consumer Access

Patients input IIS Recommended Core Data Elements into the Docket™ mobile app following existing workflows. Next, the patient scans their provider’s unique Docket™ QR code upon presenting at any patient access point (e.g. front or waiting room). Docket™ then queries the relevant IIS database(s) utilizing Docket’s IIS credentials and established SOAP-based HL7 2.5.1 standards.

If the system returns a single match, the patient’s immunization records are automatically returned to both the patient and provider. If, however, multiple/potential matches are returned, the provider is prompted to select the correct patient record from a list within the Docket™ web app.

This workflow requires that providers are authenticated within the Docket™ web app via VTrckS ID or alternative unique identifier (i.e. provider’s IIS ID). Note: Docket-IIS integration does not aim to replace how providers currently interact with immunization registries. Instead, our goal is to simplify consumer access to personal immunization records.
Patient: Records

- Vaccination Home Screen (historical view; personal records)
  - In this example, the app successfully returned Alexander Hamilton’s immunization records.
    - Note: in a "live" environment, the app would display a complete history. More than three immunization types would likely display here in a scrollable format.
  - Alexander’s immunization history is displayed on this screen by immunization type.
    - Individual immunization events are grouped by immunization type.
      - Users may "drill-down" to more detail by selecting each immunization type.
    - Immunization types are organized alphabetically.
      - Immunization events are organized chronologically.

Immunization Information Systems (IIS) User Experience Design (UX)
Patient: Records

- Vaccination Detail
  - Users may view and export immunization histories from this screen.
    - Immunization events are organized chronologically.
  - Note: Information displayed on this screen may change depending on what is returned by IIS.
  - The Share functionality allows users to export their immunization data out of Docket.
    - Standard share capabilities include: E-mail, Save to Files, etc.
    - Bidirectional Apple Health integration is an option here as well.
      - Docket would not allow bidirectional Apple Health integration for proxy records.
Patient: Records

- Vaccination Home Screen (forecast view; proxy records)
  - Swiping left adds upcoming immunizations directly to the user’s Apple or Google Calendar.