

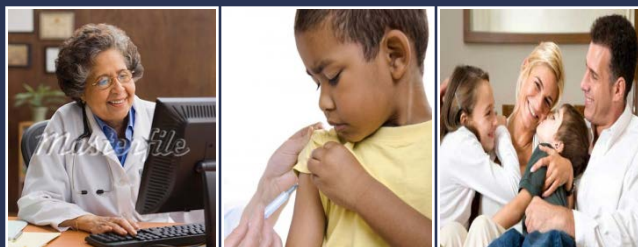


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# Options for Consumer Access to Immunization Records: Approaching Meaningful Use and Personalized Population Health

A Demonstration Project of  
Scientific Technologies Corporation's

**MyIR<sup>TM</sup>.net<sup>TM</sup>**



# How Health Works



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## Health:

The **health** of individuals is measurably improved and costs are reduced when individuals are **empowered** with **information** and **control** related to their own health and that of their family members.

# Empowerment → Health



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## Empowerment:

“... a social **process** of **recognizing**, **promoting**, and **enhancing** peoples’ abilities to **meet their own needs**, **solve their own problems**, and mobilize the **necessary resources to feel in control** of their lives.”<sup>1</sup>

<sup>1</sup> Gibson, CH. A concept analysis of empowerment. J. Adv. Nurs. 1991;1b:354-61.

# Records Access → ↑ Interactions



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## Individual access to Immunization Records is a “Gateway” empowerment tool:

- **Ubiquitous** – possibly more common than driver licenses, social security cards, and bank accounts
- **Prevention-oriented**
- **Meaningful and actionable** on many levels (healthcare, school/camp entry, travel, etc.)

# Records Access → ↑ Prevention



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## Barriers to Immunization = Barriers to Prevention::

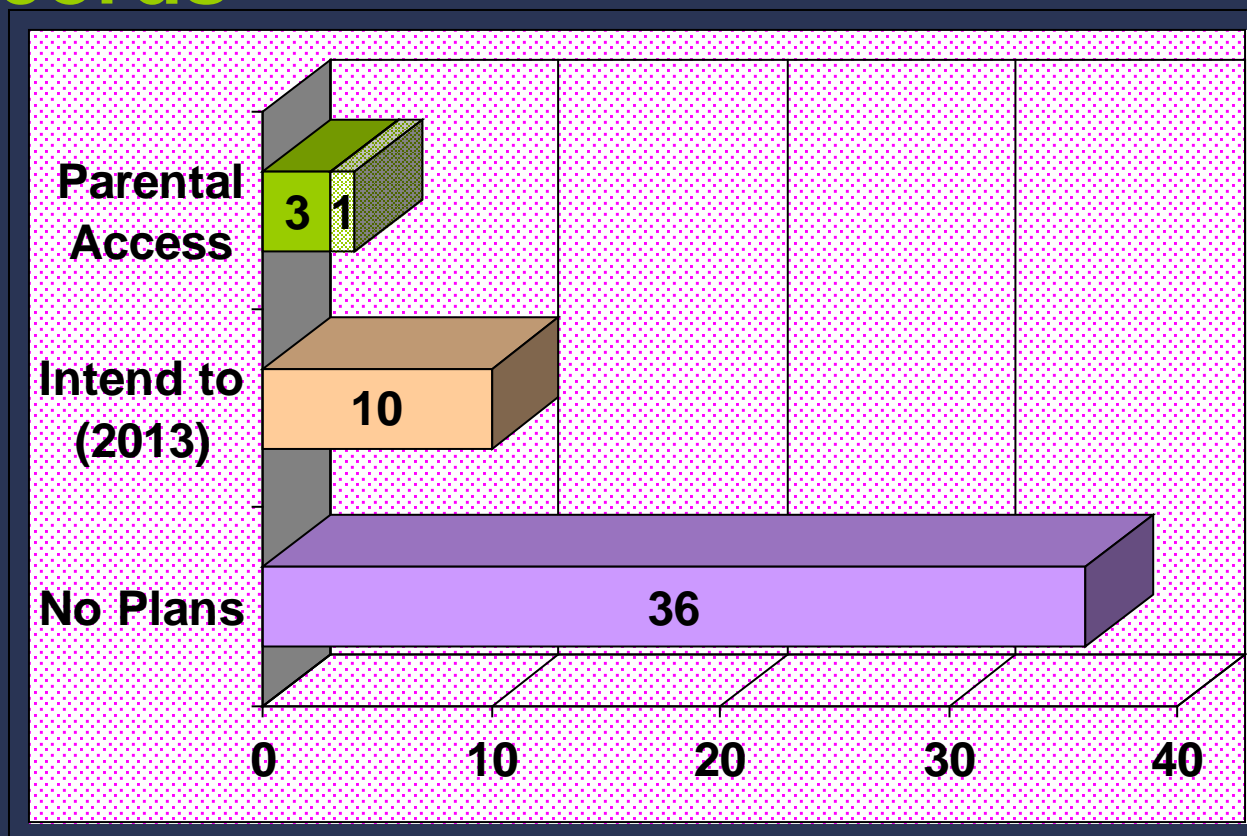
- **Complex and changing schedules** (> 70 doses)
- **Mobile populations** (42% do not live in birth-county; 11% changed residence from last year)
- **Limited record sources** (Typically available only from healthcare provider)
- **Limited trusted information for consumer decision-making** (Value of immunizations to consumers becomes unclear)

# Records Access 2010: Uncommon



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## Prevalence of parental access to children's SIIS records<sup>2</sup>:



<sup>2</sup> 98% response rate - CDC unpublished summary, November, 2011

# Why SIIS' Don't Provide Access



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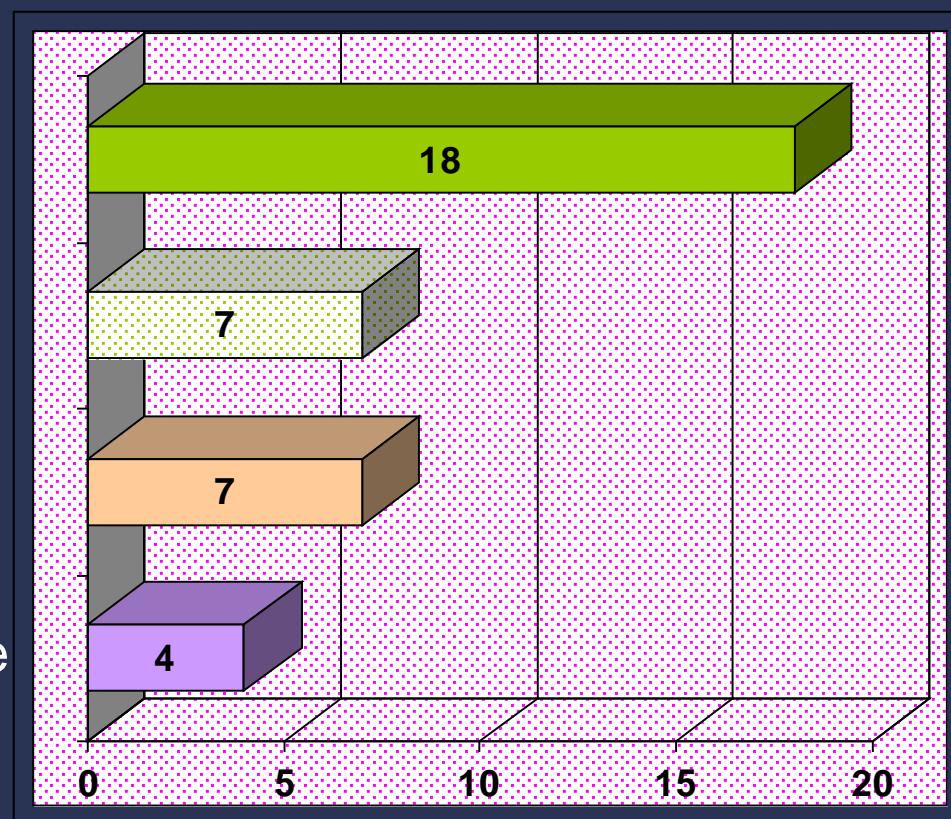
## Barriers to providing parental access identified by CDC SIIS survey:

Confidentiality & Security --

Lack of acceptable unique  
identifier to validate --

Insufficient funding --

Concern over proper/legitimate  
access --



Source: CDC unpublished summary, November, 2011

# Basic Access Models



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Model	Advantages	Limitations
SIIS-based accounts	<ul style="list-style-type: none"><li>• Easy implementation</li><li>• ↑ SIIS control</li><li>• Query conformance</li></ul>	<ul style="list-style-type: none"><li>• ↓ Authentication fields</li><li>• Each state unique</li><li>• &gt;1 child = &gt;1 account</li><li>• Parents as new Users</li></ul>
Web portals	<ul style="list-style-type: none"><li>• No account co-mingling</li><li>• Easy authentication fields</li></ul>	<ul style="list-style-type: none"><li>• Less integrated</li><li>• &gt;1 child = &gt;1 account</li><li>• Separately stored data</li><li>• Authentication model?</li></ul>
EHR-oriented	<ul style="list-style-type: none"><li>• Separate from SIIS</li><li>• ↓ SIIS burdens</li></ul>	<ul style="list-style-type: none"><li>• Bi-dir. SIIS interface?</li><li>• EHR capable?</li><li>• Authentication?</li></ul>
HIE-oriented	<ul style="list-style-type: none"><li>• Separate from SIIS</li><li>• ↓ SIIS burdens</li></ul>	<ul style="list-style-type: none"><li>• HIE portals in infancy</li><li>• No SIIS control of UI</li></ul>



# A Modern Hybrid Model...



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Between September and November 2011, STC and Louisiana developed an application prototype for consumer records access:

“**MyIR.net**<sup>TM</sup>”

- Consumer registration functionality released to 9 states within their SIIIS deployments in early 2012

# Based on Multi-Stakeholder Input...



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From December 2011 to the present, nationwide demonstrations, requirements & design feedback sessions were conducted.

Invitees have included to date:

- |         |      |      |      |
|---------|------|------|------|
| • ONC   | • LA | • WA | • WV |
| • CDC   | • AZ | • AK | • OK |
| • CMS   | • IN | • ID |      |
| • AIRA  | • MS | • WY |      |
| • ASTHO | • MT | • UT |      |

# Requirements From Diverse Informants



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- A system acting as an agent between consumer & SIIIS
- A known & trusted consumer authentication model and registration process
- Implements common SIIIS messaging standards
- Secure, validated access; no remote SIIIS database
- State-configurable administration to respect state-specific policies
- Multiple record display options for consumers
- Minimal burden – for SIIIS, providers, consumers

# MyIR.net: 2 Models, 3-Elements



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Two **MyIR.net** models:

1. State-SIIS integrated registration function (selected states) + **MyIR.net**
2. Free-standing nationwide “any-SIIS” configurable model of **MyIR.net**

3-Elements of Patient Records Access :

1. SIIS- **or MyIR.net** -based, provider-authenticated consumer registration process
2. The **MyIR.net** application-agnostic consumer health information management system
3. 3rd-party Personal Health Records applications

# How it works - Workflow



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1

Adult visits a  
Healthcare  
Provider

Public  
Health  
or  
Private  
Provider



Site validates  
Adult access  
rights  
Creates an  
"Account" in  
SIIS

2

Adult registers  
with Provider;  
signs Agreement

SIIS emails  
USER with  
instructions  
to access



USER  
securely logs  
in to



Authenticated,  
requests  
records

4

Optional: User transmits  
immunization records  
to Health Vault  
or other PHR



MyIR  
USER selects  
or creates  
Health vault  
account to  
and transmits  
records

MyIR  
USER  
requests  
records as  
e-mail  
attachment

3

MyIR authenticates  
and requests records

# Step 1 – Register with Provider



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Parent visits a healthcare provider who searches the state Immunization Registry for associated patients – routinely occurs >1000 times daily in many states

Provider registers  
Parent – SIIS or  
**MyIR.net**  
sends e-mail  
with log-in  
information



The screenshot shows the MyIR.net web application interface. At the top, it says "Logged in: DAVID ROSE" and "IRMS: POIC\_SOURCE (1)". The date is "December 12, 2011". The main heading is "Sign Up for Individual Access to Immunization History". Below this is a "User Information" section with fields for First Name (Sara), Last Name (Williams), State (LOUISIANA), ZIP Code (70806), Street Address1 (123 Monet Dr.), Street Address2, City (BATON ROUGE), and Email Address (s.williams@gmail.com). There is also a Security Question and Answer field. Below the user information is a table titled "Patient(s) Access for Immunization History" with columns: Active, First Name, Middle Name, Last Name, Date of Birth, Suffix, and Birth Order. The table contains one entry for BEN WILLIAMS, born 12/12/2009. At the bottom is a "Patient Search" section with fields for First Name, Last Name, Date of Birth, MRN, and SIIS ID, and a "Search" button. The footer has "Back" and "Save And Continue" buttons.

Active	First Name	Middle Name	Last Name	Date of Birth	Suffix	Birth Order
<input checked="" type="checkbox"/>	BEN		WILLIAMS	12/12/2009		



# Step 2 – Access Records via **MyIR.net**



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Parent logs-in to **MyIR.net**<sup>TM</sup> and is authenticated via PIN and “Secret” Questions



Selects option to receive records via secure e-mail attachment or via secure pdf web browser image (State SIIS-configurable)

The screenshot shows the MyIR.net website interface for the Louisiana Immunization Record Exchange. At the top, the MyIR logo is on the left, and the text "Get Started with MyIR" is on the right. Below the logo, a message states: "You and your family's immunization records may be located at your state health department. Enrolling in MyIR™ will give you access to those records online." A "Help" link is visible on the far right. The main heading is "Louisiana Immunization Record Exchange". Below this, a question asks "Haven't signed up for MyIR? How do you want to receive your records?". Two radio button options are provided: "Microsoft® HealthVault®" (which is selected) and "Email Delivery". An "Enroll Now" button is located below these options. To the right of the text, there are two photographs: one of a family (father, mother, and two children) looking at a laptop, and another of an elderly couple looking at a document. Below the photographs, a paragraph explains that many physicians report immunization records to state health departments and that enrolling in MyIR will automatically send records via email or store them for access in Microsoft HealthVault. A small icon of a folder with a checkmark is shown next to a link that says "Click here for your personal immunization recommendations".

# MyIR.net Configurable Consumer Output



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## Patient Vaccination and Forecast Record



**Facility:** STATE PRIVATE PROVIDER

**Date:** August 8, 2012

**Patient ID:** 81

**Name:** CHRISTINA GARLIN

**Birth Date:** 12/21/2003

**Sex:**

**Guardian:** AMY CARLIN

**Phone:**

**Street:** 2671 AUSTIN SECRET LANE

**City:** CHALMETTE

**State:** LA

**Zip:** 70043

**Medicaid No:**

**WIC ID:**

### Vaccination Summary

Vaccine Name	Dose 1	Dose 2	Dose 3	Dose 4
DTaP/DTP/Td	02/21/2004	04/24/2004	06/30/2004	12/21/2004
OPV/IPV	02/21/2004	04/24/2004	06/30/2004	
MMR	12/21/2004	12/21/2007		
Hep B - 3 Dose	12/21/2003	05/21/2004	07/21/2004	
Varicella	12/21/2004			
Influenza	10/15/2009	12/15/2009	12/10/2010	12/10/2011

### Forecast

Vaccine Family	Dose	Scheduled Date	Minimum Valid Date
POLIO	4	12/21/2007	12/21/2007
VARICELLA	2	01/18/2008	01/18/2008
Tdap	1	12/21/2010	12/21/2010
FLU	5	10/01/2012	10/01/2012
MENINGOCOCCAL	1	12/21/2014	12/21/2014

#### NOTES:

1. The Immunizations reported under 'Immunization History' include ONLY those reported to the State Immunization Information System by participating healthcare providers. If immunizations were given by a healthcare provider who does not participate in the State Immunization Information System, those immunizations will not be shown on this record.

2. Immunizations shown under 'Immunization Forecast' include vaccinations that are coming due, now due, or past due. These recommendations conform with national U.S. immunization recommendations from the Advisory Committee on Immunization Practices, and are based on age, gender, and any specific personal history of contraindications (medical reasons why some vaccinations are not recommended under certain circumstances). Please consult your healthcare provider for personal advice regarding the immunizations that are recommended in the 'Immunization Forecast' section.





# Step 3 – Records to PHR (Health Vault™)



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User optionally directs records transfer to existing Microsoft™ Health Vault™ or creates one from within **MyIRnet™**



Home | Health information | Immunization

## Immunization

[Add Immunization](#)

Get the most out of your HealthVault experience

Some applications and health tools you can use with this health information:

- [h1n1 swine flu Response Center](#) [Try now](#)
- [MAYO CLINIC Health Manager](#) [Try now](#)
- [Health Record Bank](#) [Try now](#)

[See more tools and devices](#)

[Delete](#) [Export](#) [See sharing](#) [Change date range](#)

<input type="checkbox"/>	Name	Administration date	Sequence	Adverse event	Details
<input type="checkbox"/>	Hep A, ped/adol, 2 dose	6/12/2011 12:00:00.000 AM			▼
<input type="checkbox"/>	Influenza-split	1/9/2011 12:00:00.000 AM			▼
<input type="checkbox"/>	MMR	12/12/2010 12:00:00.000 AM			▼
<input type="checkbox"/>	varicella	12/12/2010 12:00:00.000 AM			▼
<input type="checkbox"/>	Hep A, NOS	12/12/2010 12:00:00.000 AM			▼
	Read account.healthvault-ppe.com	6/12/2010 12:00:00.000 AM			▼

Switch person ▼

- [Home](#)
- [Health information](#)
- [Emergency profile](#)
- [Sharing](#)
- [History](#)

# MyIR.net - SIIS / Provider Configurable



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## Get Started with MyIR

You and your family's immunization records may be located at your state health department. Enrolling in MyIR™ will give you access to those records online.

[Help](#)

### State + Consumer Immunization Record Exchange

Select Login

MyIR.net PIN Number:

Security Question #1:

What was your childhood nickname?

Answer:

Security Question #2:

What is your grandmother's first name?

Answer:

**Submit**



Many physicians are now reporting immunization records to state health departments. Visit your provider or local health clinic to request access to your records. By enrolling in MyIR™ your records will be automatically sent via email or stored for your access in Microsoft® HealthVault®.



[Click here for your personal immunization recommendations](#)

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# MyIR.net - SIIS / Provider Configurable



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## **Managing and Configuring MyIR™**

Authorized State SIIS administrative personnel may use the functions on this screen to manage the consumer registration and records access process, inactivate/re-activate records access, manage provider participation, run reports and audits, configure system settings and preferences, and control aspects of consumer Reminder/Recall and communications to registered consumer-users.

[Help](#)

### **State SIIS Records Access Management**

**Manage Accounts**

**Reports**

**Manage Reminders**

**Manage Communications**

**Configure**

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# Collaborative Design Results



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- Simple, safe, secure consumer access to their immunization records
- Authenticated account set-up and access
- No direct consumer access to SIIS; no record editing
- HIPAA compliant; no SIIS data stored in [MyIR.net](#)
- Secure record request (HL7/HTTPS)
- Consumer-directed records transfer to Personal Health Record application (optional)
- Automation minimizes intervention by healthcare providers and SIIS staff
- Increases likelihood of healthcare access & updates to existing SIIS records
- Providers benefit from Meaningful Use demonstration



- Deploy in “consumer-ready” states
- Automated vaccine forecasting (Reminder/Recall) to User
- Automated alerts to User when SIIS record content changes
- Smartphone interface
- Personal Public Health relationships
  - User profile consenting to receive information on selected Public Health topics
  - Participation in Public Health surveys
  - Public Health Emergency Preparedness information exchange
  - Public Health Surveillance
- Extend to employer benefit and employee preventive health programs

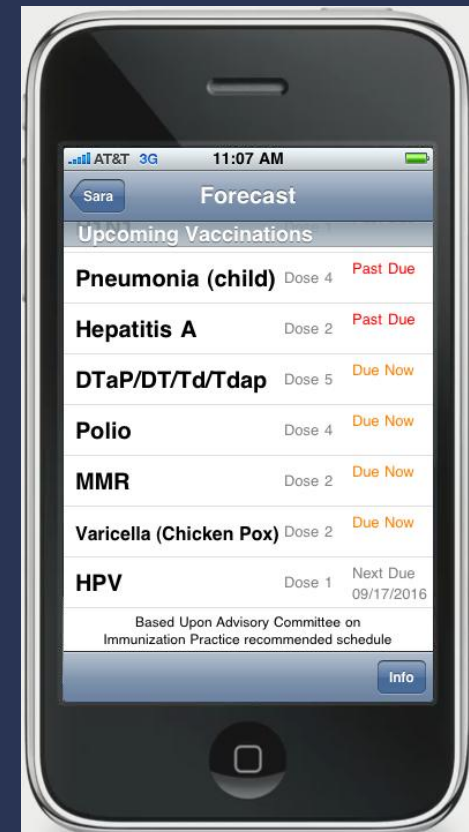


# MyIR.net - Enhancements & Next Steps



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- Create interface between MyIR.net and existing STC smartphone-based MyIR application.



# Ideas, Suggestions, Questions



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To share your perspective on requirements, suggestions, design or implementation ideas, or for answers to questions please contact:

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