

Collaborations to Support Consumer Access to IIS

August 16, 2018

Name	Organization	Topic
James Daniel	Office of the Chief Technology Officer	Collaborations to Support Consumer Access to IIS
Kelly Carulli	Audacious Inquiry (Ai)	Consumer Engagement for IIS
Quan Le	Louisiana Department of Health and Hospitals	MyIR in Louisiana
Lonnie Peterson	Washington State Department of Health	MyIR in Washington State
Sarah Cruz	Scientific Technologies Corporation (STC)	Improving the MyIR user registration process
Meredith Damore	Caredox/Healthy Schools, LLC	Other Models for Consumer Access
Angel Aponte	New York City Department of Health and Mental Hygiene	Other Models for Consumer Access



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



MyIR

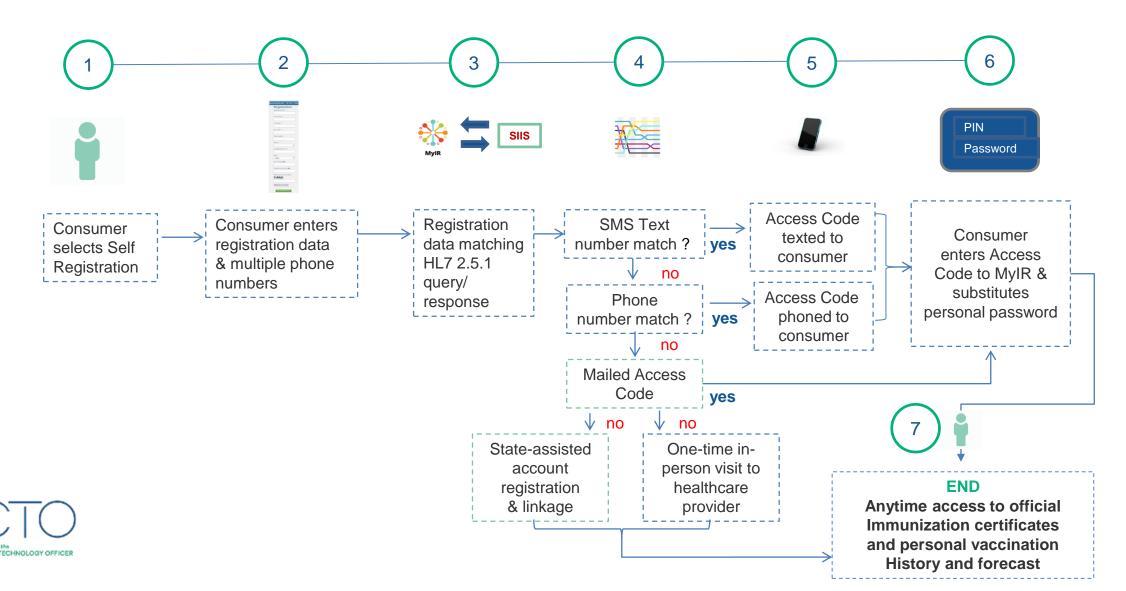


Assisted Registration Process

Provider/State/ Consumer/Provider Anytime access to Pharmacist Consumer enters Registers immunization provides unique access code in Consumer for records granted to access code to MyIR MyIR consumer consumer



Online Authentication Workflow



2018 Activities (Project Year 5)

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



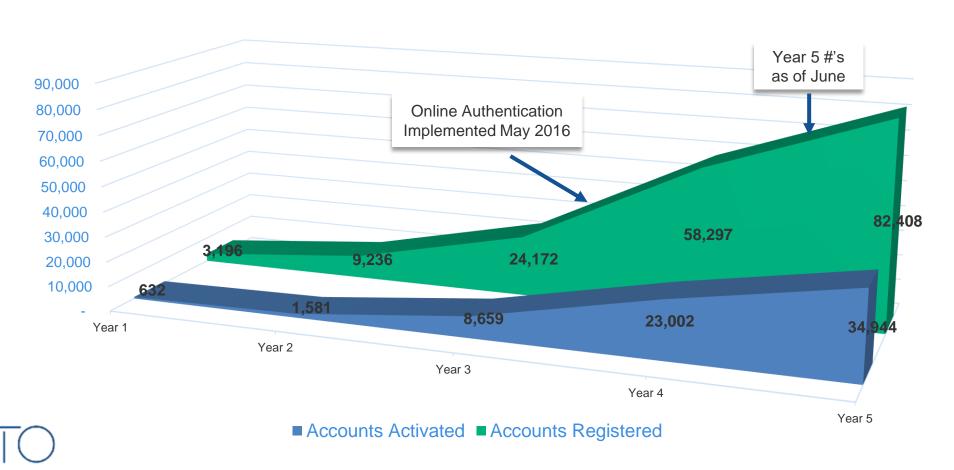
Marketing Activities

- Posters/Brochures
- Mailings
- Pilot Ad Campaigns
 - Seattle Metro
 - Baton Rouge Metro
 - Caregiver bloggers
- Marketing Evaluation



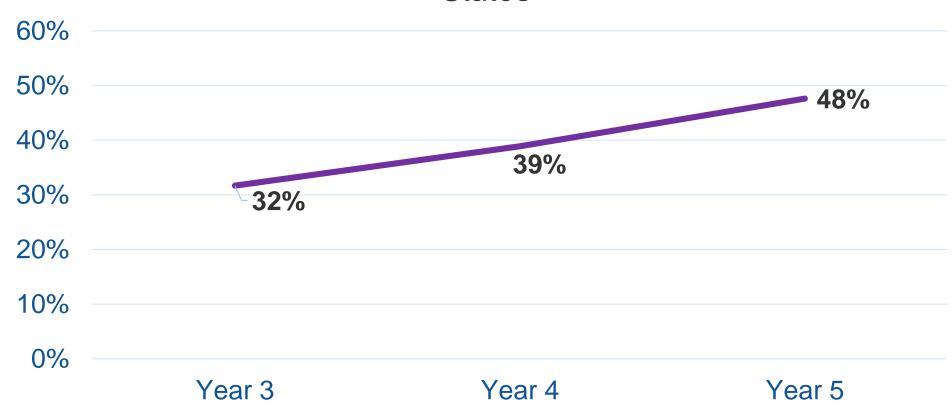


Evaluation: MyIR Accounts Registered and Fully-Activated in WA and LA (2013 – 2018)



Challenge: Patient Matching

Online Authentication Success Rate – Combined States

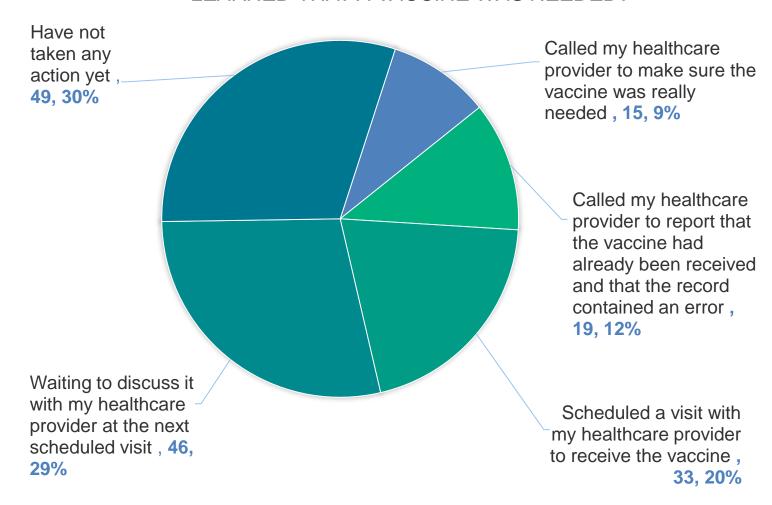




Informed Decision Making

- 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?





Next Steps

- Improve consumer registration process (STC)
- Explore alternative methods for consumer access through PHRs
- Implement refined marketing approach



Louisiana

- Shots for Tots
- Healthcare Associations
- School Nurses Association
- Pharmacy Outreach



MyIR in Washington State



Increased Awareness

- Immunization record request process includes MyIR option
- Updated webpage includes MyIR info
- Most consumers self register
- State-assisted process is backup if auto match fails





A CODY OF THIS COMPLETED ORIGINAL DOCUMENT IS CONSIDERED THE SAME AS THE ORIGINAL

AUTHORIZATION TO RELEASE IMMUNIZATION RECORDS

Washington State Immunization Information System, PO Box 47843, Olympia, WA 98504-7843 Phone: 1-866-397-0337 | Fax: 360-236-3590 | E-mail: WAIISRecords@doh.wa.gov

Patient/Child Information (if requesting records for more than one patient or child, see side 2 of this form):

Patient/Child First Name	Patient/Child Middle Name	Patient/Chi	ld Last Name
	YYY) Patient/Child Previo		
Patient/Child Date of Birth (MM/DD/Y)	YYY) Patient/Child Previo	ous Name(s)	
Parent/Guardian Information:			
Parent/Guardian Full Name (if patient is	less than 18 years old) Patient/Ch	ild or Parent Phone Number	(include area code)
Address (including apt. #, if applicable)	City	State	Zip Code
	1	/	
Parent/Guardian E-mail Address	Parent/Gua	/ ordian Date of Birth (MM/D	D/YYYY)
	ed above and on side 2 of this form to th		
First and Last Name	Agency (if applicable)	() Phone Number (incl	ude area code)
receipt of this signed authorization. If ch registration. Choose all that apply:	tal mail will be sent no later than 15 busin oosing to register for ©MyIR, records will	be available immediately u	
Fax records to: ()			
Mail records to: Mailing a	ddress, including apt. #, city, state, and zip	code	
Access my and/or my child	's records online via @MvIR		
•	s records online via @ivryne		

Local Immunization Champions

- Dr. Wendy Sue Swanson –
 "Seattle Mama Doc"
- School nurses



CHILDRENS-HEALTHLINK

Ask Dr. Swanson - What we know about vaccines

Dr. Wendy Sue Swanson sets the record straight about the safety of vaccines - and a new way to keep your immunization records.

The Impact – As of July 1, 2018

Registered before auto match (12/9/13 through 5/6/16)

• 1,087

Total # registered to date including auto match (since 12/9/13)

• 23,799

Registered by auto match (since 5/6/16)

• 21,327

Independent record pulls (since 12/9/13)

• 98,904

Contact

Lonnie Peterson

Child Profile Health Promotion System Supervisor 360-236-3534 | Ionnie.peterson@doh.wa.gov



Scientific Technologies Corporation



Consumer Access
to IIS Records:
Improved Enrollment Process

Sarah Cruz

Product Owner

Scientific Technologies Corporation (STC)

Why the change?



- YTD we have had 20,356 page views on MyIR.Net and from there a 1% bounce rate
- YTD we have had 145,666 registration page view with a 5% exit
 rate
- While that doesn't seem so bad- more people are leaving from the registration page than from the main page
 - Why?

Consumer Feedback



- Out of 585 WA consumers polled, 5% disagreed that the registration process was easy
- Out of 60 LA consumers polled, 6% disagreed that the registration process was easy

"The process was too convoluted and time-consuming"

"Too cumbersome"

"Difficult and time consuming"

"Make more user friendly"

"It is so slow and an awful website set up. Please update to an easier, more userfriendly interface."

"Too complicated"

Current Registration



Washington MyIR My State ▼ Register ▼ Login Help About



Your Immunization Record May Not Look Complete

There may be some vaccines you or your family received that don't appear on the immunization record in MyIR, such as the human papillomavirus (HPV) vaccine. HPV vaccine is sometimes given by a healthcare provider confidentially. Since MyIR doesn't know which HPV vaccines were given confidentially or not, all HPV vaccinations are hidden on immunization records in MyIR. Contact your healthcare provider if you think you need a more complete record of your or your family's immunization history.







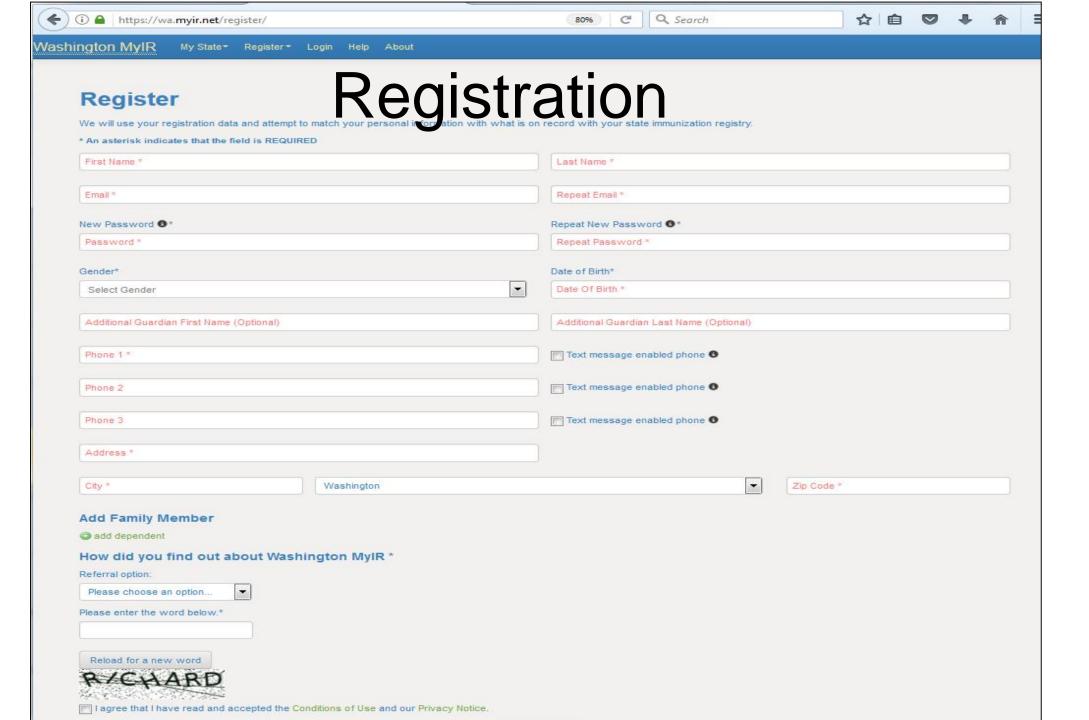
Washington State Department of Health Office of Immunization and Child Profile

immunization **Immunization Action Coalition**

Personal Testimonies about Vaccine-Preventable Diseases

Real-life accounts of suffering and loss due to vaccinepreventable diseases. Read these powerful stories







Auto Match Option





You have successfully registered for MyIR! The next step is to have your identity verified and link your official state immunizations records with your account. Choose one of the verification options below then click NEXT to complete your registration.



Auto Match (instant)

We will use your registration data and attempt to match your personal information with your state immunization record. If we find an exact match, an SMS text message or autodial will be sent to the matched phone number sending a verification code to enter into MyIR.



State Assisted Registration (may take up to a month)



Health Care Provider Assisted Registration

Next

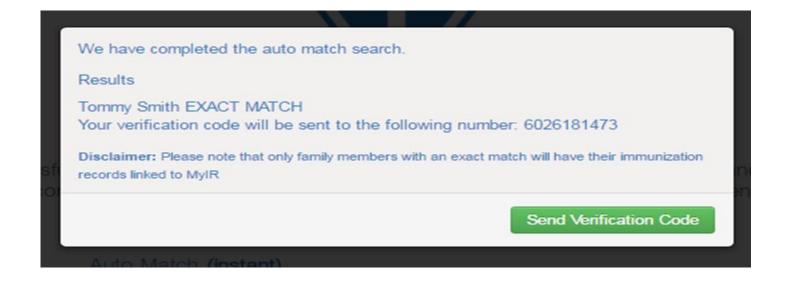
You can come back to this page anytime by going to Mylmmunizations and clicking on "Verification Options"



Your information is safe and secure.

Auto Match





Improved Process



- Consumers today
 - Less words
 - Lower attention spans
- Short is Sweet
 - Splitting the registration page into easy, simple steps over a few pages and keeping a progress bar
- Make it Easy to Read



* An Asterisk indicates that the field is REQUIRED

First Name *	Last Nam	ne *	
Select Gender *	Date of B	Birth *	
Email *	Confirm E	Confirm Email *	
•	•		
Password *	Confirm P	assword *	

Next



Arizona MylR.net Heather Williams Williams Family Send Records → Help About Logout Registration: By registering for a MyIR account you will gain secure, anytime access to your immunization records. INFO NEEDED FOR RECORD LOOK UP ADD MY CHILDREN **CONFIRM & REGISTER** For the best possible match result, use the phone and address your physician has on record Text message enabled phone (1) Phone 1 * Phone 2 Text message enabled phone (1) Text message enabled phone (1) Phone 3

State *

Back

Address *

City *

Next

Zip Code *



Arizona MyIR.net Heather Williams Williams Family Send Records - Help About Logout

Registration: By registering for a MyIR account you will gain secure, anytime access to your immunization records.



Children must be under the age of 18 to have the system retrieve their records. Click "next" to skip this step.

+ Add Child

Back

Next



Arizona MylR.net Heather Williams Williams Family Send Records → Help About Logout

Registration: By registering for a MyIR account you will gain secure, anytime access to your immunization records.



Children must be under the age of 18 to have the system retrieve their records. Click "next" to skip this step.

Add Child

First Name * Last Name* Date of Birth *

Select Gender*

Remove Child

Add Another Child



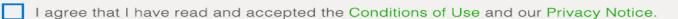
Arizona MyIR.net Heather Williams Williams Family Send Records - Help About Logout

Registration: By registering for a MyIR account you will gain secure, anytime access to your immunization records.

CONFIRM & REGISTER

How did you find out about Washington MyIR?

Choose a Referral Option*



I would like to receive occasional promotional offers and Health & Wellness related news from MyIR (You can unsubcribe at anytime)

I'm not a robot

Online Verification Results

Baylor Williams RECORD LOCATED

Emma-Campbell Williams RECORD LOCATED

Your verification code will be sent to the following phone number: (210)123-4567 Resend Verification Code >

Enter Verification Code

Submit

Mabry Williams

RECORD NOT LOCATED

How do I access my records that were not located?

- Try Department of Health Assisted Verification >
- Try updating your information in "MyProfile" and attempt online verification again
- Contact Us >

A Your information is safe and secure.

Help

Online Verification Results

Baylor Williams

RECORD LOCATED

Emma-Campbell Williams

RECORD LOCATED

View Records

Mabry Williams

RECORD NOT LOCATED

How do I access my records that were not located?

- Try Department of Health Assisted Verification >
- Try updating your information in "MyProfile" and attempt online verification again
- Contact Us >

A Your information is safe and secure.

Help



THANK YOU

Sarah Cruz
Product Owner
Scientific Technologies Corporation (STC)

Sarah_cruz@stchome.com







Flu shots and immunizations are critical components of pediatric preventative health.

2017-2018 was the worst flu epidemic in a decade.

Over 30,000 hospitalizations and 160 child flu-related deaths occurred during the 2017-2018 season, in addition to countless school closures.

Low flu shot effectiveness has a high impact.

20% flu shot effectiveness shown to reduce an estimated 20M doctor's visits in a year.*

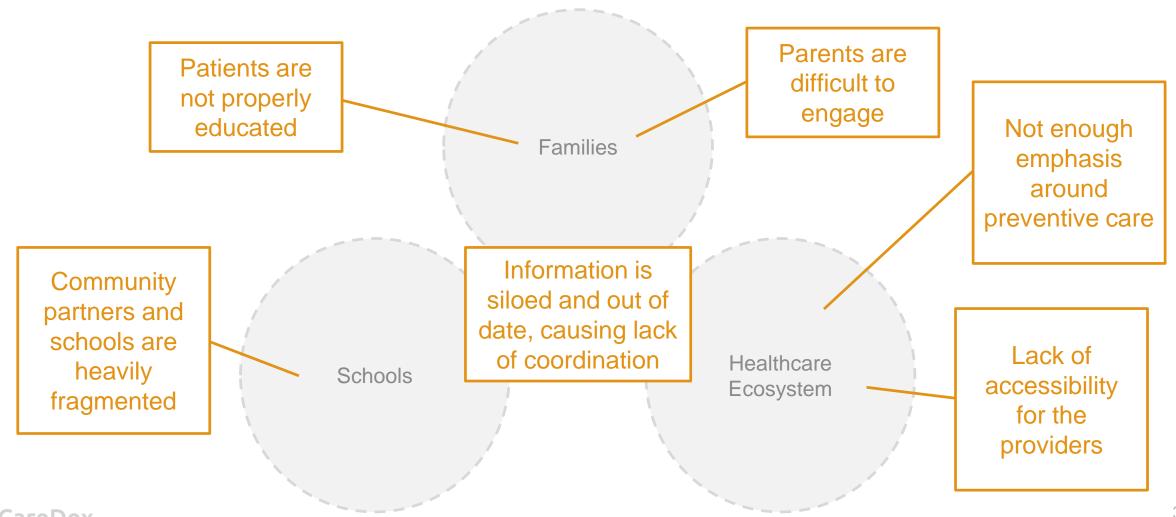
The chronic disease population is especially vulnerable.

Flu shot reduces the risk of hospitalization among those with diabetes 79% and chronic lung diseases like asthma 52%.



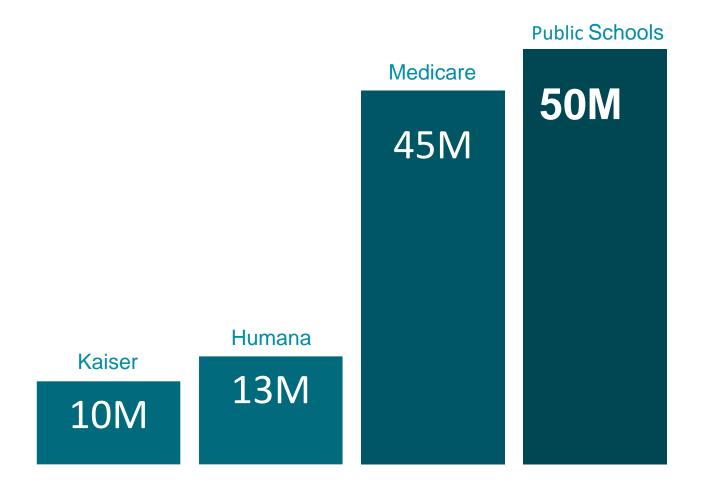
CHALLENGE:

Uncoordinated pediatric care impacts quality outcomes.



SOLUTION:

Create a supply chain to enable providers where the children are—in the schools.



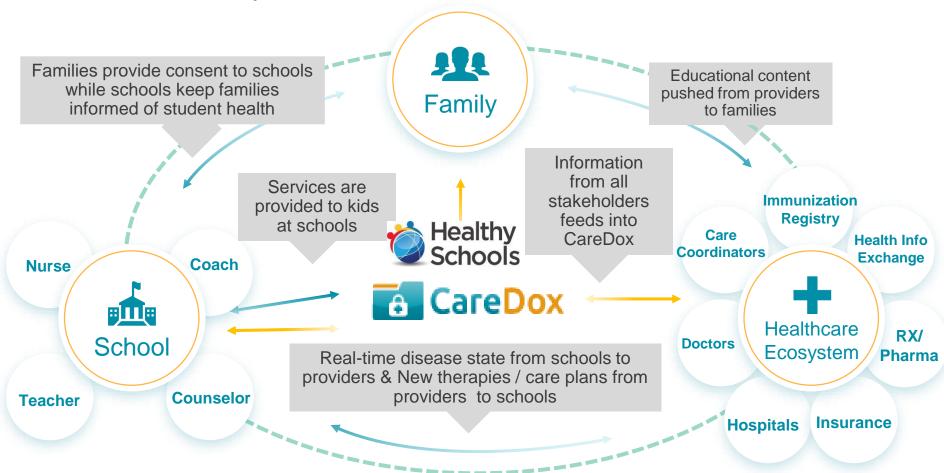
The **one** location where children can be served at scale!



OUR GOAL:

To become the enabling platform connecting families to providers

CareDox Enables the key stakeholders of the Pediatric Care Continuum to connect with each other



€ CareDox

OUR SERVICES:

Our technology-enabled services provide preventative and chronic disease care to students in a school-based setting.



Flu Shots & Vaccines



Adolescent Wellness Visits and EPSDT Screenings



Care
Management
Services



Engagement Services
Patient Education &
Sponsorships

PRESENT SERVICES

FUTURE SERVICES

BENEFITS OF OUR SERVICES:

Bringing flu vaccines and adolescent immunizations directly to students in schools has proven effects.

- Increase vaccination rates for children
- Reduce absenteeism (increase ADA reimbursements)
- Protect families and others from illness
- Save lost time away from school and work



A recent independent Texas study shows that CareDox and the Healthy Schools Flu program reduced absenteeism and saved schools approximately \$500,000 across 3 peak weeks of the Flu season.

Source:

E3 Alliance "Kick the Flu" Flu Immunization Campaign Study

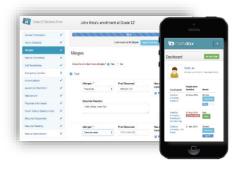
OUR TECHNOLOGY PLATFORM:

Electronic Health Records Management

Nurse Module



Parent Portal



Admin Module



Healthcare Services





Capture and access data

Electronic Medical Records System (EHR) to streamline student medical management & share student's health records with parents & staff



Parent engagement

Simplified updates from parents couple with real time information from school nurses



Reports

Real time reports to provide key insights for early warnings, health related absenteeism & chronic disease management



Care coordination

To provide immunizations, flu shots, wellness physicals & community health agency programs



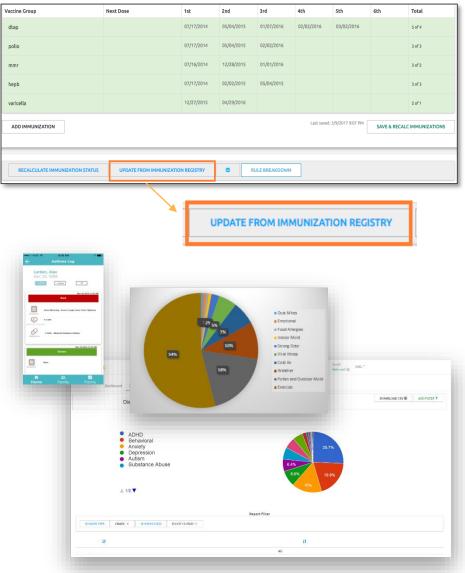






Better outcomes & efficiency

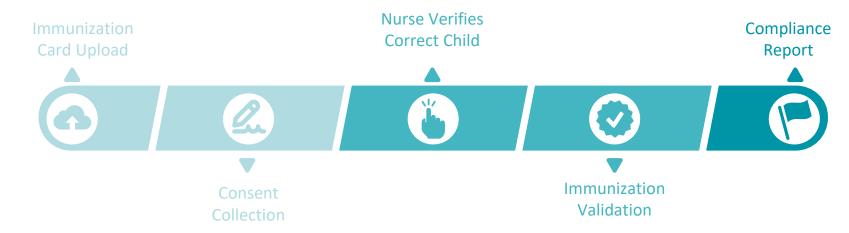
OUR TECHNOLOGY PLATFORM:

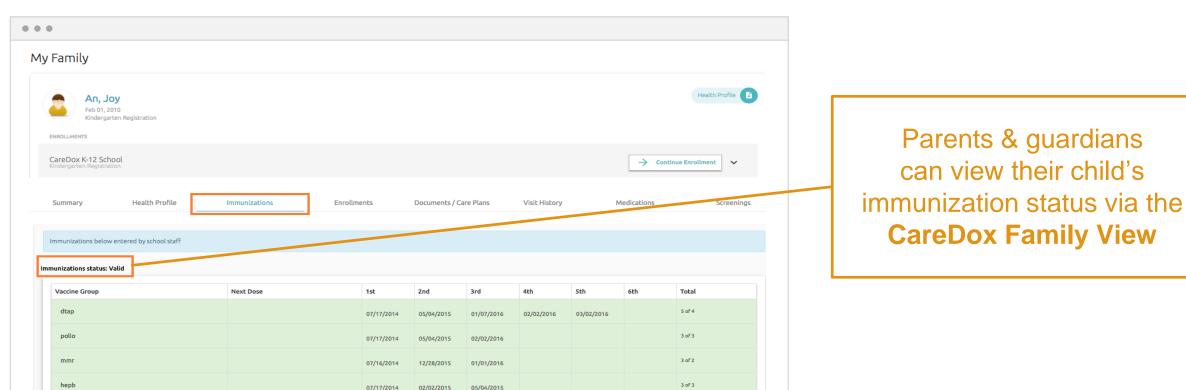


We provide real-time health information including:

- Immunization Status
- Longitudinal Reporting
- Real-Time Condition-Specific Disease State
- Early-Warning for Outbreaks & Epidemics
- Trend Analysis
- Improved Care Coordination
- Event-Based Communication
- Health Insights

IMMUNIZATION DATA WORKFLOW:





OUR IMPACT:

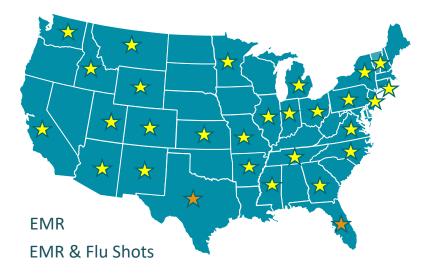
Growth:

- 30,595,499 ommunization records in EHR (13M from IIS)
- 438,905 parental records with IIS data
- 642,920 health records linked to IIS
- 447,504 immunizations records written back to IIS
- 700,000 administered flu vaccines projected for 2018

Traction:

- EHR in 30 states
- 1,800,000 students, 190+ districts
- 3,300 health staff actively using EHR tool
- 6,200,000 health episodes (visit history) recorded























Payer Partners:









OUR FUNDING MODEL:

NO COST:

School-Based Health Care Services

Preventative: Flu shots/Vaccinations

Preventative: Adolescent Wellness Visits

Preventative: Education Programs

Care Management Services for Chronic Disease

NO COST:

Implementation Services

- Trainings
- Implementation / Configurations
- Ongoing Maintenance (annually)

How are these services funded?

As a certified healthcare provider, we are able to offer preventative care and chronic disease management at no cost to schools or families through partnerships with Medicaid and insurance providers.

This enables children to stay in school, remain healthy and reduce absenteeism.

Patient Portals at New York City Department of Health and Mental Hygiene My Vaccine Record and Sexual Health Patient Portal

NYC Department of Health & Mental Hygiene
Division of Disease Control – Angel Aponte, aaponte@health.nyc.gov
Bureau of Immunization – Shirley Huie
Bureau of STD Control – Winton Wedderburn, wwedderburn@health.nyc.gov
Bureau of Technology Strategy and Project Management – Savas Sevil
#AIRA2018

Purpose of My Vaccine Record Web Application

- Goal: Give the public convenient access to their own and their children's immunization records
 - Access was previously limited to mail, fax, walk-in
 - Mail could take up to 2 weeks
- Uses the Citywide Immunization Registry (CIR), New York City's Immunization Information System (IIS)
 - Mandatory reporting of immunizations for children 0-18 years; reporting for adults >19 years (verbal or written consent)
 - 6.5 million patient records; 90 million immunizations
 - > 2,400 facilities report; >90% report regularly

User Identity Verification and Authentication

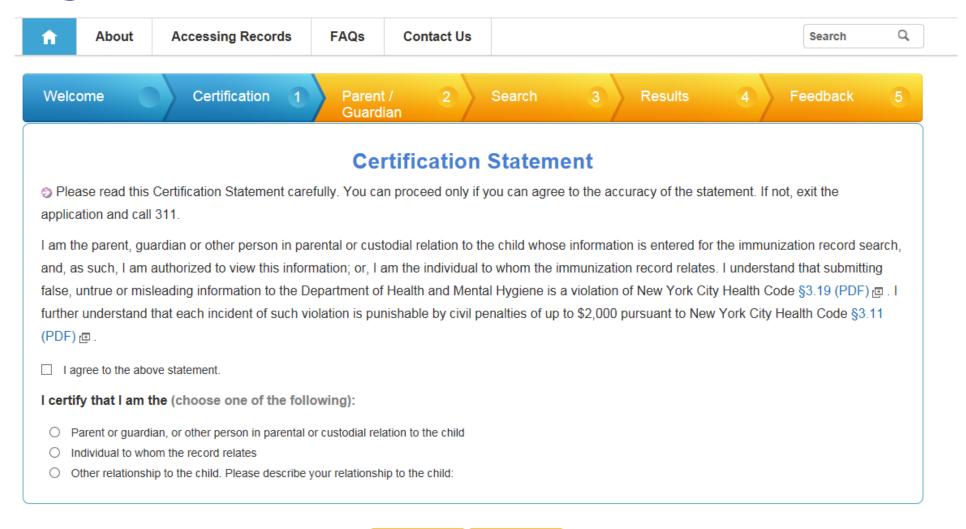
• Issues:

- Need more than a user ID and password to initially establish identity; e.g. medical record number
- People forget user IDs and passwords and NYC population is 8.5 million
- Considered SSN; no budget for per-transaction cost
- Solution: IDNYC municipal identification
 - Identity and address verified when person gets card
 - Authentication using first name, last name, DOB, and IDNYC card number
- Limitation:
 - 1.2 million (16%) IDNYC card holders of 7.5 million residents age >= 10

My Vaccine Record nyc.gov/myvaccinerecord



Legal Requirements: Certification Statement – Step 1



Parent, Guardian, Custodian Verification

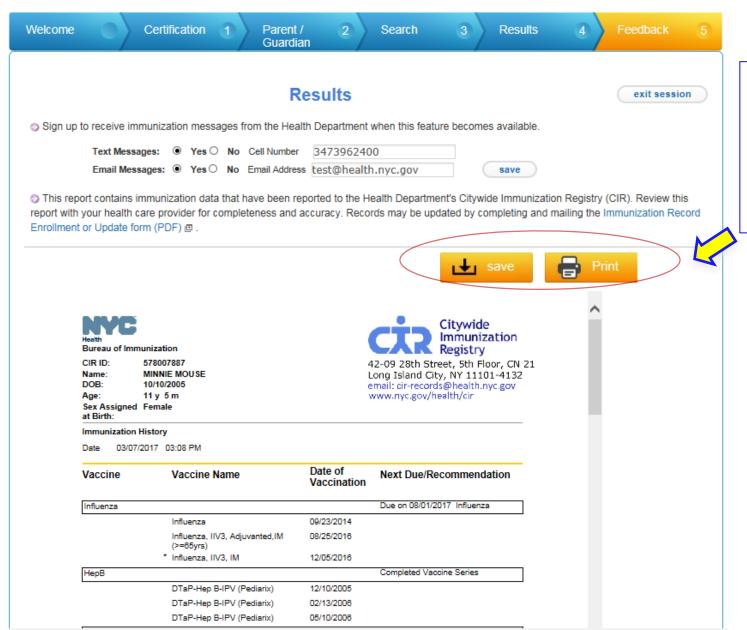
n	About	Accessing Records	FAQs	Contact Us					Search	Q	
Welc	ome	Certification 1	Parent Guard		Search	3	Results	4	Feedback	5	
			Parei	nt/Guardia	n				exit sessio	n	
Please enter your information below. Your information will be used to verify your relationship to the child. If your health care providers have not											
reported your information to the NYC Health Department, you will not be able to retrieve a record.											
First	Name		Last Name			Middle Name					
Date	of Birth	✓ IE	NYC Card Nun	nber		□Shov	w Entry About I	DNYC Enrolln	nent 🖭		
	ress e Number New York	Street ZIP Code	Country	Apt. United States of	City of America ✓	/					
Emai	l Address										
Phon	e Numbers										
Home	### ###	#### Cell	### ### #	###							
card. 1	The NYC Healt	s box, you are consenting to h Department will not save y on record search. You may v	your IDNYC car	rd number. If you d	o not consent	or do not hav	e an IDNYC ca	rd, you will n	ot be able to pro		
			Previous	Clear		Next					

Immunization Record Search

Previous

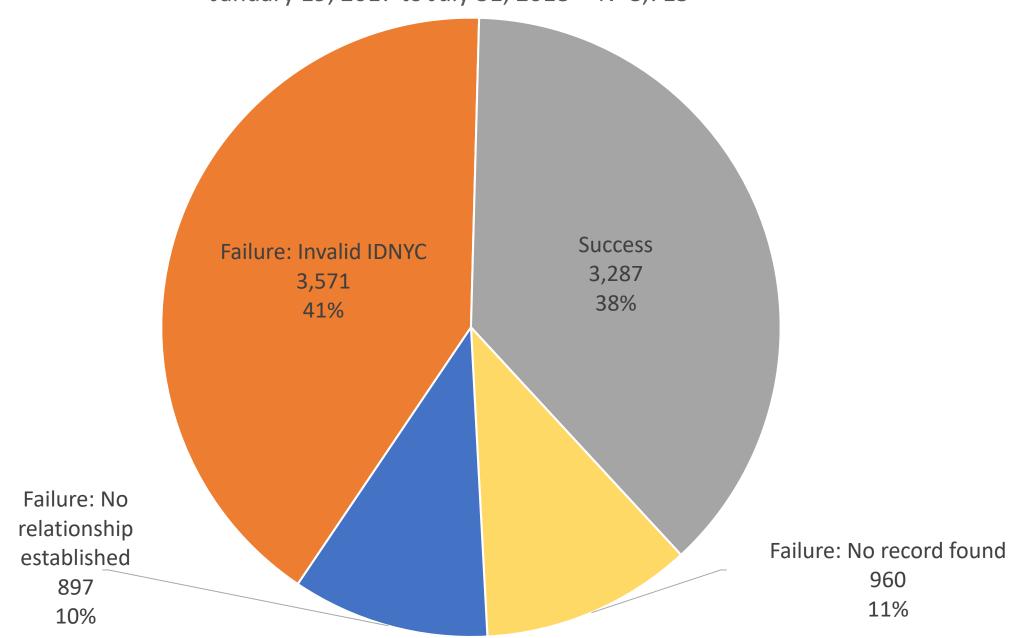
Welcome Certification 1 Parent / 2 Search 3 Results 4 Feedback 5 Guardian											
Immunization Record Search exit session											
Please enter your information below.											
First Name Middle Name											
Date of Birth Sex Assigned at Birth Male Female											
IDNYC Card number ☐Show Entry About IDNYC Enrollment ☐											
Medicaid Number AA#####A (optional) CIR Number (optional)											
Please enter your mother's information: Mother's First Name Mother's Maiden Name (last name before first marriage) Mother's Date of Birth Please enter an address reported to the health care provider at the time of vaccinations:											
House Number Street Address Apt. City											
State New York ZIP Code Phone Number ### ####											
If current address is different, please enter ZIP code, if in the U.S.:											
If current address is outside of the U.S., please choose the country: United States of America											
By checking this box, you are consenting to send your name and date of birth to the New York City Human Resources Administration to verify your IDNYC card. The NYC Health Department will not save your IDNYC card number. If you do not consent or do not have an IDNYC card, you will not be able to proceed with the immunization record search. You may visit IDNYC or the My Vaccine Record FAQs for more information if you are unable to proceed.											

Results - Step 4



- Download or Print.
- Enter cell phone number and or email for future messages from BOI.

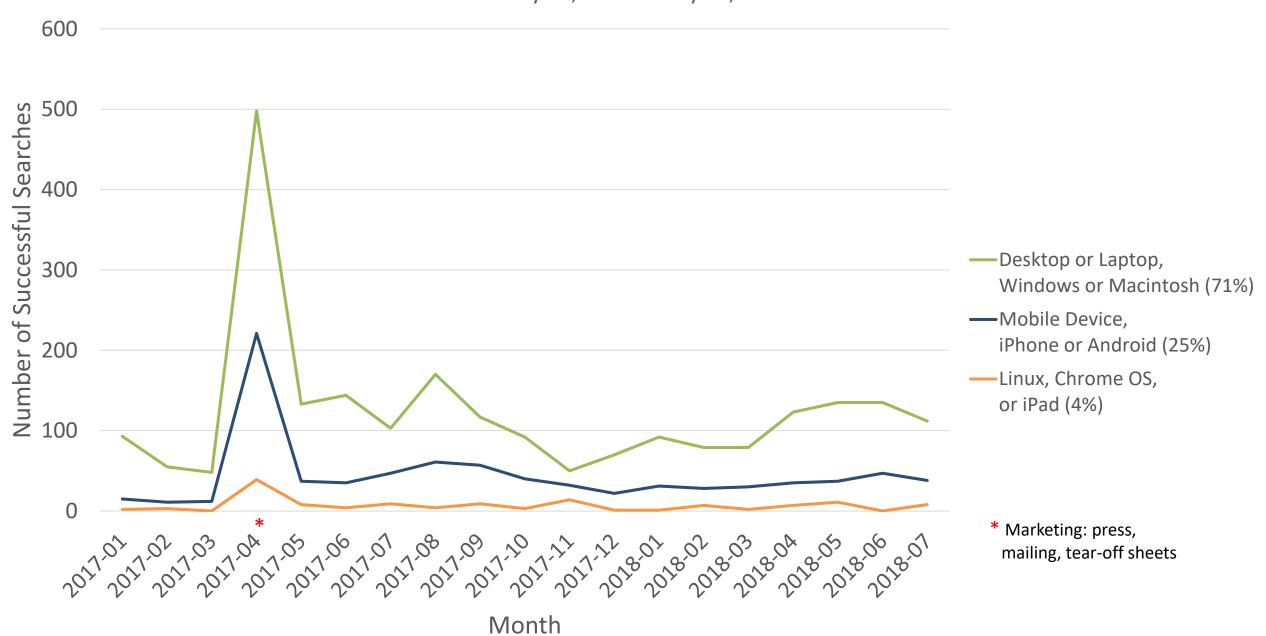
Top 4 My Vaccine Record User Request Statuses January 19, 2017 to July 31, 2018 -- N=8,715



Authenticated Record Requests with Verified Relationship, by Age Jan. 19, 2017 to July 31, 2018

	Total	Found	Not Found
0-18 years	2,322	2,206	116
U-10 years	(53%)	(95%)	(5%)
>-10 years	2,070	1,081	989
>=19 years	(47%)	(52%)	(48%)
Total	4,392	3,287	1,105

Number of Patient Records Accessed by My Vaccine Record, by Device Type January 19, 2017 to July 31, 2018



Future Improvements

- Increase public awareness of MVR, such as schools, child care centers, and pediatric care providers
- Expand and improve identity and relationship verification
- Cell phone and E-mail verification and authentication



NYC Sexual Health Clinics

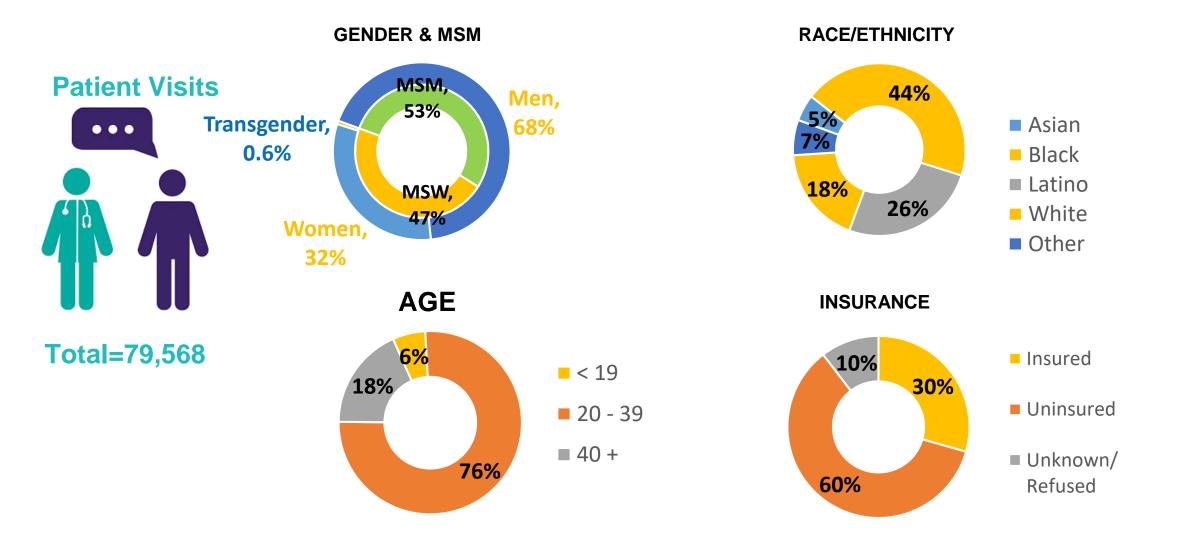
NYS Public Health Law mandates that jurisdictions provide safety net STD services

Clinic Access:

- Walk-in basis (Both MD & screening-only visits)
- 5 days/week at 8 sites; Saturdays at 2 sites; 2
 evenings at one site
- Services rendered irrespective of ability to pay
- Confidential no documentation needed
- 12 years and up; no parental notification



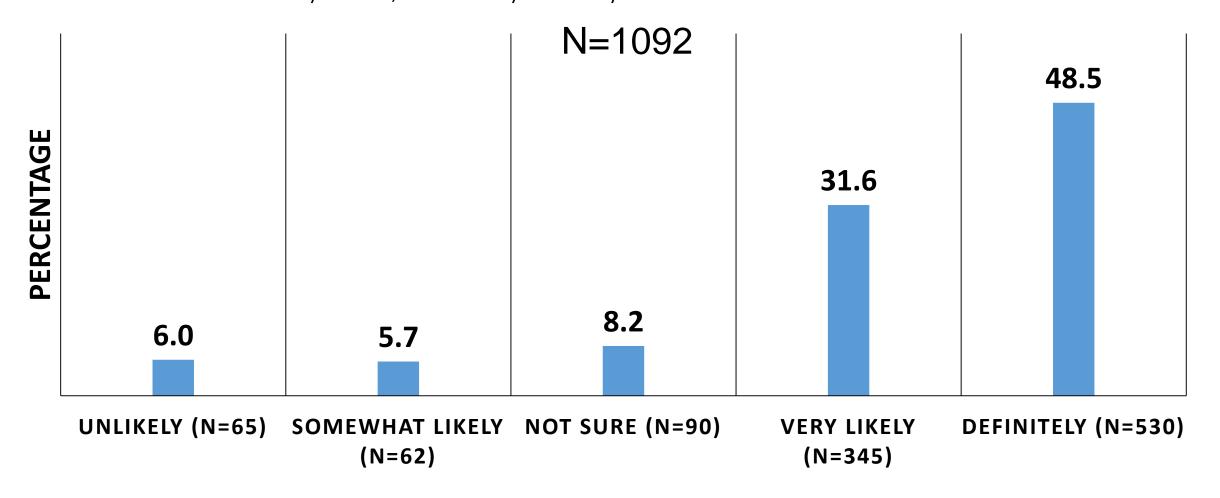
Client Patient Demographics, 2017



Purpose of Sexual Health Patient Portal

- Goal: Give patients convenient access to their sexual health records
 - Consumer access to lab test results over the Web
 - Improve communication between clinic staff and patients
 - Send targeted health promotion messages to clinic patients
 - Improve adherence to vaccination schedule and disease treatment

2017 Sexual Health Clinic Survey
If this Sexual Health Clinic offered an online patient portal where you could log in and see your test results from today's visit, how likely would you be to use this service?



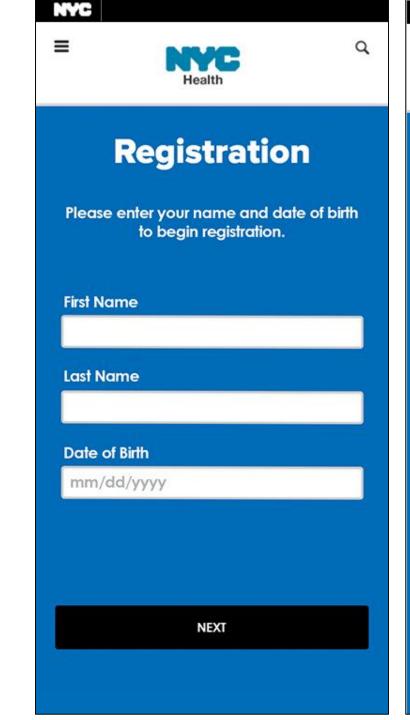
Clinical Services, HIPAA, and Consumer Access

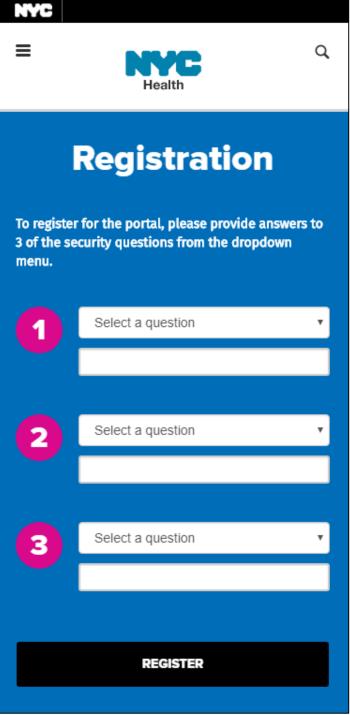
- HIPAA covered activity (no public health exemption for clinics)
- Health Information Management Systems Society: Requires "two-factor authentication, specifically including a 'something you have' factor." https://www.himss.org/sites/himssorg/files/Patient Portal Identity Proofing and Authentication Final.pdf
- US Department of Health and Human Services: Risk management strategy guidance is "implement two-factor authentication" https://www.hhs.gov/sites/default/files/ocr/privacy/hipaa/administrative/securityrule/remoteuse.pdf
- US National Institute of Standards and Technology: Multi factor authentication "is required when any personal information is made available online"

https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-63-3.pdf

Patient Portal Enrollment

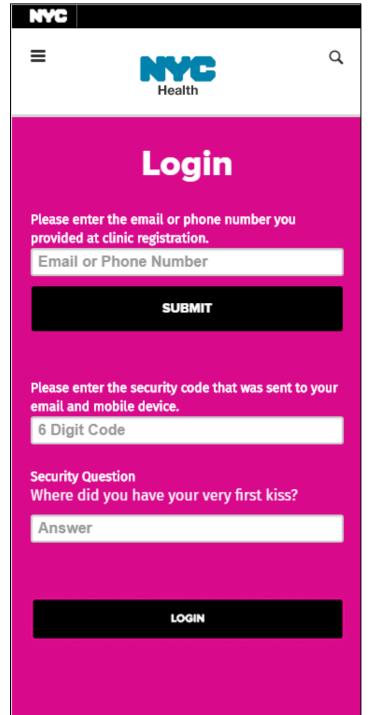
- Patient provides phone number and E-mail address during clinic visit
- 2. Registration link is sent while patient is at clinic
- 3. Patient clicks registration link
- 4. Patient provides name and DOB, to confirm that registration link was sent to correct person
- Patient selects security questions and provides answers

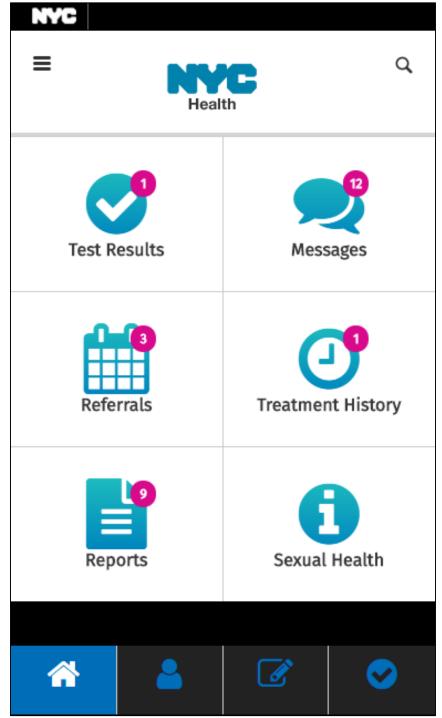


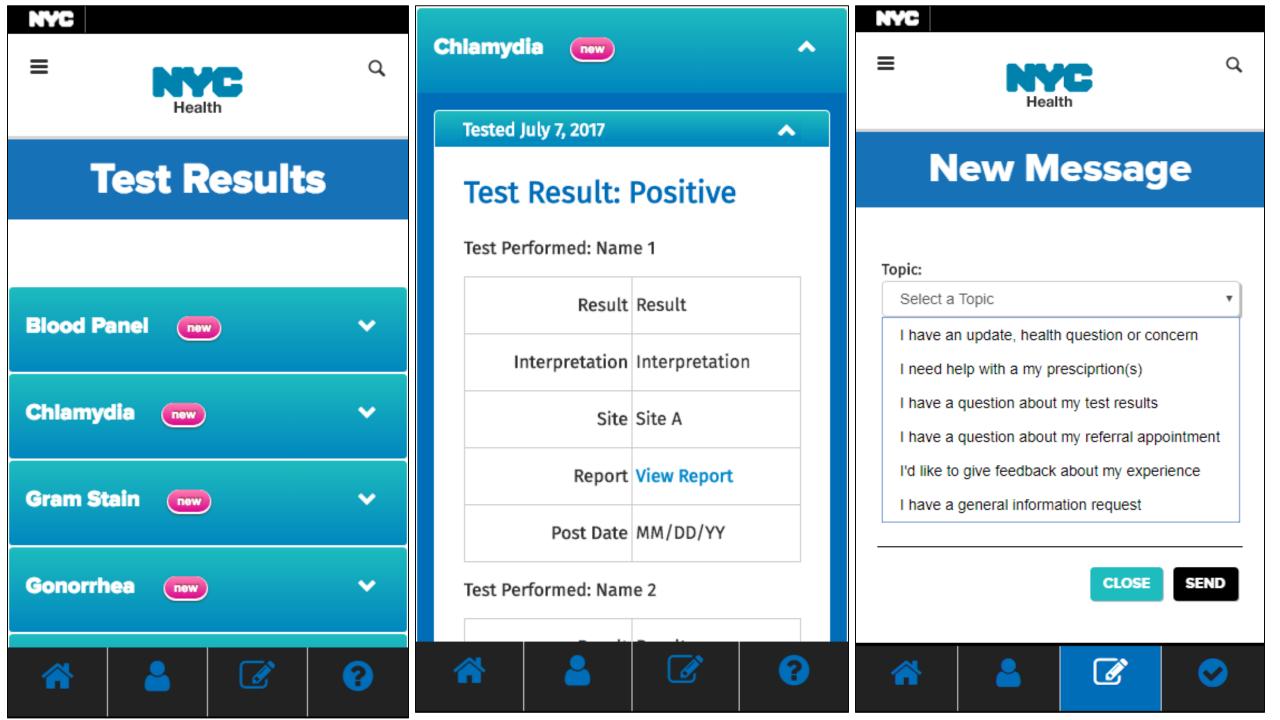


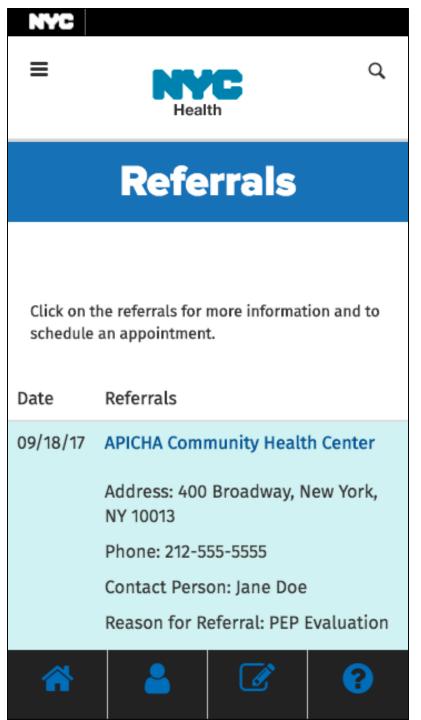
User Login and Home Screen

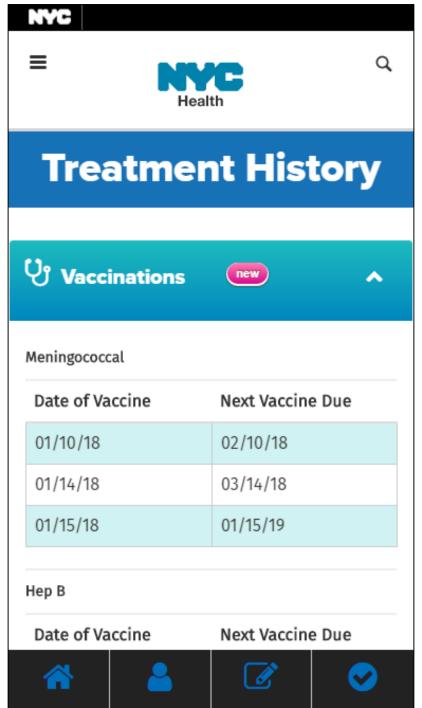
- 1. Patient provides phone number or E-mail address used to enroll in portal
- 2. A one-time use password is sent to the phone number or E-mail address (possession factor)
- 3. If patient provides the correct one-time password, they are challenged to answer a security question (knowledge factor)
- 4. Authenticated patient can now use the sexual health patient portal

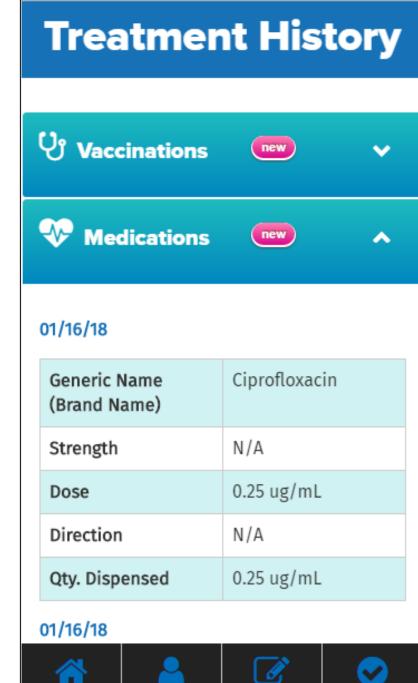












Challenges

- Complex technology architecture may cause reliability issues
 - Externally facing Web application separated from databases
 - Three different Web applications (STD EMR, Sexual Health Patient Portal, and Patient Portal Admin)
 - Accessing two different databases (EMR and Patient Portal)
- Interdependencies between teams requires careful coordination

Sexual Health Patient Portal Status

- Planned production launch during calendar year 2018
- System, performance, and stress testing externally facing application
- Implementing internal Patient Portal Admin application for secure messaging
- Potential future enhancements
 - Pre-registration
 - Electronic pull of test results from external healthcare facilities
 - Electronic pull of test results from EHRs and other patient portals, via standard interfaces
 - Tuberculosis clinic data
 - Schedule appointments
 - Forms builder and survey functionality

Acknowledgements

- Kate Washburn
- Ravi Teja Thummala
- Tamara Brantley
- Estella Yu
- Ashok Cherukuri
- Scott Liu
- Amy Metroka