Why are we all here?

Preparedness, response and recovery are a shared responsibility
Presenters

- Mariann Yeager, The Sequoia Project
- Leslie Witten-Rood and Dan Smiley, California EMS Authority
- Christy Revels, North Carolina Department of Information Technology
- Thomas Novak, CMS/ONC
Patient Unified Lookup Service for Emergencies
Supporting a Nationwide Disaster Response System

Mariann Yeager, CEO | The Sequoia Project
What Does PULSE Do?

Provides authorized disaster healthcare volunteers access to health records to treat patients seeking care in alternative care facilities.

How Does PULSE Work?

• Disaster healthcare volunteers log in
• Volunteers authenticated
• Volunteers retrieve records from connected networks
• Clinicians use information to treat patients in shelters
PULSE Advisory Council

- Nora Belcher, Texas e-Health Alliance (TEHA)
- Rim Cothren - California Association of Health Information Exchange (CAHIE)
- Tara Cramer Georgia Regional Academic Community Health Information Exchange (GRACHIE)
- Kristen Finne, HHS Assistant Secretary of Preparedness and Response (ASPR)
- Dan Smiley, California Emergency Medical Services Authority (CalEMSA)
- Lee Stevens, HHS Intergovernmental and External Affairs
- Sean Turner, Dignity Health
- Leslie Witten-Rood, California Emergency Medical Services Authority (CalEMSA)
- Jeremy Wong, Audacious Inquiry (Ai)
Patient Query

PULSE
Patient Unified Lookup System for Emergencies

Patient Query

First Name *
Steve

Last Name *
Hardy

Gender *
Male

Date of Birth *
April 1 1963

SSN
XXX-XX-XXXX

Search

Search

Queries (0)

Queried Patient Information
No current queries

Review
### Patient Staging

#### Queried Patient Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Date of Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Hardy</td>
<td>M</td>
<td>04/01/1963</td>
</tr>
</tbody>
</table>

#### Possible Patient Records

<table>
<thead>
<tr>
<th>Location</th>
<th>Name</th>
<th>Gender</th>
<th>Date of Birth</th>
<th>SSN</th>
<th>View Details</th>
<th>Select</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mock Clinic Facility</td>
<td>Steve James Hardy</td>
<td>Male</td>
<td>04/01/1963</td>
<td>999-88-6345</td>
<td><img src="#" alt="View" /></td>
<td><img src="#" alt="Select" /></td>
</tr>
<tr>
<td>Mock Hospital Facility</td>
<td>Steve James Hardy-Smith</td>
<td>Male</td>
<td>04/01/1963</td>
<td>999-88-6345</td>
<td><img src="#" alt="View" /></td>
<td><img src="#" alt="Select" /></td>
</tr>
<tr>
<td></td>
<td>Steve Jim Hardy</td>
<td>Male</td>
<td>04/01/1963</td>
<td>999-89-3300</td>
<td><img src="#" alt="View" /></td>
<td><img src="#" alt="Select" /></td>
</tr>
<tr>
<td>Mock Hospital Facility</td>
<td>Steve James Hardy</td>
<td>Male</td>
<td>04/01/1963</td>
<td>999-88-6345</td>
<td><img src="#" alt="View" /></td>
<td><img src="#" alt="Select" /></td>
</tr>
<tr>
<td></td>
<td>Jim Steve Hardy</td>
<td>Male</td>
<td>04/01/1963</td>
<td>999-89-3300</td>
<td><img src="#" alt="View" /></td>
<td><img src="#" alt="Select" /></td>
</tr>
<tr>
<td>Mock IDN Facility 1</td>
<td>James Steve Hardy-Smith</td>
<td>Male</td>
<td>04/01/1963</td>
<td>999-88-6345</td>
<td><img src="#" alt="View" /></td>
<td><img src="#" alt="Select" /></td>
</tr>
<tr>
<td>Mock IDN Facility 2</td>
<td>James Steve Hardy-Smith</td>
<td>Male</td>
<td>04/01/1963</td>
<td>999-88-6345</td>
<td><img src="#" alt="View" /></td>
<td><img src="#" alt="Select" /></td>
</tr>
</tbody>
</table>

#### Combined PULSE Patient

<table>
<thead>
<tr>
<th>Full Name</th>
<th>Gender</th>
<th>Date of Birth</th>
<th>SSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Hardy</td>
<td>Male</td>
<td>April</td>
<td>1963</td>
</tr>
</tbody>
</table>
Patient: John Smith

John Smith

<table>
<thead>
<tr>
<th>Gender</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Birth</td>
<td>Jun 5, 1966</td>
</tr>
<tr>
<td>SSN</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Status</th>
<th>Title</th>
<th>Class Name</th>
<th>Confidentiality</th>
<th>Creation Date</th>
<th>Size</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Admission</td>
<td>ALLERGY NOTE</td>
<td>High</td>
<td>May 15, 2008</td>
<td>34.6 kB</td>
<td>St. Sebastian's Hospital</td>
<td></td>
</tr>
<tr>
<td>Hospital Admission</td>
<td>ALLERGY NOTE</td>
<td>High</td>
<td>May 15, 2008</td>
<td>34.6 kB</td>
<td>Santa Rosa Mental Health Institute</td>
<td></td>
</tr>
<tr>
<td>Physical Test</td>
<td>SIMULATION OF PHYSICIAN NOTE</td>
<td>Normal</td>
<td>May 16, 2008</td>
<td>34.6 kB</td>
<td>St. Sebastian's Hospital</td>
<td></td>
</tr>
</tbody>
</table>
# Clinical Document Review

## Contra Costa-01

### ALLERGIES, ADVERSE REACTIONS, ALERTS

<table>
<thead>
<tr>
<th>Type</th>
<th>Substance</th>
<th>Reaction</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLERGIES</td>
<td>morphine</td>
<td>rash</td>
<td>Active</td>
</tr>
<tr>
<td>ALLERGIES</td>
<td>amoxicillin</td>
<td>anaphylaxis</td>
<td>Active</td>
</tr>
<tr>
<td>ALLERGIES</td>
<td>metronidazole</td>
<td>difficulty breathing</td>
<td>Active</td>
</tr>
<tr>
<td>ALLERGIES</td>
<td>Macrolide Antibiotics Group</td>
<td>nausea</td>
<td>Active</td>
</tr>
</tbody>
</table>

### MEDICATIONS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Start Date</th>
<th>Route</th>
<th>Dose</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abilify, [RxNorm:352309]</td>
<td>201501020000</td>
<td></td>
<td></td>
<td>Active</td>
</tr>
<tr>
<td>Crestor, [RxNorm:859749]</td>
<td>201501010000</td>
<td></td>
<td></td>
<td>Active</td>
</tr>
<tr>
<td>Sucraïd, [RxNorm:213337]</td>
<td>201502170000</td>
<td></td>
<td></td>
<td>Active</td>
</tr>
<tr>
<td>Dilantin, [RxNorm:855871]</td>
<td>201502160000</td>
<td></td>
<td></td>
<td>Active</td>
</tr>
</tbody>
</table>

### PROBLEMS

1. Alteration in Medication: Active
Lessons Learned

- Government incubation provides foundation for the nation
- Nationwide deployment grounded by real-world experience
- Disaster response drives and accelerates interoperability
- Standardize nationally and tailor only where necessary locally
- Interoperability is improving state of readiness
For more information

https://sequoiaproject.org/pulse/
PATIENT UNIFIED LOOKUP SYSTEM
FOR EMERGENCIES
(PULSE)

State of California
Emergency Medical Services Authority

Dan Smiley and Leslie Witten-Rood
Patient Unified Lookup System for Emergencies (PULSE)

- Idea/concept originated from experiences during Hurricane Katrina
- April 2014 - ONC published a report that assessed opportunities in CA and Gulf Coast to use HIE to support Disaster preparedness and EMS.
  - 1) EMS data exchange with hospitals
  - 2) disaster response medical history portal (PULSE)
- May 2014 - ASPR and ONC received a $50,000 grant from HHS IDEA Lab to establish the core technical approach/requirements, scope of work and use cases (scenarios) for PULSE
- July 2015 - California EMSA received funding from ONC to design, build and implement PULSE
PULSE GOALS

✓ Deliver patient health information to healthcare professionals during a disaster

✓ Improve patient care
PULSE Steps

- Design
- Build
- Connect
- Implement
- Deploy
PULSE DESIGN
Patient Target Populations:

- Disaster victims who need medical treatment or medication refills
- All victims experiencing a medical or trauma emergency
- Displaced Victims of Disasters outside of their normal health system or geographic area of service
PULSE DESIGN

Providers Target Populations:

- Healthcare professionals

- Working in a:
  - Mobile Field Hospital or Alternate Care site
  - Medical Shelter
  - EMS setting
California PULSE Pilot Design

- Emergency or Disaster Occurs
- Request is made to EMSA to Activate PULSE
- EMSA Activates PULSE through the PULSE Operator
- DHV Volunteer can log into PULSE from DHV System (single sign-on through DHV website)
- Access to patient information for 4 Health Information Organizations

- 6 types of Licensed Volunteers can log into PULSE when its activated by EMSA:
  1. Physician
  2. Nurse Practitioner
  3. Pharmacist
  4. Registered Nurse
  5. Physician’s Assistant
  6. EMT / Paramedic
• Audacious Inquiry
• ONC Grant 2015-2017
• Scalable nationwide

• Portal built for access to SEARCH for patient health information during disaster situations
SEARCH for Patient
Required Fields: Name, Gender, DOB, (SS# or Address)
Connect HIEs so that providers and emergency responders have a way to access health information across systems

- Respond to disasters
- Improve Clinical Decision Making
- Improve patient health and
- Measure outcomes

Interoperability
June 2017 PULSE Table Top Drill

• Test the PULSE System
• Ensure connections with four health information organizations (HIOs)
  1. OCPRHIO
  2. Santa Cruz HIE
  3. Sutter Health
  4. UC Davis Health

• Testing connectivity of the DHV System (Vendor Intermedix & Directory Services as part of the California Trusted Exchange Network (CTEN), operated by CAHIE
• Received end user feedback from the Sacramento Medical Reserve Corps and Sacramento County
Fall 2017 PULSE Implementation

- Roles & Responsibilities
- Develop Workflow
- Update Key Planning & Deployment Documents
- Communication
- Train end users
- Asset Request Process
- Deployment
### Patient Staging

**Queried Patient Information**

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Date of Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daisy ZZTEST GM</td>
<td>F</td>
<td>11/10/1935</td>
</tr>
</tbody>
</table>

**Possible Patient Records**

<table>
<thead>
<tr>
<th>Location</th>
<th>Name</th>
<th>Gender</th>
<th>Date of Birth</th>
<th>SSN</th>
<th>View Details</th>
<th>Select</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutter Health</td>
<td>Daisy Zztest Gm</td>
<td>Female</td>
<td>11/10/1935</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Combined PULSE Patient**

<table>
<thead>
<tr>
<th>Full Name</th>
<th>Friendly Name</th>
<th>Gender</th>
<th>SSN</th>
<th>Date of Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daisy ZZTEST GM</td>
<td></td>
<td>Female</td>
<td></td>
<td>November 10</td>
</tr>
</tbody>
</table>

### Action Buttons

- **Dismiss**
- **Save**
### Patient: Daisy ZZTEST GM

#### Daisy ZZTEST GM

<table>
<thead>
<tr>
<th>Status</th>
<th>Title</th>
<th>Class Name</th>
<th>Confidentiality</th>
<th>Creation Date</th>
<th>Size</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hospital Encounter Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Office Visit Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Office Visit OB Est Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Office Visit Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Hospital Encounter Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Office Visit Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Office Visit Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Hospital Encounter Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>Hospital Encounter Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
<tr>
<td></td>
<td>AC Care Management Summary</td>
<td>Progress Note</td>
<td>Normal</td>
<td>Apr 5, 2018</td>
<td>-1.0 B</td>
<td>Sutter Health</td>
</tr>
</tbody>
</table>
Return of Patient Information

### Patient: John Smith

<table>
<thead>
<tr>
<th>Status</th>
<th>Title</th>
<th>Class Name</th>
<th>Confidentiality</th>
<th>Creation Date</th>
<th>Size</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hospital Admission</td>
<td>ALLERGY NOTE</td>
<td>High</td>
<td>May 15, 2008</td>
<td>34.6 kB</td>
<td>St. Sebastian's Hospital</td>
</tr>
<tr>
<td></td>
<td>Hospital Admission</td>
<td>ALLERGY NOTE</td>
<td>High</td>
<td>May 15, 2008</td>
<td>34.6 kB</td>
<td>Santa Rosa Mental Health Institute</td>
</tr>
<tr>
<td></td>
<td>Physical Test</td>
<td>SUMMARIZATION OF EPISODE NOTE</td>
<td>Normal</td>
<td>May 16, 2008</td>
<td>34.6 kB</td>
<td>St. Sebastian's Hospital</td>
</tr>
<tr>
<td></td>
<td>Physical Test</td>
<td>SUMMARIZATION OF EPISODE NOTE</td>
<td>Normal</td>
<td>May 16, 2008</td>
<td>34.6 kB</td>
<td>Santa Rosa Mental Health Institute</td>
</tr>
</tbody>
</table>
# Clinical Summary

<table>
<thead>
<tr>
<th><strong>Patient</strong></th>
<th>Daisy ZZtest Gm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language</strong></td>
<td>JPN</td>
</tr>
<tr>
<td><strong>Date of birth</strong></td>
<td>November 10, 1935</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>Female</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td>Not Hispanic or Latino</td>
</tr>
<tr>
<td><strong>Contact info</strong></td>
<td>Primary Home: 55555 west county Road SAN FRANCISCO, CA 94115, USA Tel: +1-999-888-8888</td>
</tr>
<tr>
<td><strong>Patient IDs</strong></td>
<td>SUF9819508 13239505</td>
</tr>
<tr>
<td><strong>Confidentiality</strong></td>
<td>Normal</td>
</tr>
<tr>
<td><strong>Document Id</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Document Created:</strong></td>
<td>April 5, 2018, 12:44:20, MST</td>
</tr>
<tr>
<td><strong>Author</strong></td>
<td>Epic - Version 8.3</td>
</tr>
<tr>
<td><strong>Contact info</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Emergency contact (Mother)</strong></td>
<td>ZZtest, Mom</td>
</tr>
<tr>
<td><strong>Contact info</strong></td>
<td>Tel: +1-999-888-9099</td>
</tr>
<tr>
<td><strong>Emergency contact (Father)</strong></td>
<td>ZZtest, Father</td>
</tr>
<tr>
<td><strong>Contact info</strong></td>
<td>Tel: +1-999-777-7777</td>
</tr>
</tbody>
</table>
# Specific Medical Information

## Allergies

<table>
<thead>
<tr>
<th>Active Allergy</th>
<th>Reactions</th>
<th>Severity</th>
<th>Noted Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethoxyethanol</td>
<td>Anaphylaxis</td>
<td>High</td>
<td>01/09/2018</td>
<td></td>
</tr>
<tr>
<td>A &amp; D</td>
<td></td>
<td></td>
<td>01/09/2018</td>
<td></td>
</tr>
<tr>
<td>Bilberry</td>
<td>Cough</td>
<td>High</td>
<td>11/17/2017</td>
<td></td>
</tr>
<tr>
<td>Latex</td>
<td></td>
<td></td>
<td>01/09/2018</td>
<td></td>
</tr>
<tr>
<td>Hydrocodone-Acetaminophen</td>
<td></td>
<td></td>
<td>01/09/2018</td>
<td></td>
</tr>
<tr>
<td>Peanut-Containing Drug Products</td>
<td>Anaphylaxis</td>
<td>High</td>
<td>04/18/2017</td>
<td></td>
</tr>
</tbody>
</table>

## Current Medications

<table>
<thead>
<tr>
<th>Prescription</th>
<th>Sig.</th>
<th>Disp.</th>
<th>Refills</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROAIR HFA 108 (90 Base) MCG/ACT Oral Inhaler</td>
<td></td>
<td></td>
<td></td>
<td>03/19/2018</td>
<td></td>
<td>Active</td>
</tr>
<tr>
<td>Indications: Asthma, unspecified asthma severity, unspecified whether complicated, unspecified whether persistent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>February 10, 2008</td>
<td>Inhale 2 Puffs by mouth every 4 to 6 hours as needed</td>
<td>Shake well</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Febisemide (LASIX) 80mg Tab</td>
<td>Take 1 Tab by mouth daily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indications: Asthma, unspecified asthma severity, unspecified whether</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>03/19/2018 04/18/2018</td>
<td>Active</td>
</tr>
</tbody>
</table>
First Activation of PULSE: Wildfires Statewide
October through December 2017

- EMSA partnered with the Sequoia Project to increase Geographic Coverage for PULSE
- PLUSE established a temporary connection to eHealth Exchange
Both Kaiser and Sutter Hospital had to be evacuated in Sonoma County.
Second Activation of PULSE:
July 2018 in Shasta and Lake County

EMSA partnered with Sequoia and CAHIE to onboard additional patient records for affected areas

• Sacvalley Medshare
• Dignity Health
July and August 2018 Wildfires

- Northern California Medical Reserve Corps (MRC) supported local medical and health operations at the shelter.

- Contra Costa County MRC provided care in Lake County
The exercise objective was to train CAL-MAT/DHV Providers on PULSE and to use the PULSE Asset while testing PULSE workflow in a disaster environment.

The Scenario used for the PULSE Exercise was a large scale earthquake in the Bay Area.
Third Activation of PULSE: November 2018 in Butte County

EMSA realized that use by medical personnel needed active deployment procedures

EMSA deployed a 3 member team to initiate PULSE and train personnel
Deploy PULSE

- Use in Camp Fire
- Eight locations
- Medical Component of Shelter
- EMSA sent team to initiate use

- CAL-MAT Team Members used PULSE for:
  - Patient History
  - Medical Refills
Leslie Witten-Rood Conducting Just-In-Time Training

Medical Support Group

California Air National Guard 143rd and 144th & California Army National Guard's 297th
• Continuity of Care Document (CCD) Info:
  • Problem List
  • Medications
  • Allergies
  • Help with Treatment
  • Medication Refills
Top 5 Goals from Lessons Learned

1. **Statewide Coverage for PULSE**

2. **Just-in-Time User Registration**

3. **Deployment Team**

4. **Stable Internet Connections**

5. **Sustainable Funding**

- Consolidate all requested documents into a single report with provenance to improve review time

- Highlight within, or parse, C-CDA documents those data elements or fields most appropriate or more urgent for use in an emergency (most likely allergies, medications, problems, perhaps immunizations)
Onboard Additional HIOs

Current Connections

1. OCPRHIO
2. Santa Cruz HIE
3. Sutter Health
4. UC Davis Health
5. Sacvalley Medshare
6. Dignity Health
Next Steps Statewide Coverage

**eHealth Exchange**

- **All 50 States**: 70,000 Medical Groups
- **Four Federal Agencies** (DoD, VA, CMS, SSA):
  - 3,400+ Dialysis Centers
- **75% of U.S. Hospitals**: 8,300 Pharmacies

**Supporting more than 120 million patients**

**59 Regional and State HIEs**

---

**Carequality**

- **34,700+ Clinics**
- **1,250+ Hospitals**
- **600K+ Providers**
- **2M+ Clinical Documents Exchanged Monthly**
Next Steps

- Medi-Cal (Medicaid) 90/10 Funding provided for PULSE Phase II identify contributors for matching funds
- Expand Care Plan Exchange for Disaster response adding additional HIE/HIOs
- Onboard to eHealth Exchange & Carequality
- Expand Capabilities of PULSE
- Expand DHV users to include hospital and EMS staff
- PULSE will stay in active state and the access control will be with the DHV Single Sign On (SSO)
- Enhance Deployment Capabilities
Patient Unified Lookup System for Emergencies (PULSE)

- Questions?

- Contact:
  - Leslie Witten-Rood
  - leslie.witten@emsa.ca.gov
  - Dan Smiley
  - dan.smiley@emsa.ca.gov
Leveraging Statewide HIE for Disaster Response
Lessons Learned at the North Carolina Health Information Exchange Authority

Christy Revels, Strategic Solutions | North Carolina Health Information Exchange Authority
About the North Carolina Health Information Exchange Authority (NC HIEA) and NC HealthConnex

We connect health care providers to safely and securely share health information through a trusted network to improve health care quality and outcomes for North Carolinians.

**STATE - DESIGNATED**
North Carolina’s state-designated health information exchange

**STATE - MANAGED**
Housed within the Department of Information Technology’s Government Data Analytics Center (GDAC), the NC HIEA is a neutral party that is working to improve health across North Carolina.

**PARTNERSHIP**
Our technology partner is SAS Institute. Our partnerships include the NC Department of Health and Human Services, as well as provider and health care advocacy groups statewide.
Key Characteristics of NC HealthConnex

- The North Carolina Health Information Exchange Act dictates that:
  - All health care providers who receive state funds for the provision of health care services connect and submit demographic and clinical patient information at least twice daily to NC HealthConnex by dates in 2018-2021. This includes an estimated 98% of all health care providers statewide.
  - NC is an opt-out state; patients are automatically opted in until they tell us otherwise. Our opt-out rate is >.01%.

NC Medicaid Providers with Technology
- Hospitals
- Doctors
- Mid-Level Practitioners

LME/MCOs
Required to submit claims and encounter data

|----------|----------|----------|----------|

NC Medicaid & State Funded Service Provider without Technology
- All other providers

Required to Submit Clinical & Demographic Data
- Dentists
- Ambulatory Surgical Centers

Pharmacies
Required to submit claims data pertaining to State services once per day
State of Connectivity

• Around 8,000 participating facilities:
  » 4,000+ facilities currently connected/live (up from 108 in early 2016)
  » 3,900+ facilities currently in the onboarding process
  » Over 6.3M unique patients, over 46,000 contributing providers
  » Participants include, but not limited to:
    – 119 Hospitals
    – 1,700+ Primary Care
    – 2,300+ Specialists
    – 150+ Home Health
    – 163 Health Departments & FQHCs
    – 27 Rural Health Centers & Free Clinics
    – 590+ Behavioral Health/IDD
    – 90+ Eye & Dental
  » Connected to eHealthExchange, and through it, seven other HIEs
Hurricane’s Coming...
Before the Storm: Connecting to Border State HIEs

• Leveraged eHealthExchange gateway to stand up rapid, bidirectional query and exchange connections to:
  » Coastal Connect HIE (Wilmington, NC)
  » etHIN (East Tennessee)
  » GRACHiE (Augusta, GA)
  » MedVirginia (Richmond, VA)
  » SCHIEx (South Carolina)

*Existing connections: GaHIN (GA’s state-designated HIE) and VA VHIE (Veterans Administration)
During the Storm: Use Cases Emerge

• “Where are my patients?” Calls from health care providers/organizations seeking assistance through HIE
  » Large dialysis provider searching for over 100 patients who had missed treatments
  » Drafted an Emergency Data Access and Use Agreement

• “Who is this patient?” Needs from state agencies and volunteer organizations seeking assistance through HIE
  » Health care volunteers needed access to medical history when providing care in shelters and alternate care facilities
• Disaster preparedness in North Carolina spans hundreds of state agencies; NC HIEA has asked for a seat at the table

• Working with NC Department of Health and Human Services’ Office of Emergency Medical Services

• Evaluating Patient Unified Lookup System for Emergencies (PULSE)

• Beyond patient lookup and access to patient history, how to enable health care volunteers to create records that would travel back to NC HealthConnex

• Accelerating effort to connect EMS providers
Thank You!

Christy Revels

christy.revels@nc.gov

hiea@nc.gov
Leveraging State Medicaid Funding

Health Information Exchange to Support Disaster Preparedness and Response

Thomas Novak, ONC and CMS
Questions?