Connecting Communities Collaborative

The Critical Role of HIEs in Disaster Response

October 26, 2017
2 pm – 3 pm ET

Agenda

- Welcome and Introductions
  - Jennifer Covich Bordenick, CEO, eHealth Initiative
- Discussion & Comments
  - Doug Dietzman
    Executive Director for Great Lakes Health Connect (GLHC) , eHI Leadership
  - Nick Bonvino
    Chief Executive Officer, Healthconnect
  - Phil Beckett, PhD
    Chief Information Officer, HASA Health Information Organization
- Questions & Answers

Housekeeping Issues

- All participants are muted
  - To ask a question or make a comment, please submit via the Q&A feature and we will address as many as possible after the presentations.
- Technical difficulties:
  - Use the chat box and we will respond as soon as possible
- Today's slides will be available for download on eHI's Resource page **www.ehidc.org/resources**

Our Mission

eHealth Initiative's mission is to serve as the industry leader convening executives from multi-stakeholder groups to identify best practices to transform healthcare through use of technology and innovation. eHI conducts, research, education and advocacy activities to support the transformation of healthcare.

Multi-stakeholder Leaders in Every Sector of Healthcare

Roadmap to Transforming Care

Convening Executives To Research & Identify Best Practices

Best Practice Committees Identify & Disseminate Success Stories

INTEROPERABILITY

DATA ACCESS & PRIVACY

PATIENT & PROVIDER TECHNOLOGY ADOPTION

DATA ANALYTICS

eHealth Resource Center Available With Best Practices & Findings

Best Practice Committees contribute to the eHealth Resource Center **www.ehidc.org/resources** which provides assistance, education and information to organizations transforming healthcare through the use of information, technology and innovation. The Resource Center is a compilation of reports, presentations, survey results, best practices and case studies from the last 16 years.

Electronic Medication Adherence Collaborative (eMAC)

- Foundation for eHealth Initiative launched a multi-stakeholder Electronic Medication Adherence Collaborative (eMAC).
- Share best practice examples from different analytical and behavioral approaches, educate stakeholders on the insights available. Share information on the effectiveness of programs.
- **IN PERSON MEETING ON DECEMBER 12 IN DC. INTERESTED? TELL CLAUDIA.ELLISON@EHIDC.ORG**

Save the Date: February 7 – 8, 2018
Top of the Hill, Washington, DC

eHealth Initiative Executive Summit: 2020 Roadmap Refresh

Attendance is limited to eHealth Initiative members and invited C-Level Executives

Mission

- The Collaborative will provide participants an opportunity to engage in a forum to share ideas and learn best practices through monthly virtual meetings

Key Activities

- Provide broad support to health care improvement activities through eHI's multi-stakeholder collaborative forum
- Create a "learning community" for those interested in exploring the use of electronic health information to support health care
- Widely disseminate information using a wide range of mechanisms, including eHI's Resource Center
- Develop policy recommendations to clear barriers to and accelerate adoption

Doug Dietzman

Executive Director for Great Lakes Health Connect (GLHC)

Coordinating Care Across Our Community: in Good Times and in Bad

Local Health Information Exchange Response to Hurricane Harvey

Connecting Communities Collaborative – Thursday, October 26, 2017

Nick Bonvino | Chief Executive Officer | Healthconnect

Regional Health Information Exchange

Our Mission: Coordinate Care by Connecting ALL Providers

WE are Southeast TX's HIE

WE integrate disparate EHRs across the community

WE enable the query for health information across the ecosystem

WE serve as the foundation for Population Health Management

WE facilitate data exchange to better inform decisions made at the point of care

HIE
Healthconnect Footprint

Greater Houston HEALTHCONNECT

Our Geography

*Our Collaborators

HOUSTON Methodist LEADING MEDICINE
UT Physicians A Part of UTHealth
CHI St. Luke's Health
St Joseph Medical Center In Partnership With Physician Owners
Renaissance Physicians CARE THAT REVOLVES AROUND YOU.
THE UNIVERSITY OF TEXAS MD Anderson Cancer Center Making Cancer History®
Houston Fire & EMS Rescue
CHRISTUS Health
LEGACY COMMUNITY HEALTH
HARRISHEALTH SYSTEM
COMMUNITY HEALTH CHOICE COMMUNITY CARES
Baylor College of Medicine
UnitedHealthcare

***A representative sample of our 500+ participants**

Our Reach

23 Counties

50%+ Hospitals

40%+ Physicians

5+ Million Patients

300+ Fully-Executed Participation Agreements

500+ Care Venues

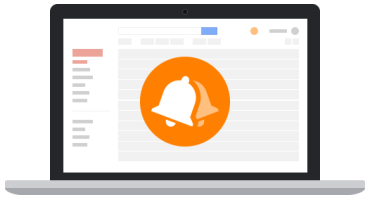
Healthconnect Services

Health Information Exchange

Query and retrieve patient records from across the healthcare ecosystem

Diagnostic Imaging Exchange

Cloud-based image exchange that enables viewing and sharing of medical images



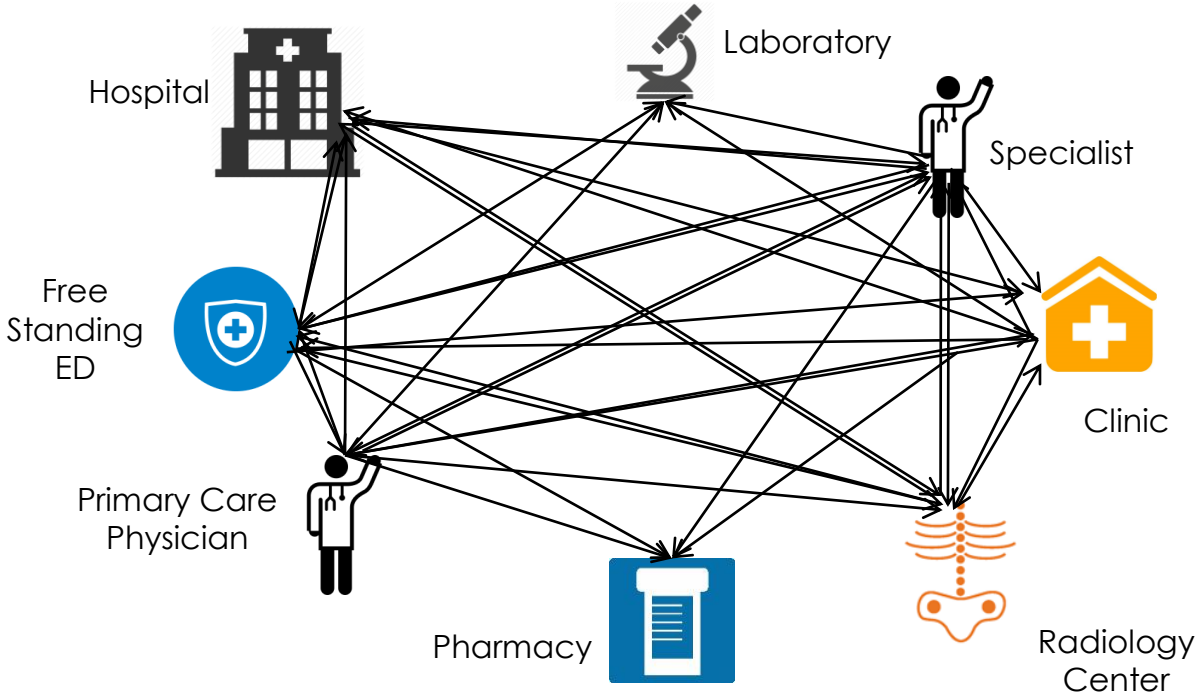
Healthcare Notifications

Real-time alerts when patients admitted, discharged or transferred to-and-from facilities

Health Information Service Provider (HISP)

Direct Secure Messaging between providers
Member of DirectTrust and the Trust Bundle

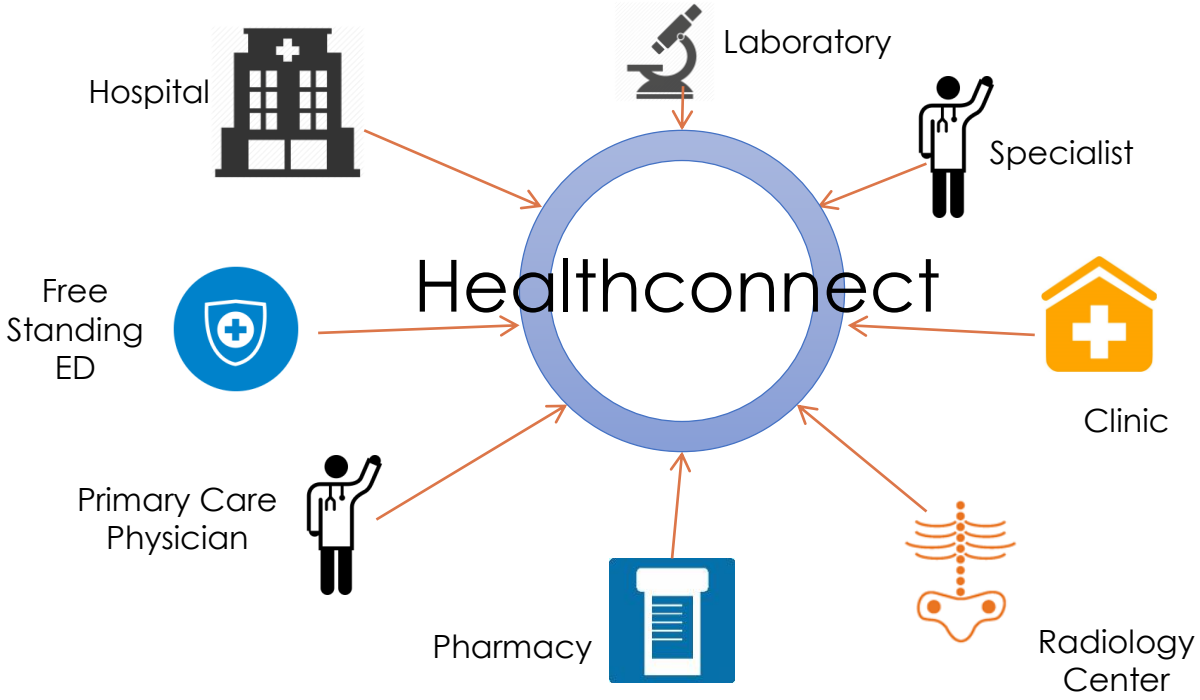
No Regional HIE Model



Our World Without an HIE

- Massive amount of point-to-point connections
- Higher costs to implement and maintain
- Complex to manage
- Inefficient to coordinate all care

Healthconnect Model

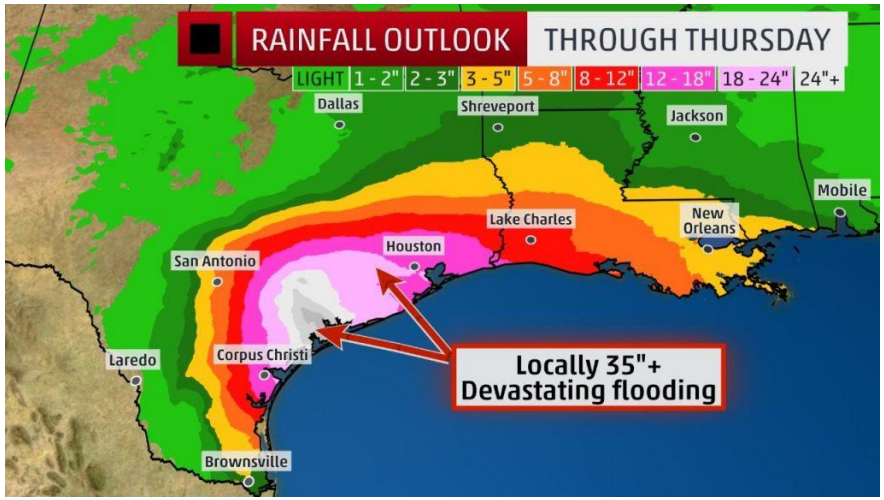


Our World With an HIE

- One connection
- Lower costs
- Improved efficiencies
- Greater care coordination
- The "Hub" of all data activity

Hurricane Harvey

Hurricane Harvey Overview



- **August 25-29**, Hurricane Harvey hits the Gulf Coast of Texas
- The storm moves east and stalls over the Houston area, with record 52” rainfall
- Significant devastation and flooding along the coast and inland
- Corpus Christi, Greater Houston, and Beaumont/Port Arthur most impacted
- Storm eventually moved on to Louisiana

Hurricane Harvey
Shelter Setup

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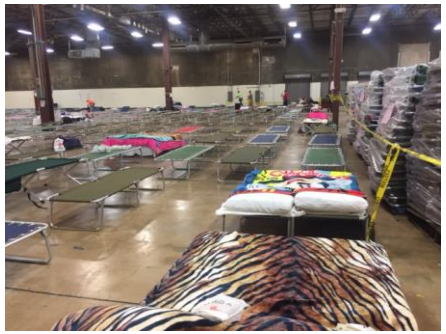
Megashelters established across state to support 30,000+ evacuees:

- Houston – 2 shelters, 14,000+
- Dallas – 1 shelter, 4,000+
- San Antonio – 1 shelter, 2,800+
- Austin – 1 shelter



Hurricane Harvey
Pressing Need for Medical Histories

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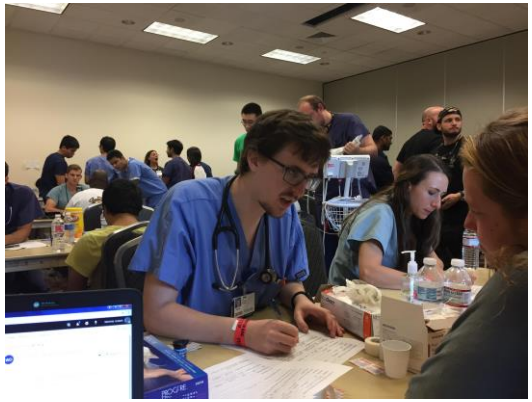
Shelters quickly swelled with evacuees…

Many evacuees required medical attention…



An urgent need arose for access to patient medical information and practice without an EHR!

Hurricane Harvey Mobilization

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Portal Provisioning

- CHI – St Luke's request to provision additional clinicians at all locations ahead of storm
- Coordinate with other HIEs - portal and support for call-ins
- Coverage San Antonio, Austin, Corpus Christi, Beaumont -Port Arthur, Tyler-Texarkana, DFW

Shelters

GRB HOUSTON GEORGE R. BROWN CONVENTION CENTER

nrg stadium

KAY BAILEY HUTCHISON CONVENTION CENTER DALLAS

- Monday organized for need
- Tuesday on-site with evacuees and volunteer clinicians - Confirmed consent and queried for PHI at point-of-care 24x7 thru weekend
- Embedded HIE into triage and clinical workflow. Coordination with Federal DMAT & FMS teams

Call-In Operations

- Remote calls from clinicians to look-up PHI. Read results or send secure email
- 24x7 support for 17 days
- "All hands on deck" – GHH staff and alumni worked after-hours and weekend shifts

Hurricane Harvey Vignettes

Most physicians surprised by our capabilities

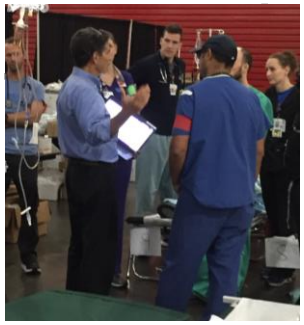
We were only ones with computers

Patient MO: diabetics, CV, dialysis

Common requests: medications, problem list, labs, notes, radiology

As hospitals became overloaded with phone calls, we became de facto source for information

Similarly, with many pharmacies closed, we were the source for medication data



Steady flow 20+ patients / hr

Call-in operations response time to requests, <2 mins

GHH staff and alumni volunteered time

"I will definitely write very positive things about GHH in my post-storm report"

- Ted Sikorski, MD – DMAT Commander

Hurricane Harvey Impact

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937	17	100%
staff hours to support shelters	# of consecutive days with 24/7 call-in support	patients who opted in when asked for consent at shelters
653	70%	62%
total # of records accessed during Harvey	Records found as % of total requested	Query requests just looking for active medications

Hurricane Harvey
Key Learnings

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Observations

- In chaos, no time to wait, asserted ourselves in
- Medical teams quickly incorporated us into workflow
- Rapid state-wide mobilization for call-in support
- The power of organic participation

Interesting Use Cases

- Leveraging HIE to determine evacuee identity
- Using ADT to determine evacuee location
- Used CCD and recent encounter for TB look-up
- Enabled provider to access their EHR thru our laptop

Frustrations

- No access to the few hospitals not connected
- Some returned CCDs were incomplete
- Patients in the MPI, but not consented to share
- We wanted to do more, but resources spread thin

The Future

- Participation from ALL healthcare providers
- Providers improve documentation in CCDs
- Coordination and connectivity throughout state
- Incorporate and fund HIEs in Emergency Management Programs at the Fed, State, and Local levels

The Importance of a Community HIE

Nation-wide HIE Programs

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Initiatives claim interoperability across all EHRs and no need for local HIEs

carequality

the sequoia project

commonwell HEALTH ALLIANCE

However, our experience suggests there are serious flaws…

AND, the hurricane reinforces the critical importance of local HIE capability in disaster preparedness!

Top 5 Flaws in Nation-Wide Initiatives

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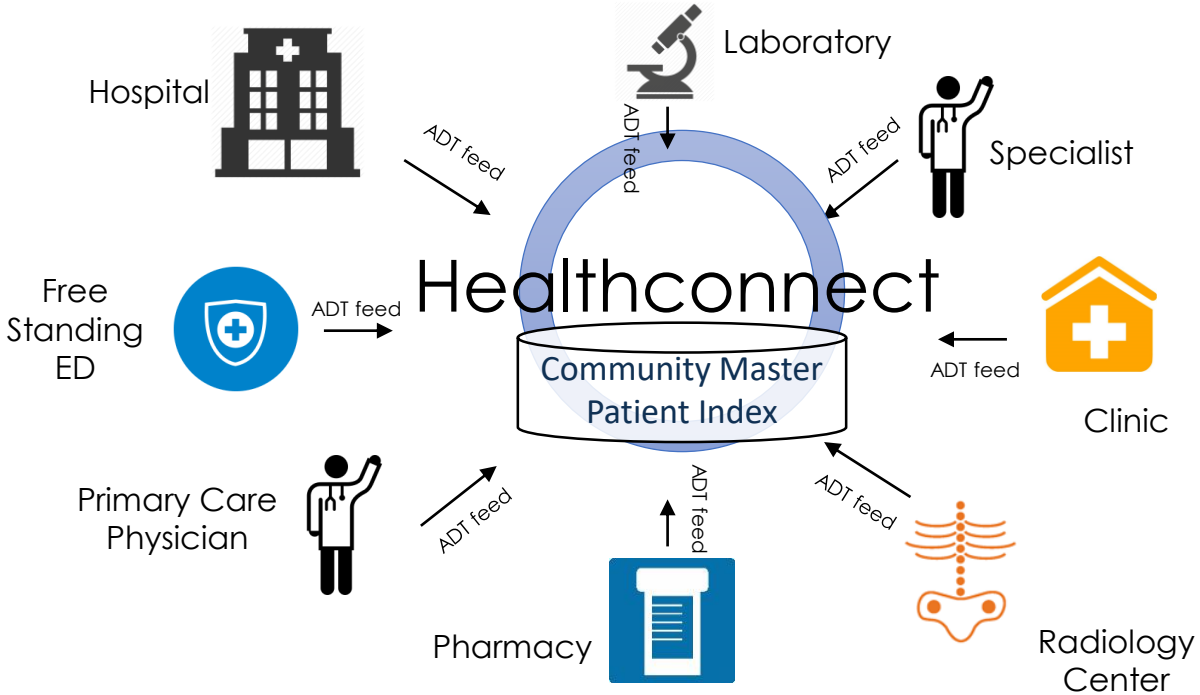
	NATIONAL	LOCAL HIE
1 **Insufficient Patient Matching**	▪ On-the-fly query sends 5 patient attributes – statistically insufficient	▪ ADT feed builds CMPI in advance of query ▪ 18 attributes and probabilistic algorithm
2 **Can't Manage Patient Consent Consistently**	▪ Variation in patient consent models among participants	▪ Opt-in model: informed consent response stored and managed in CMPI
3 **Returning Multiple CCDs to Provider**	▪ Delivering 1 CCDs from each EHR will overload caregivers resulting in missed information	▪ CCDs aggregated into a single on-demand document: data normalized, de-duplicated, and more easily reconciled into EHR
4 **Cannot Support Notification Services**	▪ Not possible	▪ Real-time alerts enabled by ADT feeds ▪ Timing of events not just the data ▪ Essential for managing at risk populations
5 **No Clinical Portal**	▪ Not possible	▪ Online portal for clinical information ▪ Access to clinical info w/o EHR connectivity ▪ Population health use cases

Community HIE
Patient Matching



Uniquely identify Patients Across the Community

- ADT feeds from all Participants builds Community MPI
- 18 attributes for each patient used to overcome source data issues
- Populations in excess of 500,000 require probabilistic matching algorithms
- Work que - Manual review of 'probable matches'

Community HIE
Managing Patient Consent

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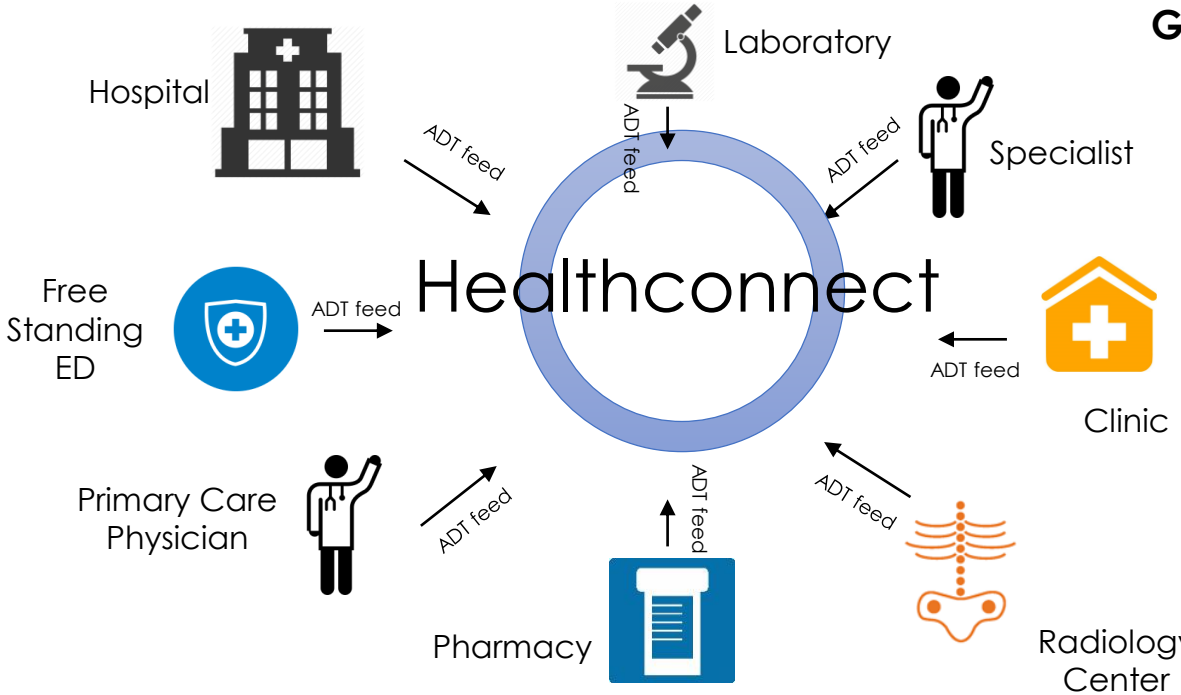
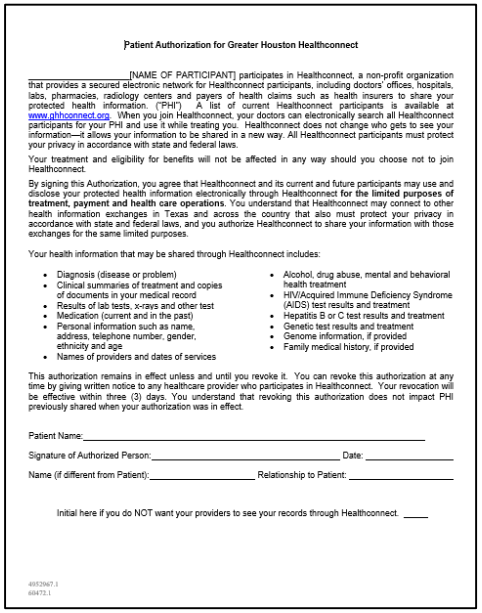


GHH Consistently Manages Consent Across the Community



Patient Authorization for Greater Houston Healthconnect

_____[NAME OF PARTICIPANT] participates in Healthconnect, a non-profit organization that provides a secured electronic network for Healthconnect participants, including doctors' offices, hospitals, labs, pharmacies, radiology centers and payers of health claims such as health insurers to share your protected health information. ("PHI") A list of current Healthconnect participants is available at www.ghhconnect.org. When you join Healthconnect, your doctors can electronically search all Healthconnect participants for your PHI and use it while treating you. Healthconnect does not change who gets to see your information—it allows your information to be shared in a new way. All Healthconnect participants must protect your privacy in accordance with state and federal laws.

Your treatment and eligibility for benefits will not be affected in any way should you choose not to join Healthconnect.

By signing this Authorization, you agree that Healthconnect and its current and future participants may use and disclose your protected health information electronically through Healthconnect **for the limited purposes of treatment, payment and health care operations**. You understand that Healthconnect may connect to other health information exchanges in Texas and across the country that also must protect your privacy in accordance with state and federal laws, and you authorize Healthconnect to share your information with those exchanges for the same limited purposes.

Your health information that may be shared through Healthconnect includes:

- Diagnosis (disease or problem)
- Clinical summaries of treatment and copies of documents in your medical record
- Results of lab tests, x-rays and other test
- Medication (current and in the past)
- Personal information such as name, address, telephone number, gender, ethnicity and age
- Names of providers and dates of services
- Alcohol, drug abuse, mental and behavioral health treatment
- HIV/Acquired Immune Deficiency Syndrome (AIDS) test results and treatment
- Hepatitis B or C test results and treatment
- Genetic test results and treatment
- Genome information, if provided
- Family medical history, if provided

This authorization remains in effect unless and until you revoke it. You can revoke this authorization at any time by giving written notice to any healthcare provider who participates in Healthconnect. Your revocation will be effective within three (3) days. You understand that revoking this authorization does not impact PHI previously shared when your authorization was in effect.

Patient Name:_____

Signature of Authorized Person:_____ Date: _____

Name (if different from Patient):_____ Relationship to Patient: _____

Initial here if you do NOT want your providers to see your records through Healthconnect. ____

Community HIE
On-Demand Clinical Documents

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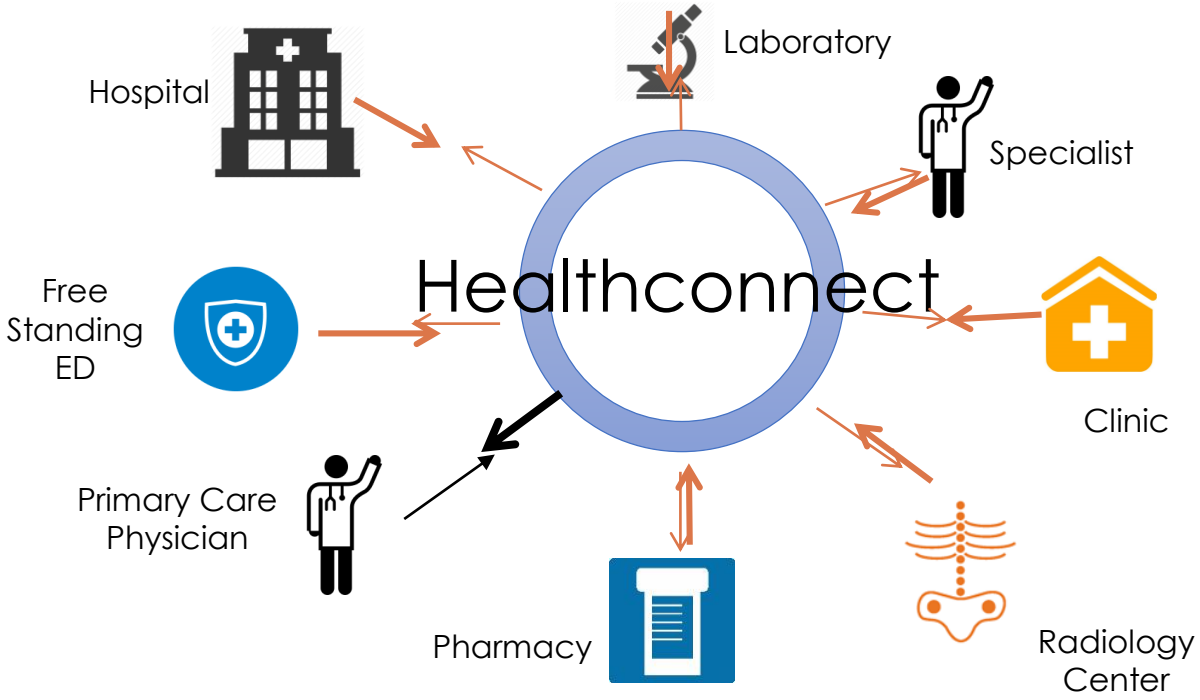


Record locator identifies patient encounters pre-query

Participants respond with C-CDA and may contribute data feeds

Data is parsed, normalized, de-duplicated, and consolidated into a single C-CDA

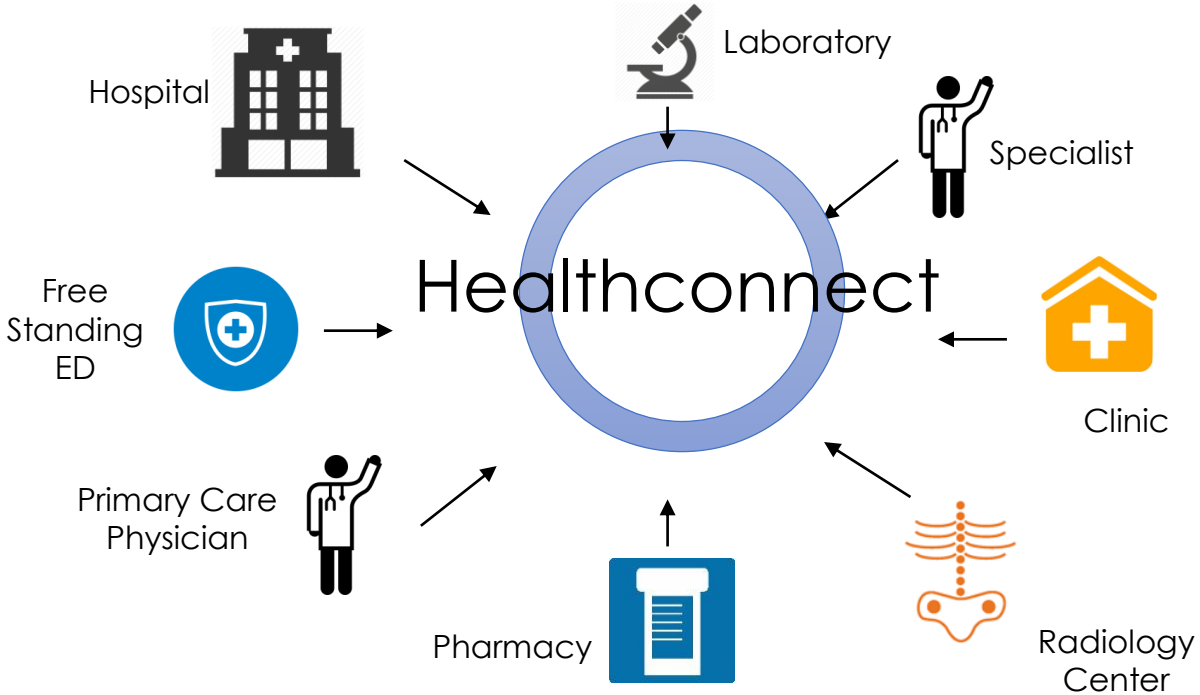
Common style-sheet and standards ease reconciliation into EHR

GHH Responds to Requestor
*time from query to response is a few secs

Community HIE
Notification Services

1. Participant identifies patients to be monitored
2. GHH CMPI fed real-time with all patient registrations and activity via ADT feeds
3. Upon patient and ADT match, alert is generated and pushed to Participant as desired

Community HIE
Online Clinical Viewer



Online Clinical Portal

Allows providers secure online access to all patient information

View clinical data without an EHR

Care navigators can follow-up on alerts viewing patient encounters from across community in 1 place

Thank You!

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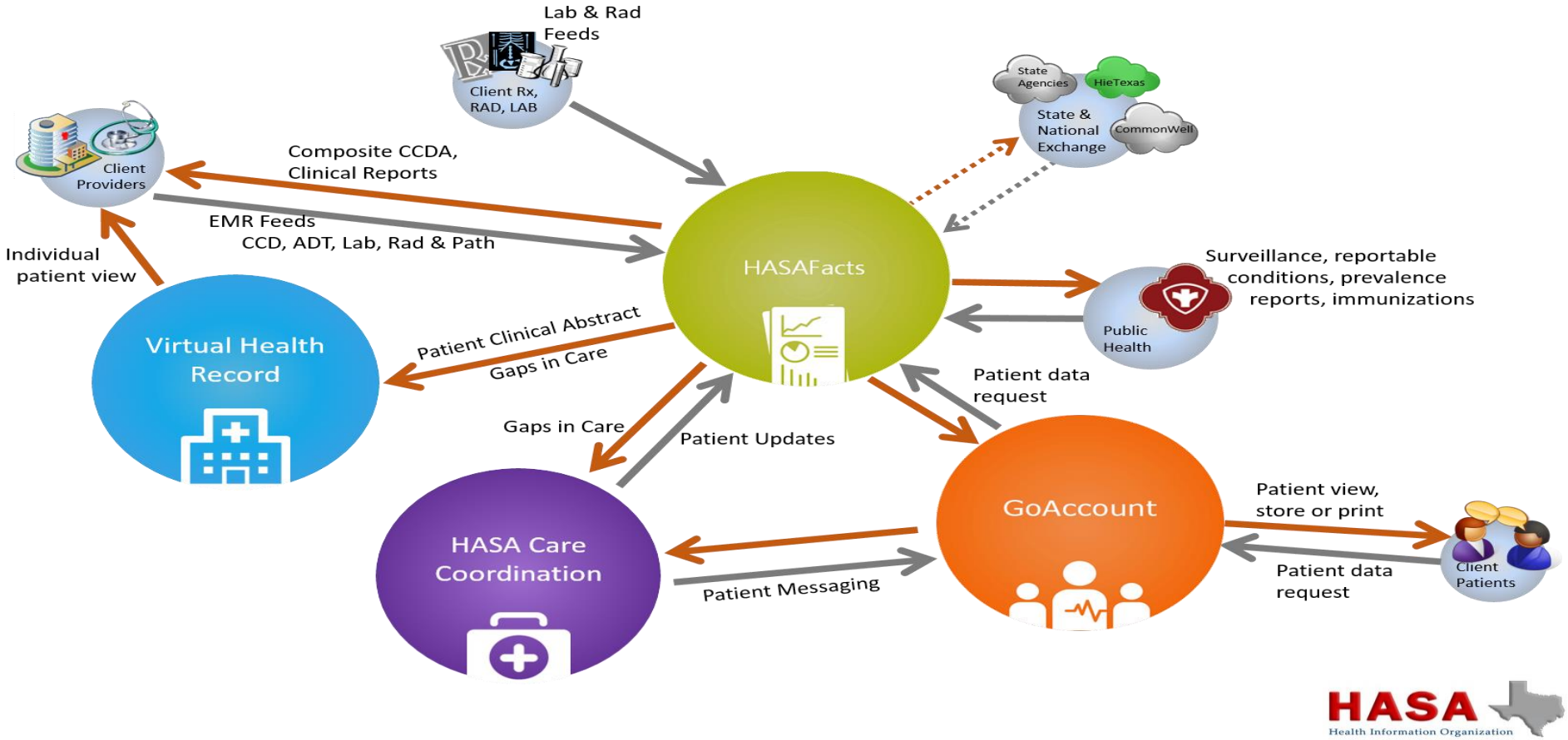
HASA Experience

Phil Beckett, PhD, CIO
HASA

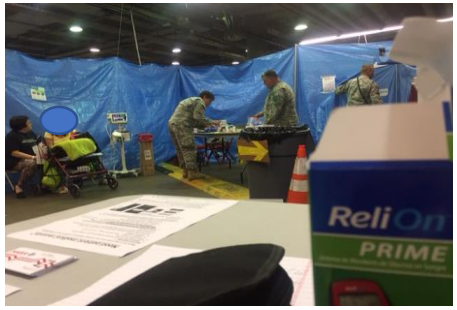
HASA Data Flow - 2017



HASA
Health Information Organization

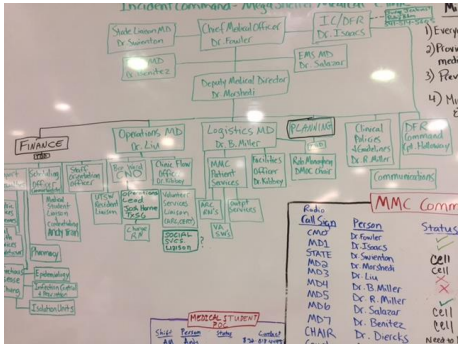
Shelter Experience

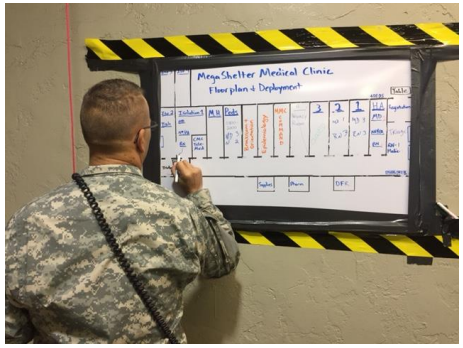
- HASA set up onsite at Dallas Megashelter with a laptop/printer next to medical triage for direct requests from providers in the shelter
  - Informed rotating staff of our capabilities
  - Upon request, patient records were retrieved from either HASA or GHH based on patients' home, and necessary follow-up calls were made
  - Became part of medical command team

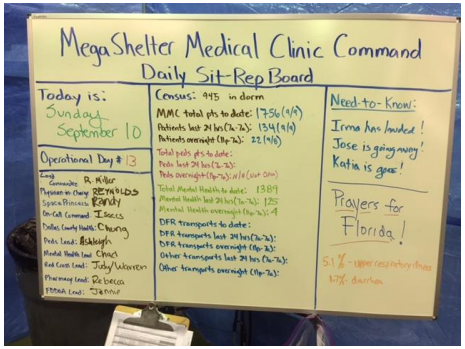


Shelter Observations

- Medical support is primarily for acute cases and stress related, need for history is closer to arrival at shelter
- Many facilities lacked technology resources (no fax, no PC, no internet, etc.)
- Multiple medical organizations were directing operations
- Professionally organized, large collaborations







Stories

A patient taking anticoagulants but was unsure which one and what dose. The physician wanted to know the history, prescriptions and INR values. Through the HIE, a physician portal and a call to the patient's pharmacy we were able to assimilate enough information for the physician to accurately treat the patient.

61-year-old female with recent hip surgery presented at the clinic without good recall of immediate past medical history. She was hurting and feeling poorly. Searched HIE and pulled off active meds list from last month's surgery and a medication allergy list that included hydrocodone and amoxicillin. The physician was glad to know about the pain and antibiotic allergies given her current condition.

10-year-old pediatric patient with mental health issues. He was at the shelter with his mother, who was not his primary caregiver. They brought no medication and he was becoming aggressive. Mother did not know meds or physician names. Psychiatrist needed meds list to determine prescription type and dosages. Was able to pull meds list from HIE.

Stories Cont.

A patient presented to the shelter clinic looking for treatment for their cancer. Triage asked if I could find the meds list. There was no information in the HIE related to cancer and no meds list, so they decided to track down the doctor. We were able to eventually get her provider and call them directly. The doctor in her home town told us she did NOT have cancer, and is on a pain management contract for drug seeking. Patient was discharged without prescribing pain medicine. This was a good combination of having data in the HIE, plus people adding manual efforts to track down local providers.

A displaced minor without his parent/guardian who suffered with asthma could not remember his inhaler type or allergies. I was able to find his mother's phone number in the HIE, call her, reunite her with her son (by phone) and document his nebulizer and allergies as reported by his mom. He asked for a copy so that he could share it as appropriate with support members at the shelter.

A patient with diabetes did not have his insulin available or remember the dose and type or regimen. Through the HIE we were able to find his records and the insulin he had been prescribed. The physician was then able to help the patient restart his normal insulin regimen.

Lessons Learned

- Interoperability/Patient Centered Data Home is KEY!
- For future disaster situations, 100% contribution is necessary for system to be fully effective
- Access to patient data needs to be minimally invasive and easily accessible utilizing the capabilities at hand (sometimes limited to cell phone)
- HIE should be part of statewide disaster planning in the future
- Solution in case of power / internet outage

Next Steps

- Continued engagement with Dallas shelter to work on digitizing and storing approx. 2,000 intake and medical records forms, as well as continued access to HIE data for telemedicine efforts with evacuees
- Development of disaster smartphone application/mobile-ready website that provides appropriate access to patient history
- Use the opportunity to become part of disaster management teams for shelters in future and to push for statewide interoperability

Call to Action

- Floods in Texas, fires in California, earthquakes in Utah – displacement of people without time to grab essentials can be a reality anywhere. Access to a patient record may be critical. Like any emergency response, preparation of the infrastructure is the key to success.

- Regional HIEs have the capability and the boots on the ground to help facilitate emergency response in their local community.

- Health care providers – join your regional HIE, it will help your patients when there is no disaster, and critically if there is one.

Q&A