

# 2014 INTEROPERABILITY REPORT

Lessons learned and recommendations to accelerate nationwide exchange.



## CARE EVERYWHERE

# THE GOVERNING COUNCIL

The Care Everywhere Governing Council is an elected group of leaders from a diverse community of participating healthcare organizations, united to guide and oversee the Care Everywhere patient information exchange network and advocate for the acceleration of nationwide interoperability.

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# 2014 INTEROPERABILITY REPORT

The Care Everywhere Governing Council presents this report to advance standards-based health record exchange, and to improve cooperation, coordination, and care quality among providers, health plans, and consumers.

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# MESSAGE FROM THE CHAIR

On behalf of the Care Everywhere Governing Council, I am pleased to present the *Epic Care Everywhere 2014 Interoperability Report*, sharing lessons learned and recommendations to accelerate open, cross-platform interoperability.

Having worked in the entire continuum of care, and in varied environments from the inner city to a rural state, I have witnessed Care Everywhere touch the lives of many patients, keeping them safer by allowing critical information to move with them—whether they’re traveling to the Cleveland Clinic for treatment or seeking emergency care while away from home. I’ve been amazed by how providers and patients enthusiastically embrace exchange and personally moved by the many stories of lives changed for the better. It’s exciting to finally see the convergence of healthcare and IT on a national scale.

As providers, we are stewards of scarce healthcare resources and responsible to avoid waste while improving care. A study published in *Applied Clinical Informatics* tracked Allina Health’s use of Care Everywhere in the emergency department. Over a six-month period, Care Everywhere helped avoid 560 duplicate diagnostic procedures.

We are doing more than just facilitating communication—we are changing the course of care. This work furthers our vision of the “Triple Aim”: to improve the individual experience; to reduce the per capita costs of care; and to improve the health of populations.

Not only are members of the network able to exchange information, we are actively analyzing patterns of exchange and factors leading to success. The Council has also recently begun work to expand the network internationally. We’re excited to share what we’ve learned to date and look forward to updating you again in the future.

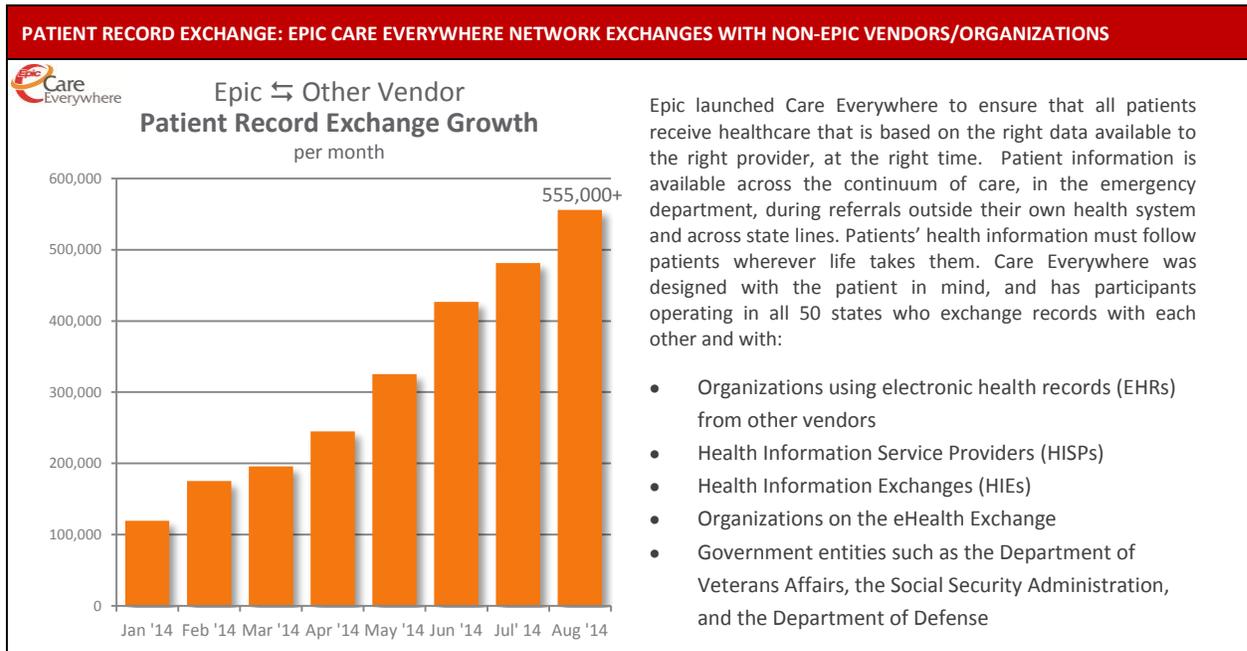
We are passionate about this work.

## **MARC CHASIN, MD, MMM, CPE, CHCIO**

Chair of the Care Everywhere Governing Council  
Chief Information Officer  
St. Luke’s Health System

# INTRODUCTION TO CARE EVERYWHERE

Launched in 2007, the Care Everywhere interoperability network helps ensure that patients' health data follows them wherever they may receive care, whether for planned transitions of care, such as referrals, or unplanned transitions, such as visits to another organization's emergency department.



Care Everywhere participants exchanged over 555,000 patient records in August 2014 with users of other systems from 45 different technology providers as well as several government agencies. In addition, the network participants exchange several million records each month among themselves. Connected vendors include:

- |                    |                        |                          |                 |
|--------------------|------------------------|--------------------------|-----------------|
| ACS/Xerox          | DataMotion             | Magellan Health Services | NoMoreClipboard |
| Agilex             | dbMotion               | MaxMD                    | Optum Insight   |
| Allscripts         | eClinicalWorks         | MDI Achieve              | Orion           |
| ApeniMED           | eHealth Data Solutions | MedAllies                | Pearl           |
| Athena             | Greenway               | MedFx                    | Point of Care   |
| Caradigm           | Harris                 | Medicity                 | RelayHealth     |
| CareEvolution      | Iatric Systems         | MEDITECH                 | Surescripts     |
| Cerner (EHR & HIE) | ICA                    | MedSleuth                | Truven          |
| Certify            | Inpriva                | Mirth                    | Tiani Spirit    |
| Coldwater Software | Intelligent Healthcare | MobileMD                 |                 |
| CONNECT            | Intersystems           | Netsmart                 |                 |
| Covisint           | Logician               | NextGen                  |                 |

Government agencies connected:

Department of Defense



Social Security Administration



Veterans Administration



## CARE EVERYWHERE

# ACCELERATING NATIONWIDE INTEROPERABILITY

The Care Everywhere Governing Council represents a community of health care organizations, including community hospitals, academic medical centers, children’s organizations, federally qualified health centers, safety net providers, and multi-hospital systems with 950 hospitals and over 21,000 clinics, all sharing patient information to improve care. They share with each other and others outside the Epic Community.



### Patient Story

A three-month-old baby from California was visiting North Carolina with her family when she suffered from seizures and was taken to University of North Carolina at Chapel Hill.

Typically, it would take about 24 hours to track down medical records from another hospital.

Because the clinician used Care Everywhere to quickly retrieve the baby’s most recent clinic notes and echocardiogram from Stanford Children’s Health, he was able to provide immediate, targeted care.

Three key factors supporting widespread exchange on the Care Everywhere network are:

- use of industry standards,
- a nationwide directory of exchange-ready providers,
- and simple Rules of the Road.

These rules establish a universal trust framework outlining the rights and obligations of network participants. They give each organization confidence that it can participate in exchange activities while upholding its legal and ethical obligations to maintain the security and privacy of patient records. For example, they establish agreed-upon practices for user authentication, require non-exclusionary sharing, and outline processes for administering the network.

Standards have allowed Epic community members to connect with organizations using other EHRs, HISPs and HIEs—one organization to another. However, a single set of Rules of the Road does not exist across the industry, so trust must be established individually. In order to move beyond one-to-one connections, a framework of mutual trust agreements and standards needs to be in place.

To accelerate national cooperation, Epic co-founded Healthway’s Carequality ([carequality.org](http://carequality.org)) initiative in February 2014 to create a framework that expedites point-to-point patient record exchange based on mutual trust agreements and national standards. Carequality is a technology- and platform-neutral effort by the nation’s broadest coalition of industry stakeholders, including: provider organizations; national and regional HIE networks; pharmacy, imaging, and lab companies; payers; health technology vendors; and EHR vendors.

## CARE EVERYWHERE

### LESSONS LEARNED

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1. Patients overwhelmingly want to share their data in a secure way.
2. Strict adherence to fewer standards + succinct Rules of the Road + simple patient consent model = success.
3. Providers attribute exchange success to integration with clinical workflows.
4. Nationwide exchange is practical even without a national patient identifier, and can be further improved.
5. Successful exchange does not have to be expensive and results in lower cost of care.

### RECOMMENDATIONS

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1. Simplify consent because the majority of patients want to securely share their data.
2. Simplify exchange: one standard per purpose with a single national phone book of exchange-ready organizations and providers.
3. Continue to formally adopt nationally-defined reference terminologies to enhance utility of data incorporated into the local chart.
4. Standardize how identifying information is captured to further improve patient matching between providers.
5. Require public health and immunization registries to exchange directly with providers free of charge when using a single, national standard.

## 1. Patients overwhelmingly want to share their data in a secure way.

Patients think that information exchange between their doctors is more widespread than it is, and when presented with the opportunity to share their information, the vast majority elects to share. When simple consent models to authorize sharing are used, control remains with the patient and her doctor while state-specific requirements are honored. Seeking consent when care is needed makes it convenient for a patient to authorize health information exchange.

### RECOMMENDATION

#### Simplify consent because the majority of patients want to securely share their data.

Develop a national standard to facilitate, at the point of care, patients consenting to interoperable exchange. Empower patients to give their consent anywhere they receive care. Continue to educate patients about the benefits and choices regarding secure health information exchange.

## 2. Strict adherence to fewer standards + succinct Rules of the Road + simple patient consent model = success

Different kinds of healthcare organizations across the country can share a single framework for trusted exchange. Competitors and collaborators alike can and do join in when there are requirements for equal sharing amongst all parties and no exclusionary practices when used for patient care.

### Recommended Standards

**eHealth Exchange (IHE XCA/XCPD)** for requesting information when needed for care

**Direct Project (IHE XDR)** for sending information during a known transition of care

**Consolidated Clinical Document Architecture (HL7 C-CDA)** for formatting the information sent

### RECOMMENDATION

#### Simplify exchange: one standard per purpose with a single national phone book of exchange-ready organizations and providers.

Focus on a single standard per purpose rather than diluting efforts by attempting to accommodate multiple standards that serve the same use. Standards work in the next few years will be best spent adding depth and consistency to existing standards.

The industry should build a national interoperability phone book of healthcare organizations and providers. This will be the next step to further a patient's information following her care.

### 3. Providers attribute exchange success to integration with clinical workflows.

Clinicians will find and use information from other providers when it is built into their normal EHR workflows, helping them provide better care for patients and reduce costs.

#### RECOMMENDATION

#### Continue to formally adopt nationally-defined reference terminologies to enhance utility of data incorporated into the local chart.

Today, some sets of information exchanged between providers lack a Rosetta Stone for translation. Although all the information exchanged is available to clinicians, better codification will enhance utility. Reference terminologies such as RxNorm and SNOMED CT enable EHRs to standardly represent and communicate this information. Further efforts to identify and implement appropriate reference terminologies for other types of information will build on this work.

“What’s really helped drive the explosion of health information exchange via Care Everywhere is the unique integration in clinical workflows. Providers respond positively to the ability to access the information they need via Care Everywhere to deliver better care as they review the chart, enter orders, and write their notes.”

-Matthew Eisenberg, MD

### 4. Nationwide exchange is practical even without a national patient identifier, and can be further improved.

Automatic matching of patient records between EHRs using patient demographics and weighted matching algorithms gets you most of the way there. There are some specific areas for future focus. For example, matching newborns is more challenging than adults, and inconsistent abbreviations in names and addresses entered at registration can make matching more challenging.

#### Simple Standardization Examples

- Baby Names (Johnson, BabyBoy vs. Johnson, Infant)
- Name standardization (Chris vs. Christopher)
- Address Format (Street vs. St.)

#### RECOMMENDATION

#### Standardize how identifying information is captured to further improve patient matching between providers.

Even simple changes could improve automated matching. Use of name and address based on government-issued identification and capture of new demographic data elements, such as mobile phone number and email, could help improve automatic matching.

## 5. Successful exchange does not have to be expensive and results in lower cost of care.

Direct exchange between providers using standards is inexpensive. Integrating exchange into EHRs takes advantage of existing investments providers have made. Exchanging directly means that there is no need to sustain a central repository between healthcare providers. Standards mean that exchange can be rapidly implemented without need for customization.

### RECOMMENDATION

#### Require public health and immunization registries to exchange directly with providers free of charge when using a single, national standard.

Immunization and public health submission and queries do not need to be any more expensive than the clinical document exchange described above. If this work is integrated into EHRs to leverage existing investments, is done directly between registries and providers, and uses national standards, then it can be rapidly and inexpensively implemented. We urge adherence to a single nationwide standard for public health exchange to further this work.

“Setting a national standard for exchange of information with Public Health Registries, such as those used for immunization, would help to avoid the additional expense that some states are currently imposing by requiring the use of state sponsored HIEs for these types of exchanges.”

-Dean Miner, MD

## CARE EVERYWHERE

# STANDARDS

Care Everywhere relies upon open standards to achieve secure exchange of patient records in both planned and unplanned transitions.

For unplanned transitions, such as a visit to the emergency department, Care Everywhere uses IHE XCPD/XCA to query for and retrieve C-CDA documents (Consolidated Clinical Document Architecture). Care Everywhere also supports IHE PDQ/XDS.b to connect to older products.

For planned transitions, such as a referral to a specialist, IHE XDR or SMTP Direct Project standards are used to send C-CDA documents prospectively to the patient's next care provider.

For backwards compatibility of content, Care Everywhere also supports CDA, including CCD C32.

In all cases, received documents are available directly in the provider's workflow. Additionally, the discretely coded allergies, medications, and conditions are available for reconciliation into the local chart, contributing to clinical decision support and helping patients stay safe.

The C-CDA documents include key clinical information from the patient's chart, including: allergies, medications, conditions, procedures, test results, medical history, vitals, provider notes, past visits, plan of care, reason for transition, patient instructions, admitting diagnosis, demographics, and insurance information.