



# Health Information Exchange - the Minnesota Model

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# Disclosures

- ▶ Laura Topor is an employee of Granada Health. The conflict of interest was resolved by peer review of the slide content. She declares no other conflicts of interest or financial interest in any product or service mentioned in this program, including grants, employment, gifts, stock holdings, and honoraria.
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# Learning Objectives

Following this presentation, attendees should be able to:

1. Explain what health information exchange (HIE) is.
2. Distinguish between a health information organization and a health data intermediary.
3. List the requirements to operate as an HIO or HDI.
4. Identify opportunities for pharmacies to participate in HIE.

# Agenda

- ▶ Learning Objectives
- ▶ HIE Definition
- ▶ Minnesota Model
  - ▶ Approach
  - ▶ Oversight Process
  - ▶ Entity Types
  - ▶ Functional Requirements
  - ▶ Current providers
  - ▶ Exchange Mechanisms
  - ▶ Statistics
- ▶ Legislation and Current State
- ▶ Opportunities
- ▶ Assessment Questions

# Learning Objectives

- ▶ At the completion of this session, participants should be able to:
  - ▶ Understand what Health Information Exchange is
  - ▶ Distinguish between an Health Information Organization and a Health Data Intermediary
  - ▶ Summarize the requirements to be operate as an HIO or HDI
  - ▶ Identify opportunities for pharmacies to participate in HIE

# Health Information Exchange

## ▶ Definition

- ▶ Electronic health information exchange (HIE) allows doctors, nurses, pharmacists, other health care providers and patients to *appropriately access and securely share a patient's vital medical information electronically* – improving the speed, quality, safety and cost of patient care.

## ▶ There are currently three key forms of health information exchange:

- ▶ [Directed Exchange](#) - send and receive secure information electronically between care providers to support coordinated care
- ▶ [Query-based Exchange](#) - find and/or request information on a patient from other providers, often used for unplanned care
- ▶ [Consumer Mediated Exchange](#) - allows patients to aggregate and control the use of their health information among providers

## ▶ The foundation of standards, policies and technology required to initiate all three forms of health information exchange are complete, tested, and available today.

Source:

[www.healthit.gov](http://www.healthit.gov)

# HIE Models

## ▶ Federated

- ▶ Connects the participants of an HIE to one another.
- ▶ Participants maintain their own health information and respond to requests from other HIE members
- ▶ HIE provides community-based tools to facilitate patient identification (MPI), patient record location (record locator) and security (authentication, authorization, auditing, and patient consent), but relies on members to enforce.
- ▶ Pros: Data providers have more control over data. Cons: Performance and resiliency of exchange is dependent upon weakest link.

## ▶ Centralized

- ▶ HIE participants submit data to one shared repository which participating providers then query.
- ▶ Patient identity matching is performed when record is added to central repository.
- ▶ Security functions (authentication, authorization, auditing, and patient consent) are enforced centrally at time of repository access.
- ▶ Pros: Very high performance and resiliency, enables community-based services. Cons: Higher HIE infrastructure/support costs, data ownership concerns.

## ▶ Hybrid

- ▶ Centralized repository is constructed over time as requests are processed by the exchange.
- ▶ The size and intent of the repository can differ, ranging from a focused database (e.g., all immunization data) to the ultimate creation of a Centralized model.

# The Minnesota Model

- ▶ Health information exchange, or HIE, in Minnesota means the electronic transmission of health related information between organizations according to nationally recognized standards. This means each time information is sent electronically to another provider it is done in a uniformly accepted way that meets specific standards to ensure protection of the data and privacy of the patient. It also means the information will be received in a way that is usable for the recipient.

- ▶ Minnesota 2015 Interoperable EHR Mandate (2007)

**“By January 1, 2015, all hospitals and health care providers must have in place an interoperable electronic health records system within their hospital system or clinical practice setting.”**

<http://www.health.state.mn.us/ehealth/hitimp/2015mandateguidance.pdf>

*Provider EHRs must be connected to a State-Certified Health Information Organization (HIO) either directly or facilitated through a State-Certified Health Data Intermediary (HDI)*

- ▶ Minnesota 2011 e-Prescribing Mandate (2008)

**“Effective January 1, 2011, all providers, group purchasers, prescribers, and dispensers must establish, maintain, and use an electronic prescription drug program.”**

<http://www.health.state.mn.us/e-health/eprescribing/erx032011guidance.pdf>



# Approach

- ▶ The Minnesota model is a market-based approach with government oversight. The Minnesota e-Health Advisory Committee convened public workgroups in 2009-2010 and 2013-2014 to make recommendations on Minnesota's HIE laws. The recommendations were intended to:
  - ▶ Ensure that information follows the individual across the full continuum of care.
  - ▶ Prevent the fragmentation of health information that can occur when there is a lack of interoperability or cooperation between HIE service providers.
  - ▶ Ensure that organizations engaged in health information exchange are adhering to nationally recognized standards.
  - ▶ Ensure that HIE service providers properly protect individual privacy and security.
- ▶ The 2015-2016 HIE workgroup is currently looking at barriers and action plans to address. Priorities for exchange include ADT (admission/transfer/discharge) and CCD (continuity of care document).

# Oversight Process

- ▶ The Health Information Exchange (HIE) Oversight Process is designed to ensure that organizations involved in HIE
  - ▶ adhere to Minnesota and nationally recognized standards and requirements that
    - ▶ allow providers and hospitals to access pertinent patient health information to improve health outcomes
    - ▶ And ensure patients have the appropriate privacy and security protections in place.
- ▶ Established oversight by Commissioner of Health to protect providers and consumers on matters pertaining to health information exchange
- ▶ Market-based approach for provision of HIE services (allows for multiple HIE Service Providers to be certified and operate in the state)
- ▶ Requires State Certificate of Authority to operate
- ▶ Uses a transparent and public participation process
- ▶ Entities must be certified as either an HIO (Health Information Organization) or HDI (Health Data Intermediary)

# Entity Definitions

- ▶ **Health Information Organization (HIO):** Oversees, governs, and facilitates health information exchange among health care providers that are not related health care entities, to improve coordination of patient care and the efficiency of health care delivery.
- ▶ **Health Data Intermediary (HDI):** Provides the technical capabilities or related products and services to enable health information exchange among health care providers that are not related health care entities. This includes but is not limited to: health information service providers, electronic health record vendors, and pharmaceutical electronic data intermediaries.

# Functional Requirements

- ▶ All HIE service providers must:
  - ▶ Meet national standards for exchanging health information.
  - ▶ Demonstrate compliance with all privacy and security requirements under state and federal law.
  - ▶ Participate in statewide shared HIE services as defined by the commissioner of health to support interoperability between state-certified HIOs and HDIs.
  - ▶ Hold reciprocal agreements for the exchange of clinical transactions.
- ▶ In addition to the basic minimum requirements, HIOs also must:
  - ▶ Maintain strategic and operational plans that address governance, technical infrastructure, legal and policy issues, finance, and business operations.
  - ▶ Maintain a capability to query for patient information based on national standards utilizing a master patient index, clinical data repository, or record locator service.
  - ▶ Have a board of directors or equivalent governing body that is composed of members that broadly represent the HIO's participating entities and consumers.
  - ▶ Connect to the national eHealth Exchange.

# Current Minnesota Providers

## Health Data Intermediaries

CenterX  
Cerner  
Change Healthcare (formerly Emdeon)  
Eldermark Exchange  
Inpriva  
IOD  
MaxMD  
MedAllies  
RelayHealth  
Sandlot Solutions, Inc.  
South Dakota Health Link  
Surescripts  
Wisconsin Statewide Health Information Network (WISHIN)

## Health Information Organizations

Allina Health Systems  
Koble-MN  
Southern Prairie  
Community Care

# How can health information be exchanged?

- ▶ **Push** - a one-directional “push” of the information between two known entities e.g. from a specialist to a primary care provider.
  - ▶ Can be done directly between two providers or settings, or with the use of an intermediary such as a Health Information Organization (HIO), Health Data Intermediary (HDI), or Health Information Service Provider (HISP), which is a form of an HDI.
- ▶ **Pull** - a bi-directional “pull” of the information that involves: 1) a *query* for information about a patient, and 2) a *response* with information on the location and/or the content of a patient’s records.
  - ▶ A “pull” of information requires access to record locator services (RLS) and can only be done through an HIO and potentially an HDI if the HDI maintains a RLS.
- ▶ Both pushing and pulling of health information are done using nationally established standards to ensure the security of the information being exchanged and that it is in a format both the sender and recipient can understand and accept.

# Minnesota - exchange mechanisms in use

- ▶ 61% of clinics used capabilities built into their EHR
- ▶ 42% of clinics exchange health information using a state-certified HIE service provider
- ▶ 28% used Direct secure messaging
- ▶ 18% used Interstate HIE and HealtheWay/eHealth Exchange
- ▶ 8% used peer-to-peer exchange
- ▶ 6% used Connect query-based exchange
- ▶ 17% of clinics did not electronically exchange information, down from 32% in 2014.

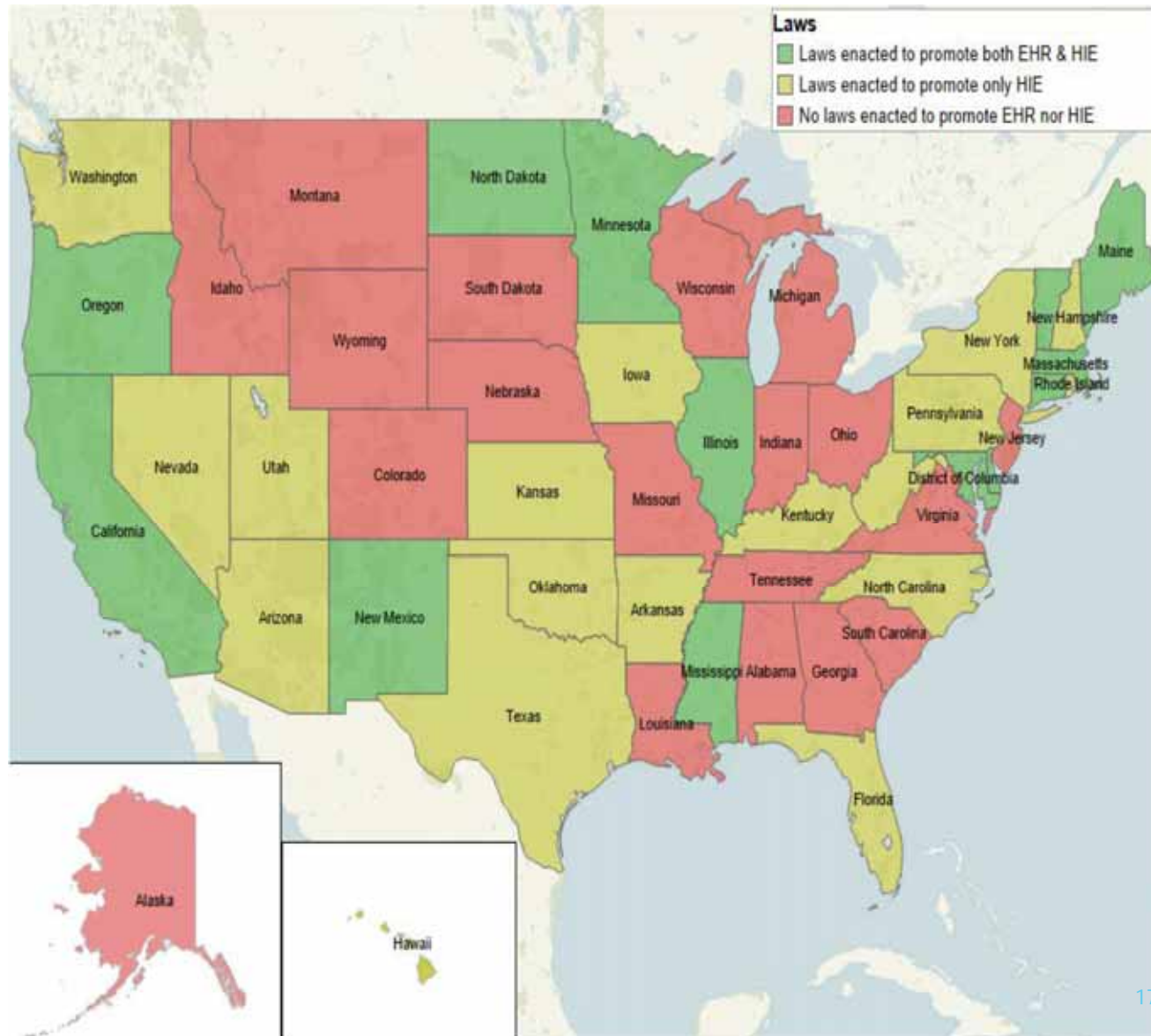
Source: Minnesota Department of Health, Clinics: Adoption and Use of EHRs and Exchange of Health Information, 2015

# Minnesota Statistics - August 2015

- ▶ 96% of clinics with EHRs used CPOE for some or all provider orders.
- ▶ 89% of clinics complete 80% or more of orders using CPOE.
- ▶ 93% of clinics used medication guides/alerts routinely and another 3% used occasionally. Utilization of CDS tools has increased over time.
- ▶ 93% of clinics agreed that the EHRs have alerted their providers to potential medication errors, and 93% agreed that the EHR enhanced patient care in their clinic.
- ▶ 91% of all Minnesota clinics electronically prescribed for most non-controlled substance prescriptions, either using their EHR or another electronic method.
  - ▶ Clinics continue to face technical obstacles for e-prescribing controlled substances; they use the EHR to order the prescription but most clinics rely on a manual process to transfer the script to a dispenser.
- ▶ 91% of clinics offered an online patient portal, up from 77% in 2014
- ▶ 73% of clinics electronically exchanged health information with unaffiliated hospitals or clinics.

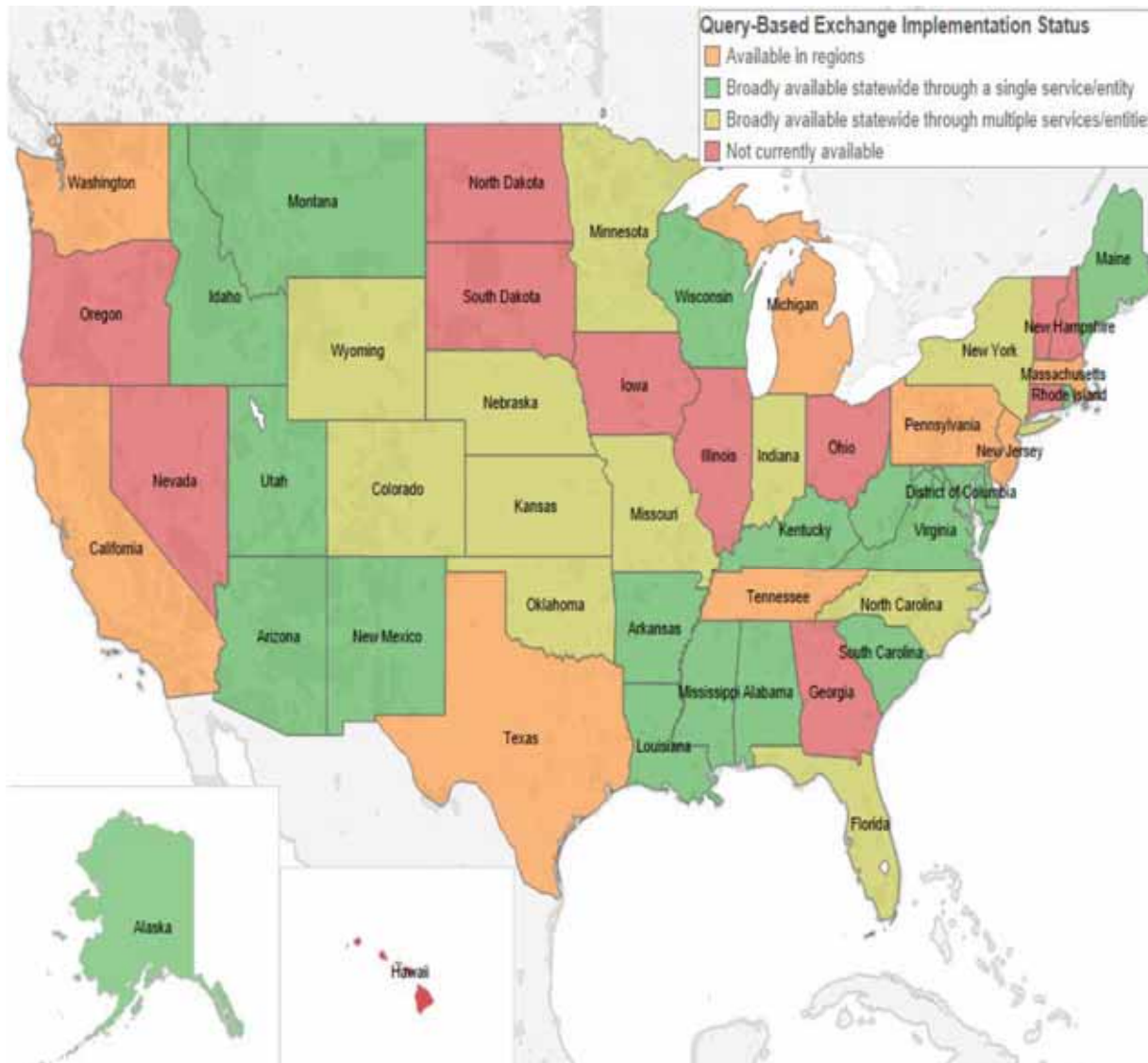


# Legislation



EVALUATION OF THE  
STATE HEALTH  
INFORMATION EXCHANGE  
COOPERATIVE  
AGREEMENT PROGRAM,  
July 2014, NORC at the  
University of Chicago

# Query-Based Exchange - Implementation Status

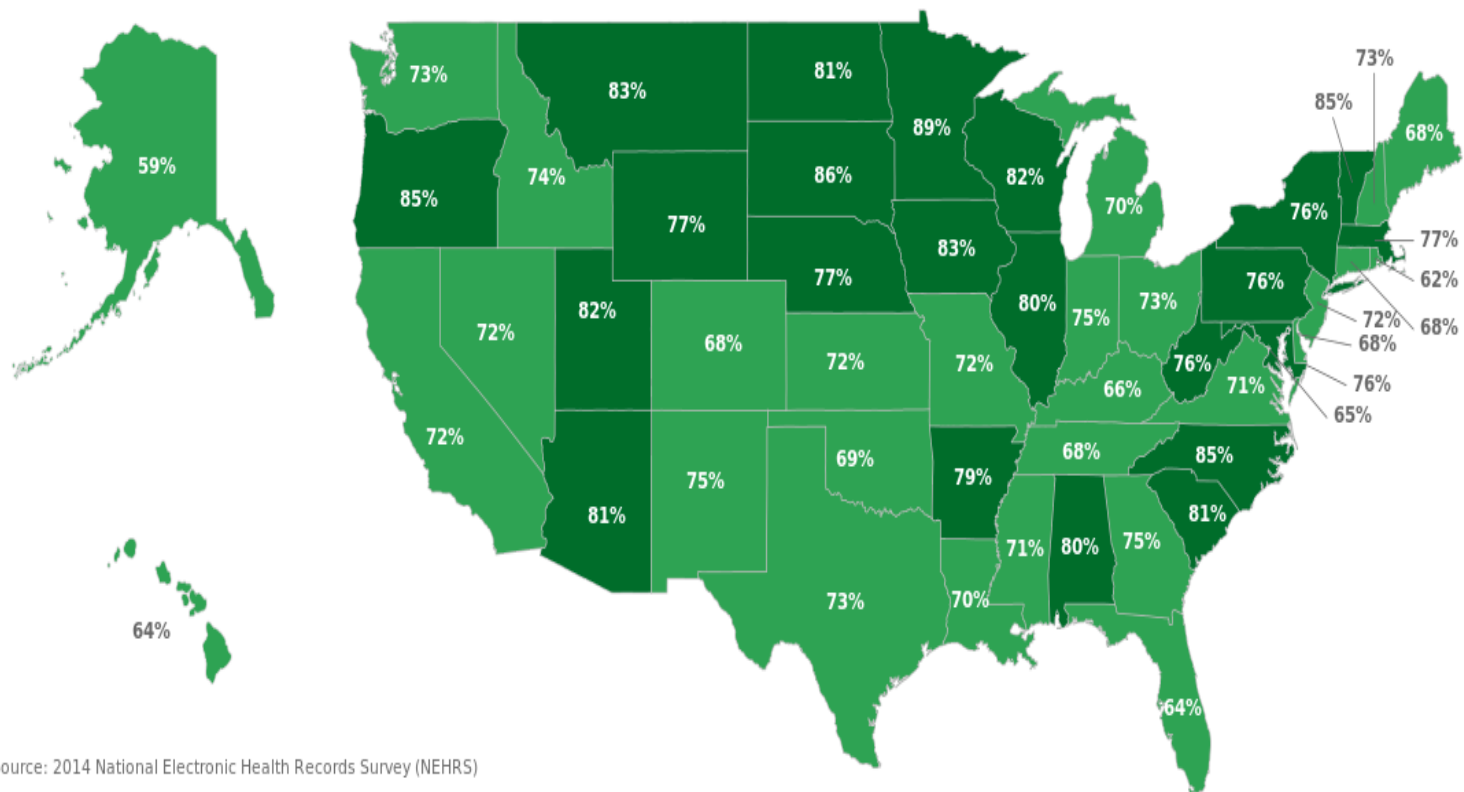


EVALUATION OF THE STATE HEALTH INFORMATION EXCHANGE COOPERATIVE AGREEMENT PROGRAM, July 2014, NORC at the University of Chicago

# Office of the National Coordinator for Health Information Technology. 'Office-based Physician Health IT Adoption,' Health IT Dashboard

% of all Physicians that have Adopted Certified EHRs | National Avg = 74%

0 - 25 %   26 - 50 %   51 - 75 %   76 - 100 %

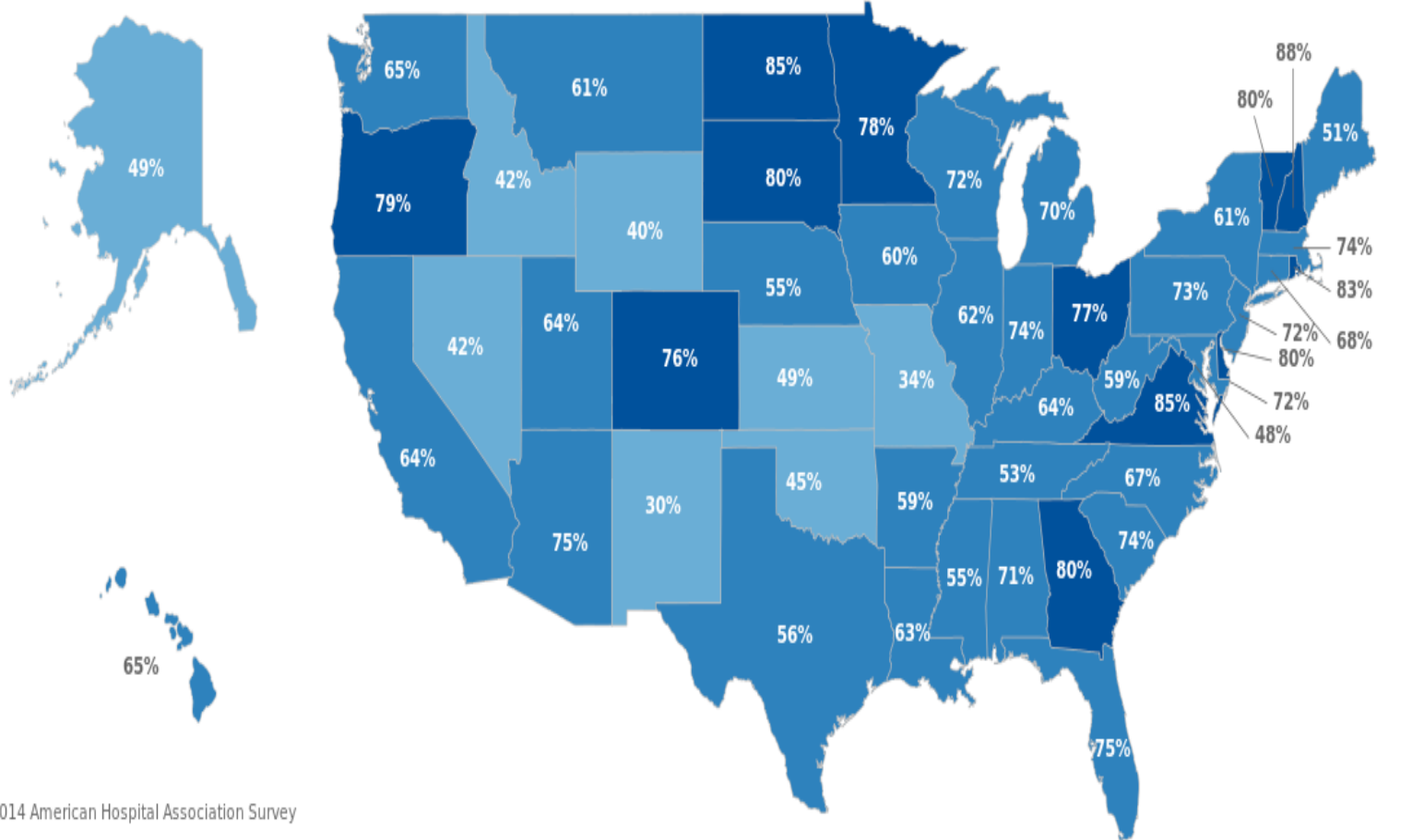


Source: 2014 National Electronic Health Records Survey (NEHRS)

Office of the National Coordinator for Health Information Technology. 'Non-federal Acute Care Hospital Health IT Adoption,' Health IT Dashboard

% of Hospitals with Capability to Exchange Summary of Care Record with Any Outside Providers | National Avg = 64%

0 - 25 %   26 - 50 %   51 - 75 %   76 - 100 %



2014 American Hospital Association Survey

<http://dashboard.healthit.gov/dashboards/hospital-health-it-adoption.php> October 2015.

## Percent of U.S. Hospitals that Electronically Exchanged Patient Laboratory Results *with Outside* Health Care Providers: 2014

- ▶ 69% - Any Providers
- ▶ 54% - Hospitals
- ▶ 63% - Ambulatory Providers
- ▶ **Note:** outside providers are ambulatory care providers, hospitals, or both that are outside a hospital's organization/health system.

# Collaborative HIE Initiatives - Survey Findings

2,012 providers and 2,300 payers that use HIEs and 4,100 prospective HIE users

- ▶ 83% of physician practices and 40% of hospitals are still in the planning and catch-up stages of exchanging data.
- ▶ 57% of prospective HIE users blamed their reluctance on HIT/EHR vendor connectivity defects and a lack of vendor preparedness.
- ▶ 63% of hospitals reported being in the active stages of replacing their current HIE system, whether private, public, homegrown or EHR-dependent.
- ▶ Of those that are actively replacing HIE systems in the first quarter of 2016, 97% said the decision to replace was largely driven by data security concerns.
- ▶ 94% of payers responding said they intend to totally abandon their involvement with public HIE initiatives and work within regions or states to bolster private enterprise HIEs, which more directly meets their need in engaging in accountable care contracts with providers.
- ▶ About 90% of hospital respondents said they believe private HIEs are a more profitable and sustainable model under value-based or managed care.
- ▶ In 2013, 60% of providers said they distrusted payer-guided HIE initiatives. In 2016, 93% of providers are considering cooperating with payers on HIE initiatives to satisfy the growing need for enhanced data sharing under accountable care organizations.
- ▶ In the first quarter of 2016, 88% of hospitals and 95% of payers said collaborative HIEs where each stakeholder pays for system development and maintenance is creating more collaborative, trusting relationships.

# Pharmacy Opportunities

- ▶ Additional transactions
  - ▶ Medication history
  - ▶ Prescription change requests
  - ▶ Fill status notifications
- ▶ Clinical services documentation
  - ▶ Immunization administration
  - ▶ Medication management counseling
- ▶ Clinical information exchange
  - ▶ Biometric measurements
  - ▶ Allergy/adverse reaction events

Questions?



# Assessment Question 1

- ▶ HIE allows for manual sharing of patient's medication information
  - ▶ True or False?

# Answer - Assessment Question 1

- ▶ **FALSE** - HIE does not allow for manual sharing of patient's medication information

# Assessment Question 2

- ▶ Entities in Minnesota may be certified as:
  - A. An Health Information Organization
  - B. A Health Data Intermediary
  - C. Either
  - D. Both

# Answer - Assessment Question 2

- ▶ C. Entities in Minnesota may be certified as **Either**
  - ▶ An Health Information Organization
  - ▶ OR
  - ▶ A Health Data Intermediary

# Assessment Question 3

- ▶ How many physicians in Minnesota have adopted a Certified EHR?
  - A. 0-25%
  - B. 26-50%
  - C. 51-75%
  - D. 76-100%

# Answer - Assessment Question 3

- ▶ **D. 78%** of physicians in Minnesota have adopted a Certified EHR.

# Assessment Question 4

- ▶ Which of the following are considered HIE transactions?
  - A. ePrescribing, including access to medication history
  - B. Admission/Discharge/Transfer (ADT)
  - C. Continuity of Care Documents (CCD)
  - D. All of the above

# Answer - Assessment Question 4

- ▶ **D. All of the Above.** ePrescribing, including access to medication history, Admission/Discharge/Transfer (ADT) and Continuity of Care Documents (CCD) are all considered HIE transactions



# Thank you!

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