

National Health Information Exchange and Interoperability Landscape

HIE & Interoperability Update

- Infrastructure and services to enable Health Information Exchange (HIE)
 - State HIE Program Grantees
- HIE capability and activity across key stakeholders
 - Office-based Physicians & Hospitals
 - Overall Trends and Patterns
 - By Type of Data and Transitions
 - Individuals
- Future Measurement of Interoperability



Data Sources

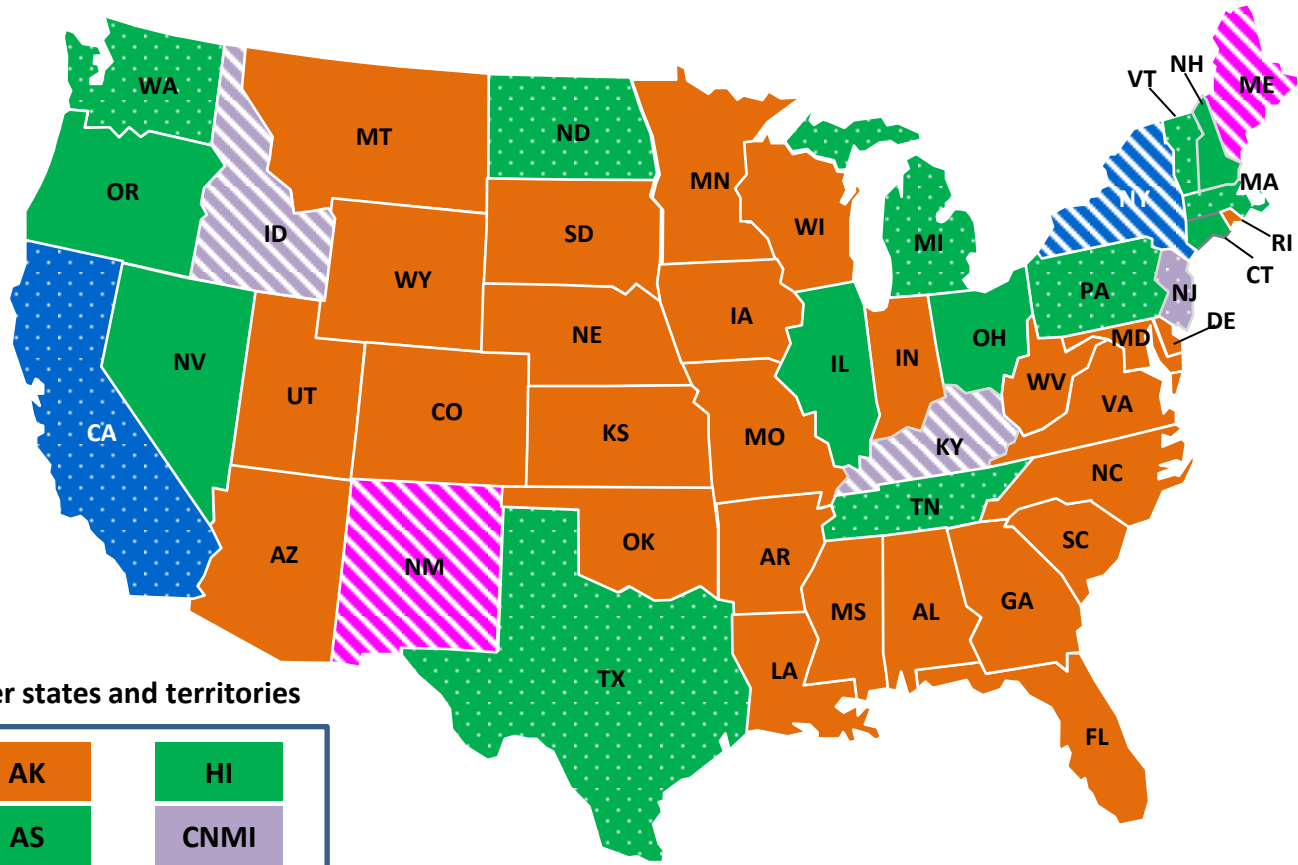
- Nationally representative survey data from 2013
 - Physicians:
 - National Electronic Health Record Survey
 - NCHS Workflow survey
 - Hospitals:
 - AHA Health IT Supplement
 - Individuals:
 - Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange
- Self-reported data by State HIE program grantees
- Early Stage 2 Meaningful use attestation data

HIE & Interoperability Update

Infrastructure and services to enable HIE:
State HIE Program Grantees



Directed and Query-based exchange broadly available in 28 states and Washington, DC as of Q4 2013



Directed Exchange Color Legend

- Broadly available
- Available in regions
- Pilots in progress
- Not available

Query-Based Exchange Pattern Legend

- Broadly available
- Available in regions

Directed Exchange AND Query-Based Exchange Broadly Available

- Directed AND query broadly available

Other states and territories

AK	HI
AS	CNMI
DC	PR
GU	USVI

Data Source: State HIE Dashboard, self-reported grantee data

Operational HIE Core Infrastructure Services grew across 50 states and Washington, DC

Q2 2012

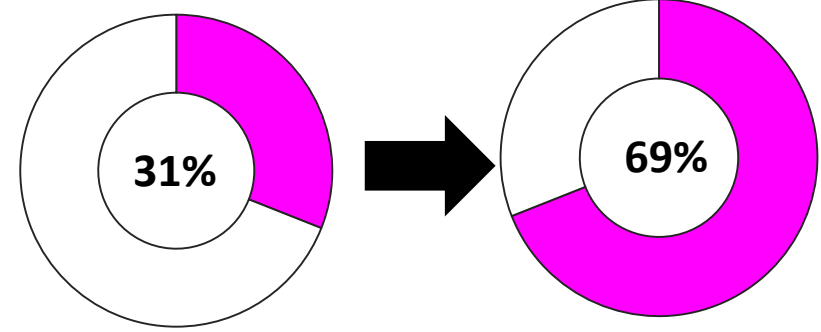
Q4 2013

Q2 2012

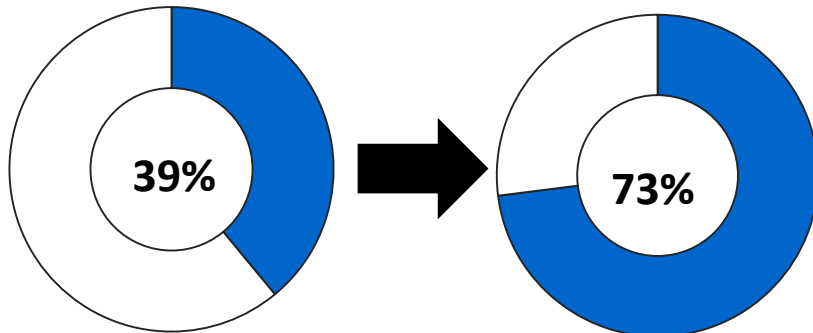
Q4 2013



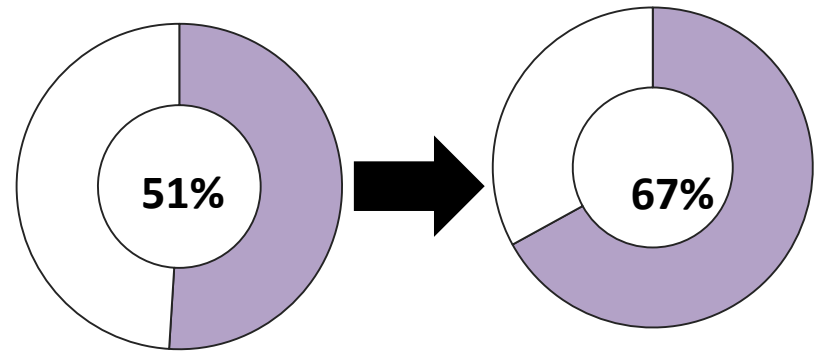
At least 1 operational Health Information Service Provider



At least 1 operational provider directory



At least 1 operational master patient index



At least 1 operational provider authentication service

N = 51; territories excluded. Self-reported grantee data

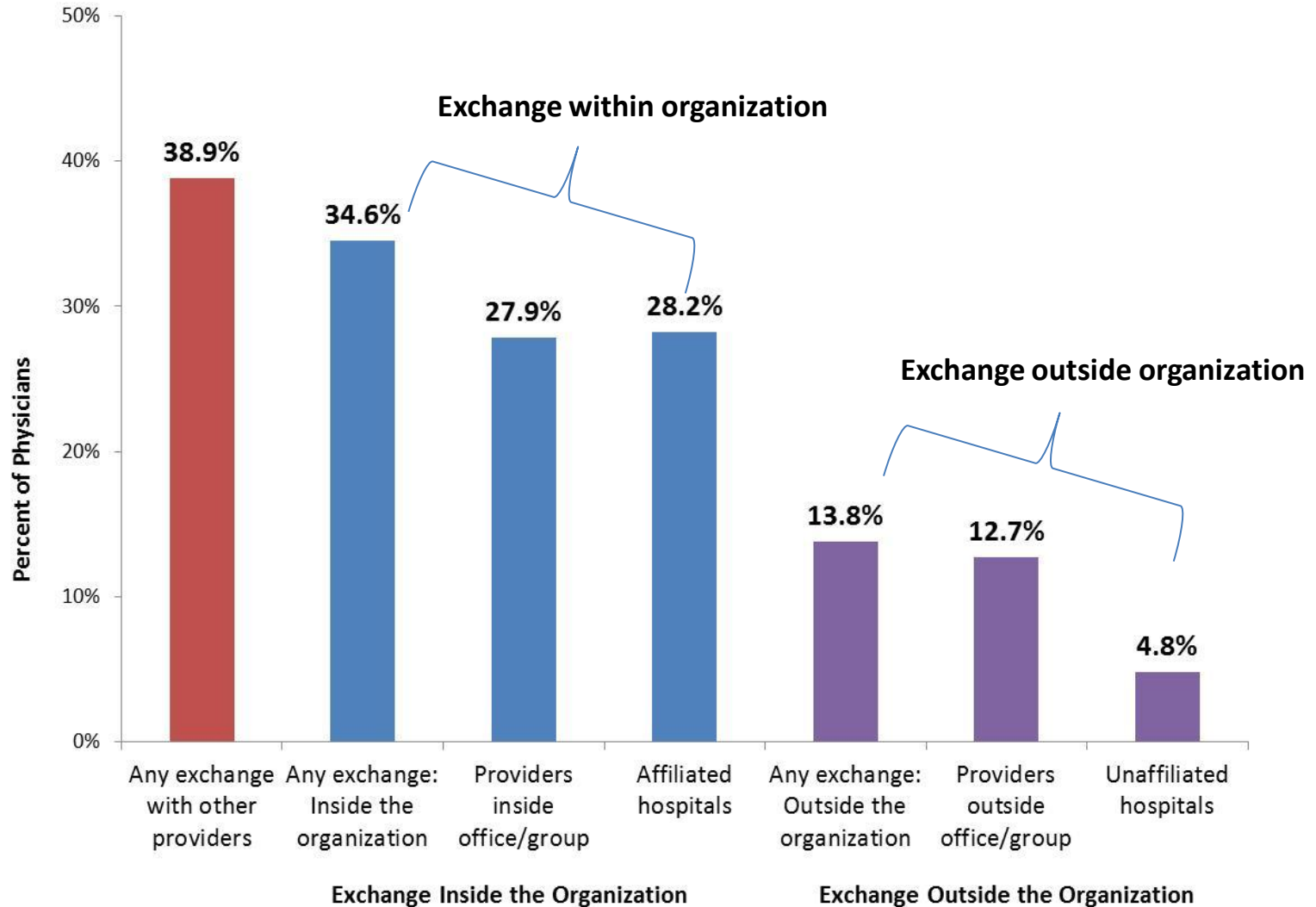
HIE & Interoperability Update

HIE capability and activity across Office-based
Physicians & Hospitals:

Overall Trends and Patterns
By Type of Data and Transitions



Prior to Stage 2 Meaningful Use, 4 in 10 physicians electronically exchange data--however outside exchange is limited



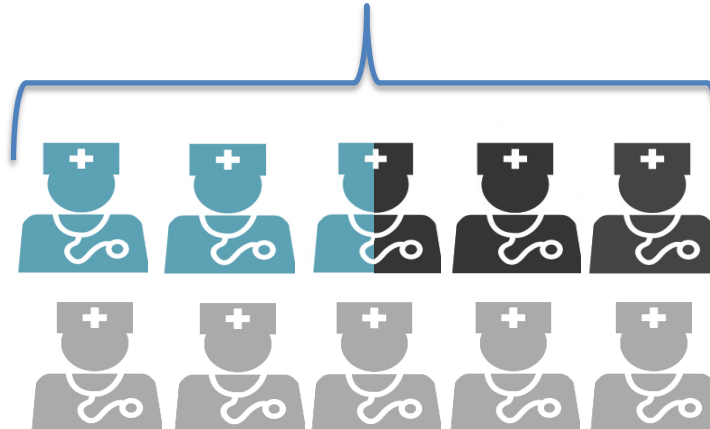
Electronic exchange of different types of data was limited prior to Stage 2, including during transitions

In 2013, about one-third of physicians exchange different types of data



- Lab results: 36%
- Imaging reports: 34%
- Problem lists: 33%
- Medication lists: 34%
- Med allergy lists: 34%

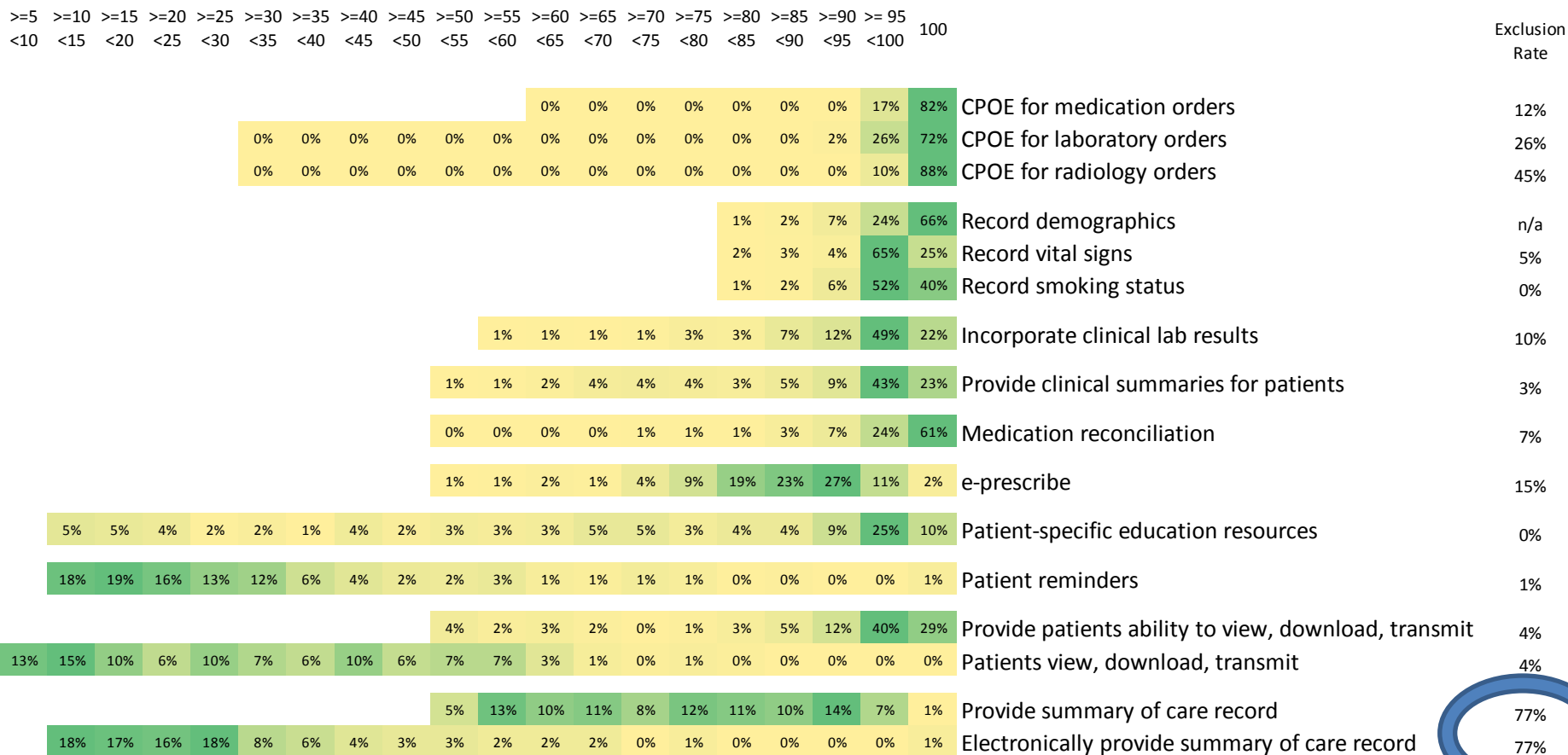
**In 2012, 5 in 10 received discharge summaries routinely;
half of those received it electronically**



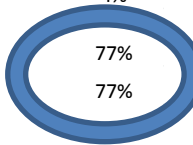
Lower performance of EPs on summary of care measures compared to other Stage 2 Measures, as of May 2014

Distribution of core objective scores among eligible professionals attesting to Stage 2 as of May 2014

Objective score reported at attestation (numerator/denominator)

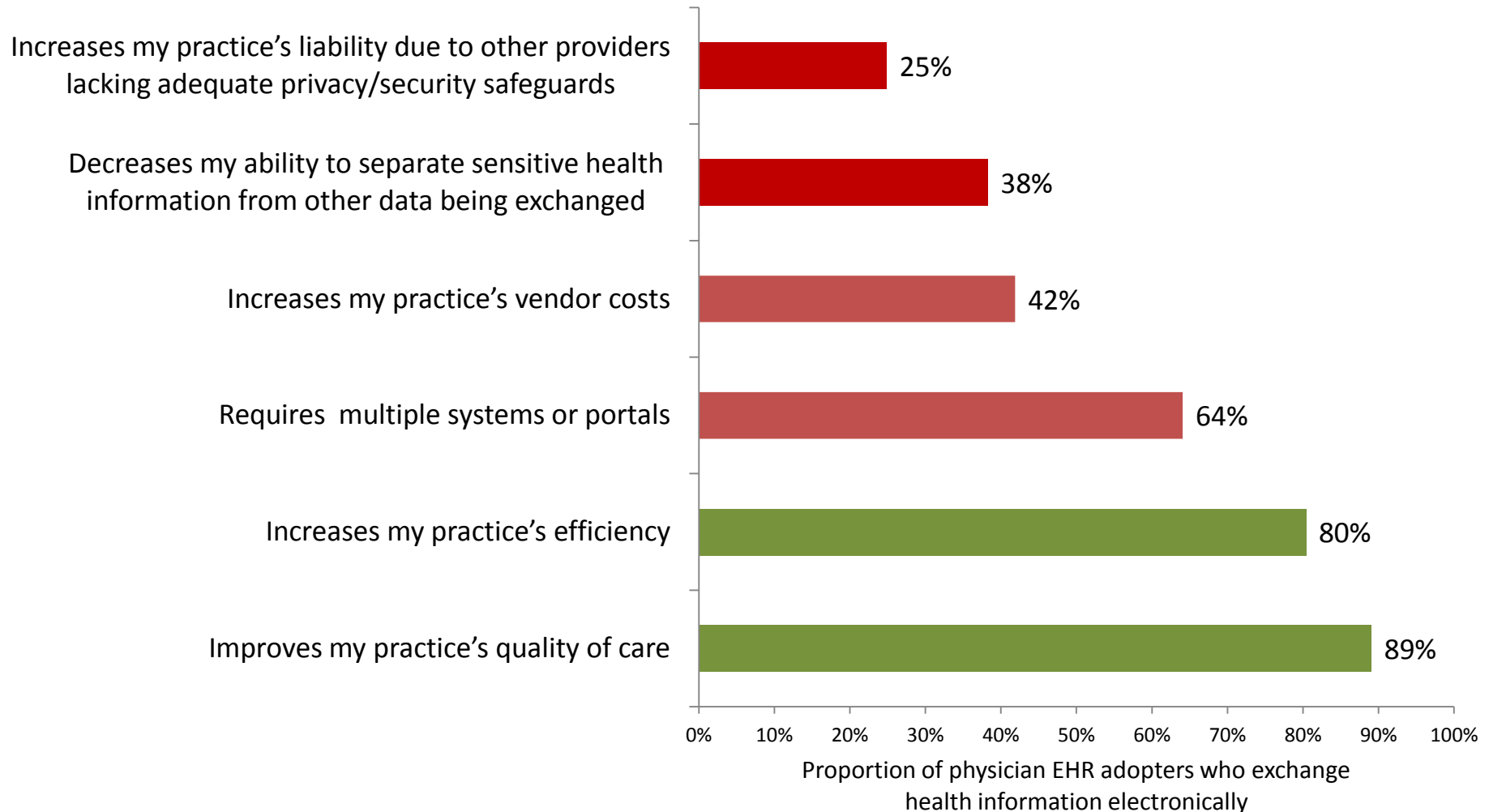


Based on 474 eligible professionals attesting as of May 30, 2014

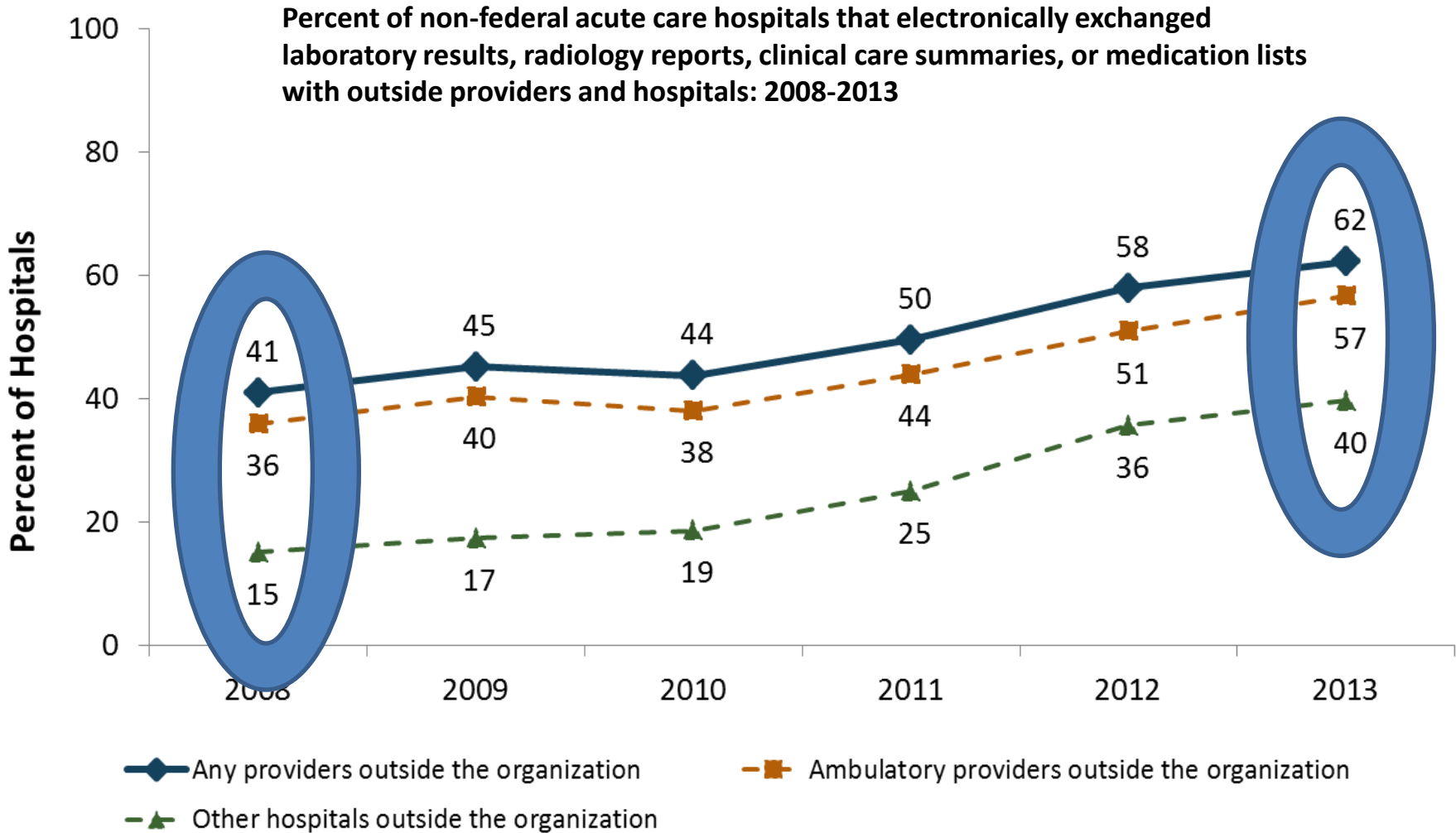


Figures reflect 474 Medicare eligible professionals who attested to Stage 2 as of May 31, 2014. Distributions are based on professionals that reported on the objective; exclusion rate is the percent of attesting professionals who claimed an exclusion for the objective.

Most physicians who electronically exchange report quality and efficiency benefits, though many also express concerns



Hospital exchange with outside providers has grown significantly since 2008



SOURCE: Swain M, Charles D, Furukawa MF. "Health Information Exchange among U.S. Non-federal Acute Care Hospitals: 2008-2013." *ONC Data Brief, no 17*, May 2014. ONC analysis of AHA Health IT supplement, 2008-2013.

Prior to Stage 2, 40-50% of hospitals had the capability to query and send secure messages

51% able to query patient health information electronically



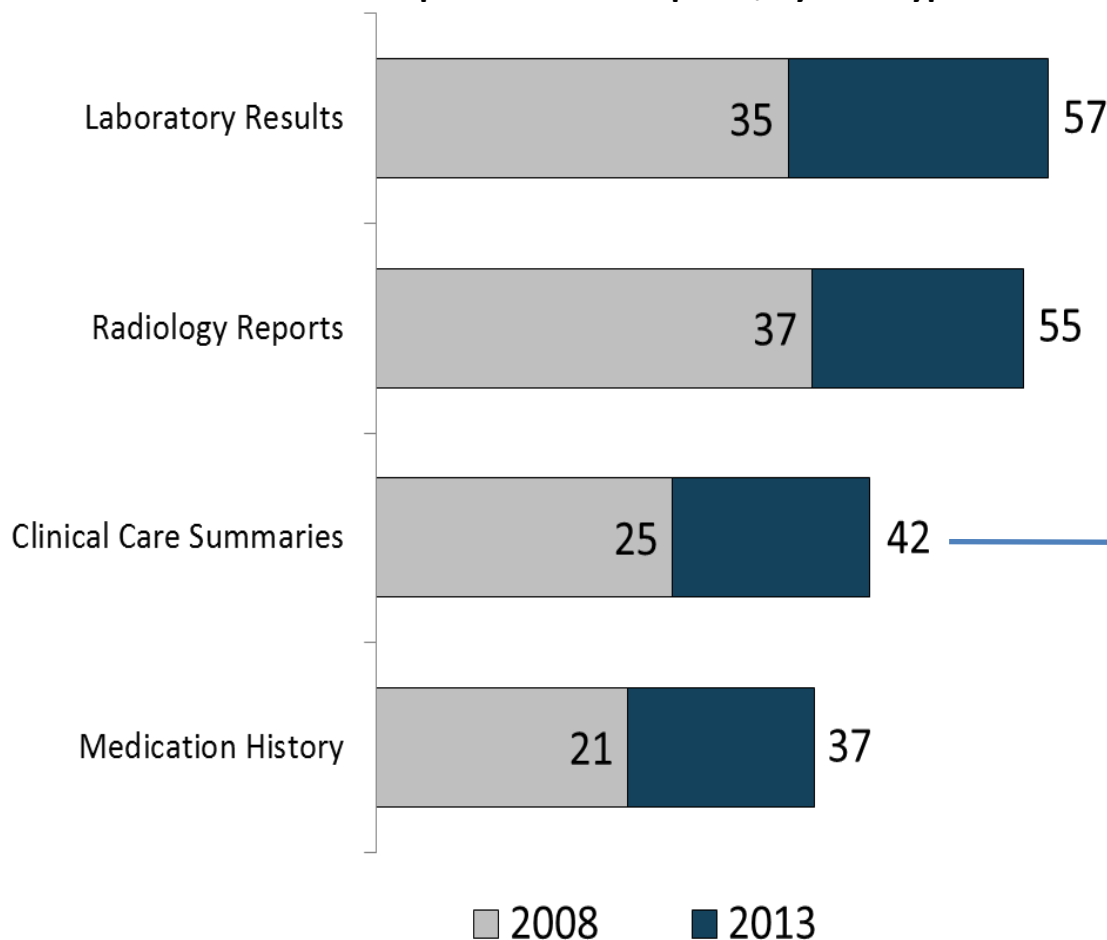
41% able to send and receive secure messages containing patient health information to and from external sources



SOURCE: Office of the National Coordinator for Health Information Technology. 'U.S. Hospitals' Capability to Electronically Query Patient Health Information from Outside Their Organization and System,' Health IT Quick-Stat, nos. 25 & 27. April 2014.

Prior to Stage 2, hospital exchange with outside providers varied by type of data

Percent of non-federal acute care hospitals that electronically exchanged data with outside providers or hospitals, by data type: 2008-2013



- 70% of hospitals reported they had the *capability* to send care summaries in a structured format (CCR, CDA, or CCD)
- 49% of hospitals reported they had the *capability* to send care summaries to an outside organization using a different EHR

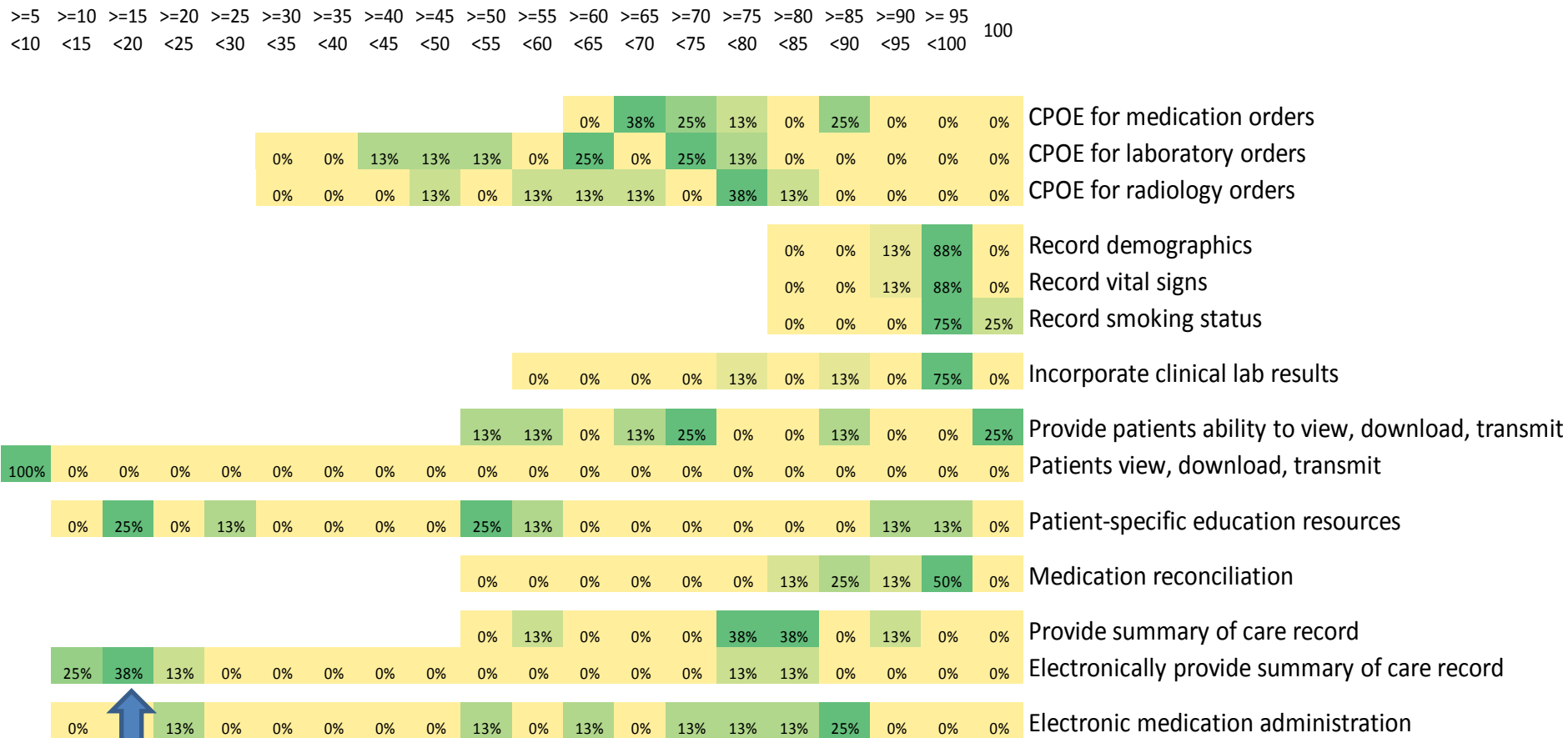
SOURCE: Swain M, Charles D, Furukawa MF. "Health Information Exchange among U.S. Non-federal Acute Care Hospitals: 2008-2013." *ONC Data Brief*, no 17, May 2014.

ONC. 'U.S. Hospital Adoption of Computerized Capabilities to Meet Meaningful Use Stage 2 Objectives,' Health IT Quick-Stat, no. 23. April 2014
ONC analysis of AHA Health IT supplement, 2013. 14

Hospital performance on summary of care measure lower compared to other Stage 2 Measures, as of May 2014

Distribution of core objective scores among eligible hospitals attesting to Stage 2 as of May 2014

Objective score reported at attestation (numerator/denominator)



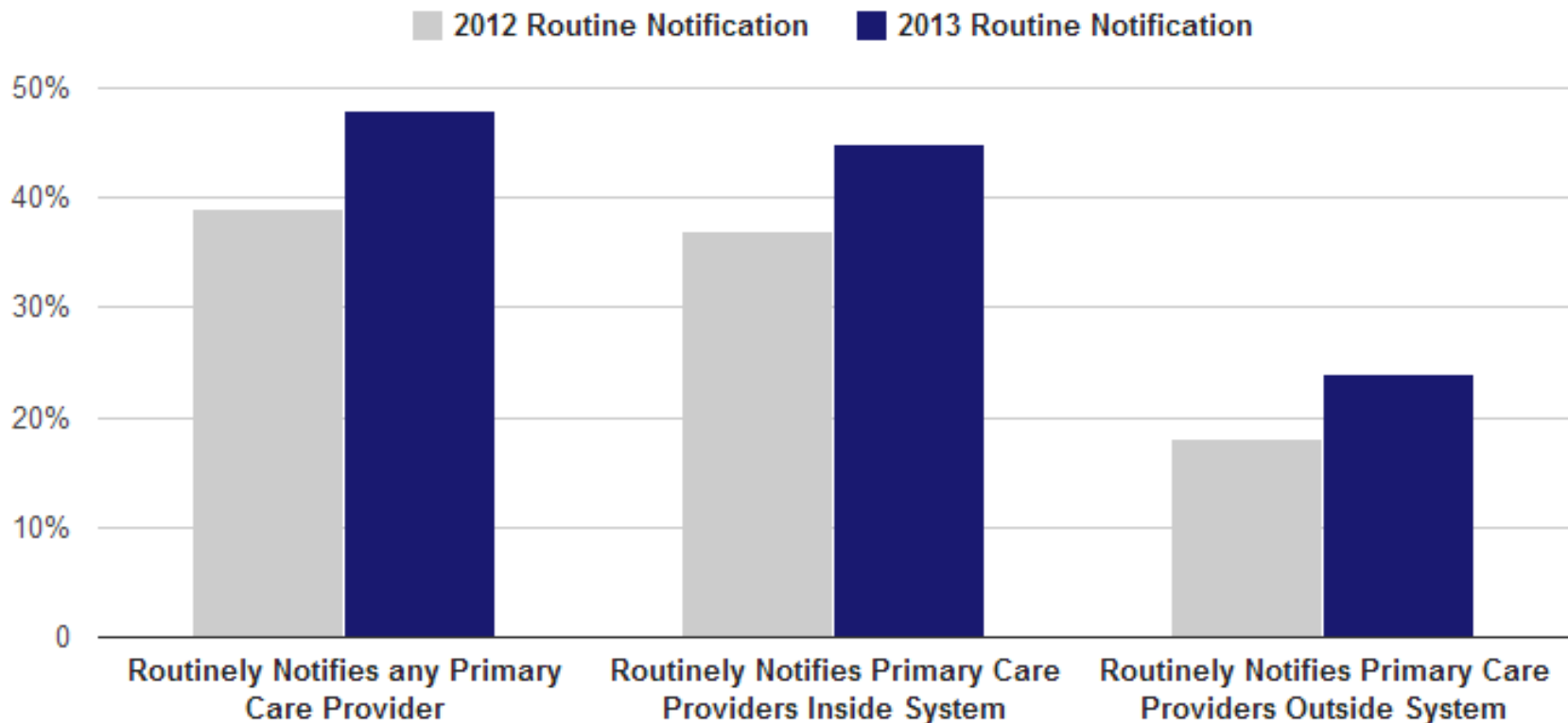
Based on 8 eligible hospitals attesting as of May 30, 2014



Figures reflect 8 Medicare eligible hospitals who attested to Stage 2 as of May 31, 2014. Distributions are based on professionals that reported on the objective; no attesting hospitals claimed an exclusion for any of the objectives.

Almost half of hospitals send ED notifications— though primarily to affiliated PCPs

Percent of U.S. Hospitals that Routinely Electronically Notify Patient's Primary Care Provider upon Emergency Room Entry
2012 - 2013



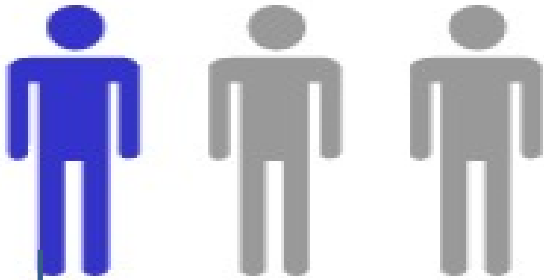
HIE & Interoperability Update

HIE capability and activity across Individuals



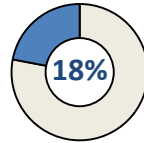
Individuals report experiencing information exchange gaps among providers and between providers and themselves

Within the past 12 months when receiving care for a medical problem, 1 in 3 individuals experienced at least one gap in health information:

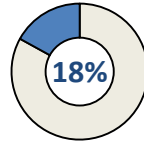


More likely to be have:

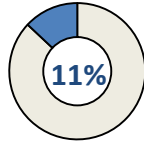
- Chronic health conditions
- Seen at least 3 or different healthcare providers



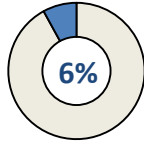
Provide medical history again because provider hadn't gotten records from another provider



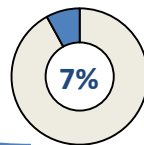
Bring the results of medical exam/test result to a doctor



Wait longer than reasonable for the results of a test



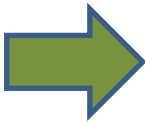
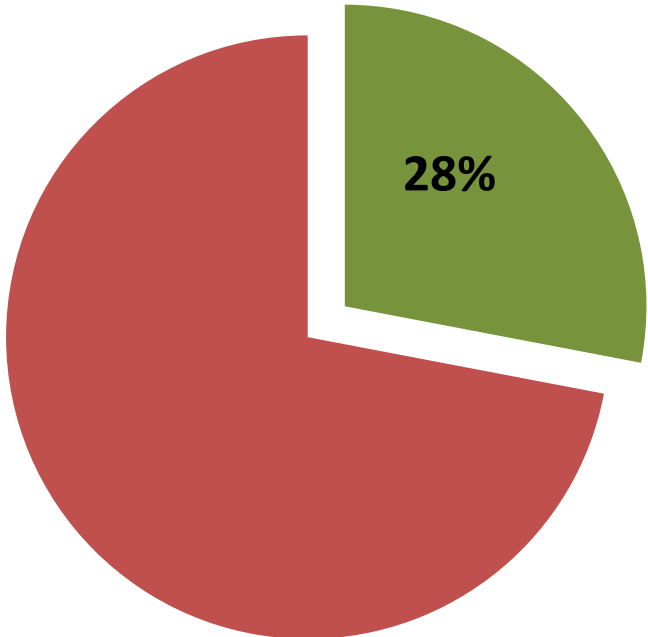
Redo a test or procedure because no longer available



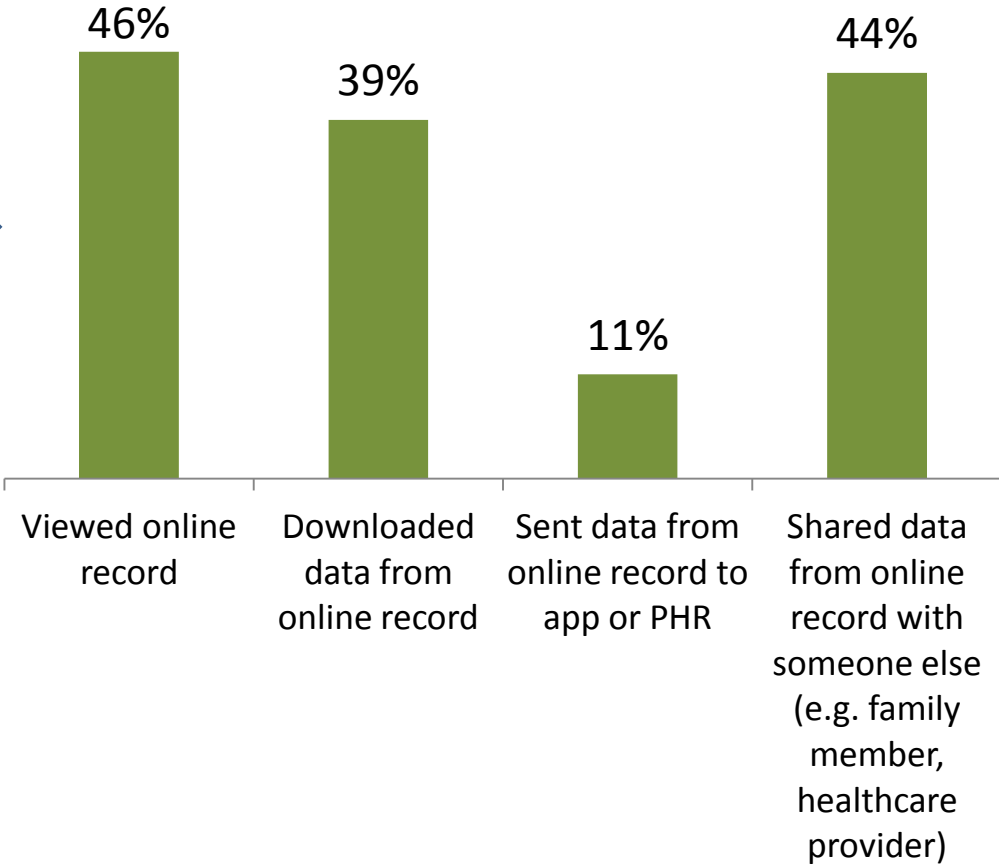
Had to provide medical history again because chart could not be found

Among the 28% of the U.S. adult population given access to their online medical record, almost half viewed their information.

Percent of U.S. Adult Population Offered Access to Online Medical Record, 2013



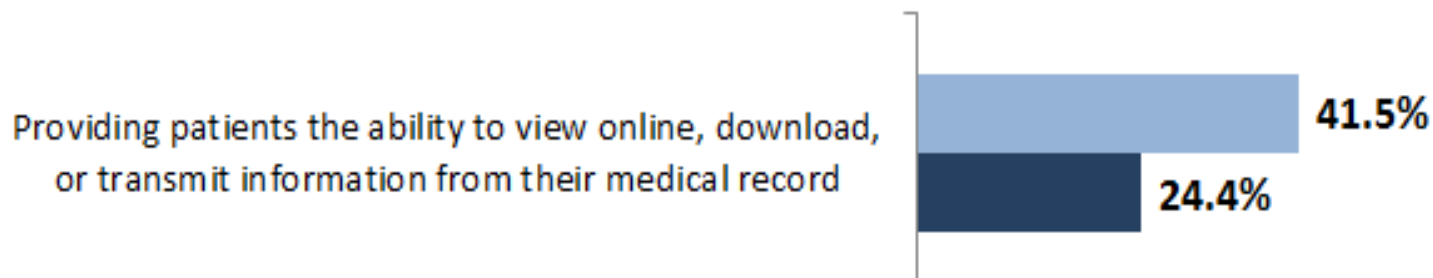
Of adults offered access to online medical record in 2013, percent who:



Analysis of Privacy and Security Survey, 2013.

Prior to Stage 2 Meaningful Use, Office-based Physicians and Hospitals reported limited VDT capabilities

- Percent of physicians with computerized capability
- Percent of physicians routinely using computerized capability



Patient Engagement Functionality	Percent of Hospitals with Capability		
	2012	2013	Change (% point)
Are patients able to do any of the following regarding their health/medical records? [^]			
View information from their health/medical record online	24%	39.8%	15.9
Download information from their health/medical record	14.3%	27.8%	13.4
Electronically transmit care/referral summaries to a third party*	N/A	11.6%	—

Interoperability & Future Measurement

- Measures to date have largely focused on HIE rather than interoperability
- We are aligning our measurement strategy to link directly to ONC's strategic vision going forward
- This may include monitoring other types of information such as:
 - Volume of transactions
 - Adoption of standards
 - Availability of services that enable HIE

Key Takeaways

Overall, data show growth in exchange capability and activity, but also substantial room for improvement.

Infrastructure and services to support query-based and directed exchange have increased among the State HIE program grantees though impact on HIE activity likely to be uneven.

Data from 2013 and early 2014 indicate that exchange activity and capability varies across physicians, hospitals, and individuals, particularly during transitions.

- Physician exchange activity with outside providers is limited.**
- Hospital exchange activity with outside providers has grown significantly since 2008.**
- Exchange of data during transitions is limited across hospitals and physicians, and a significant number of individuals report experiencing gaps in information sharing.**
- Physician and hospital VDT capabilities are limited; however, among individuals who obtain online access to their health information, early evidence indicates a sizable proportion are taking advantage of these capabilities.**

Interoperability measurement will be a key focus going forward.

Questions?

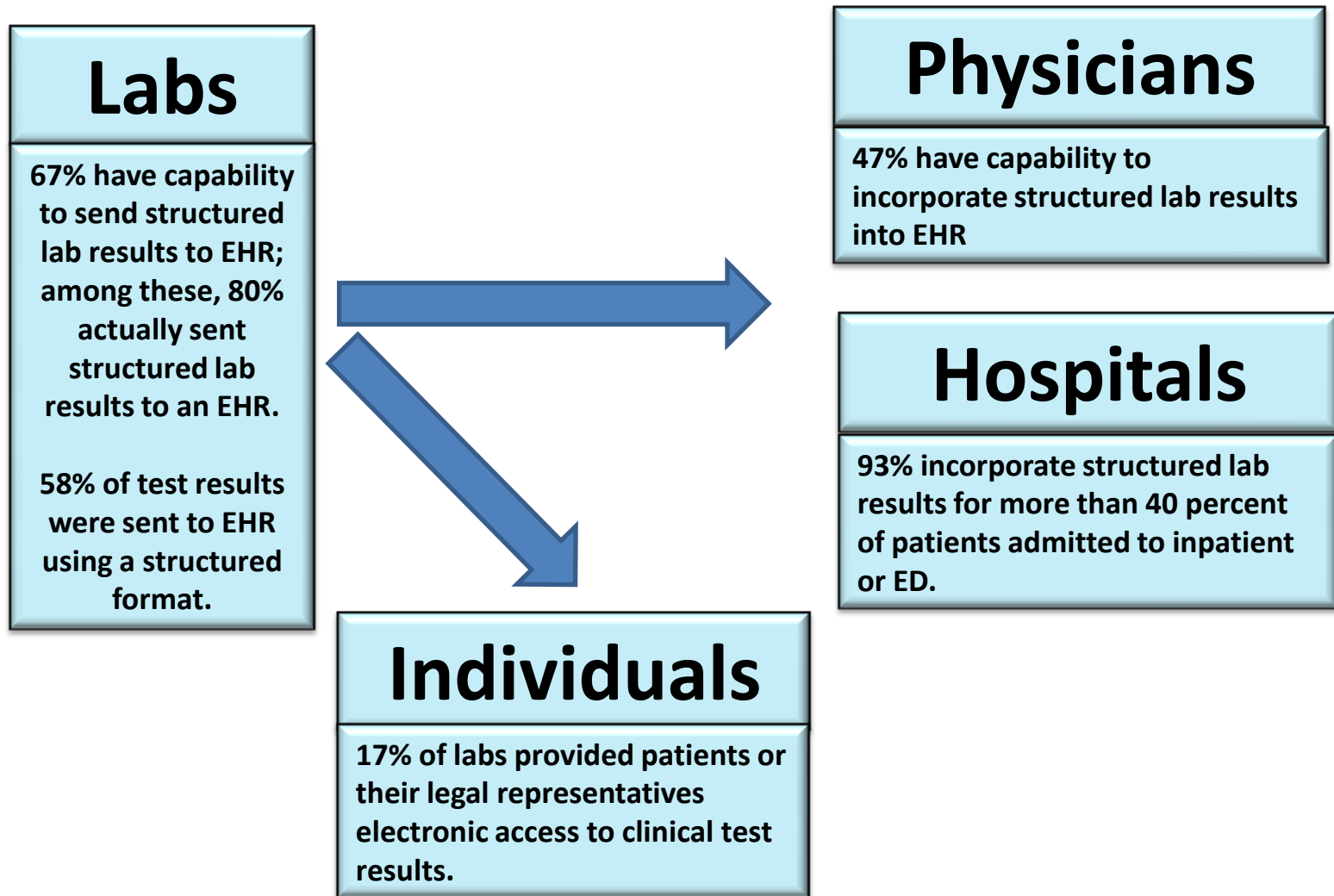
Vaishali Patel, PhD MPH

Office of Policy, Evaluation & Planning, ONC

vaishali.patel@hhs.gov

Additional updates

Lab Exchange & Interoperability: Clinical Laboratory, Individuals and Providers



Source: Swain M, Patel V. "Health Information Exchange among Clinical Laboratories." *ONC Data Brief*, no 14. February 2014.

ONC. 'U.S. Hospital Adoption of Computerized Capabilities to Meet Meaningful Use Stage 2 Objectives,' *Health IT Quick-Stat*, no. 23. April 2014

ONC. 'Percent of physicians with selected computerized capabilities related to Meaningful Use objectives, 2013,' *Health IT Quick-Stat*, no. 9. January 2014

Swain M, Patel V. "Patient Access to Test Results among Clinical Laboratories." *ONC Data Brief*, no 13. February 2014..

HIE capabilities across the continuum

Long-Term Care Providers

NCHS plans to release results later this year for 2012 HIE capabilities of Residential Care Communities and Adult day services centers

Behavioral Healthcare Providers

25% able to exchange key clinical information with other providers

28% of BH provide summary of care record for transitions of care