The presentation will begin shortly.

U.S. Department of Health and Human Services

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Health IT Adoption and Impacts: Progress and Challenges

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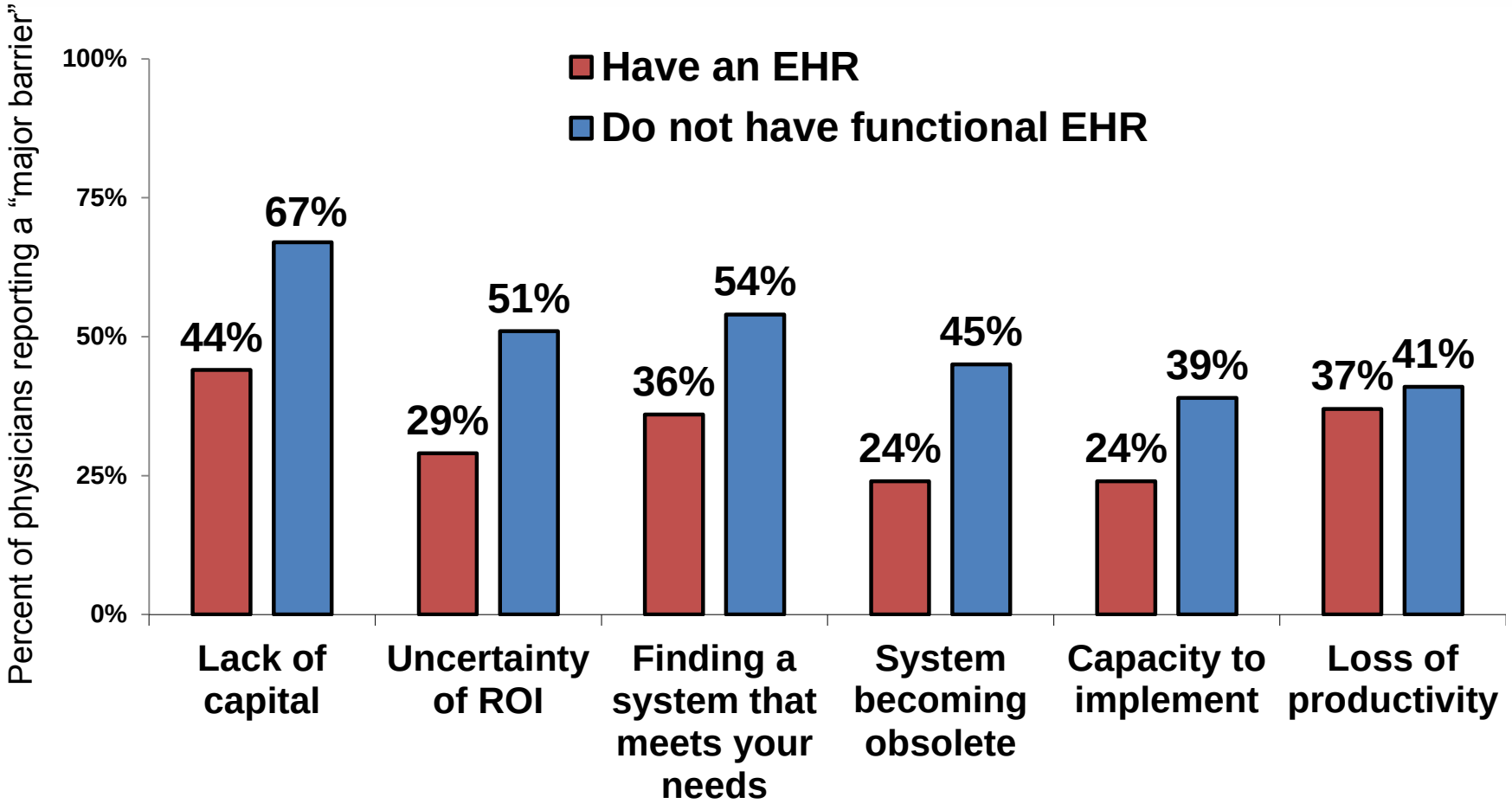
HPOE *Live!* Webinar Series 2014
Assessing the Impact of HIT Initiatives in Health Care
September 10, 2014

Today's Agenda

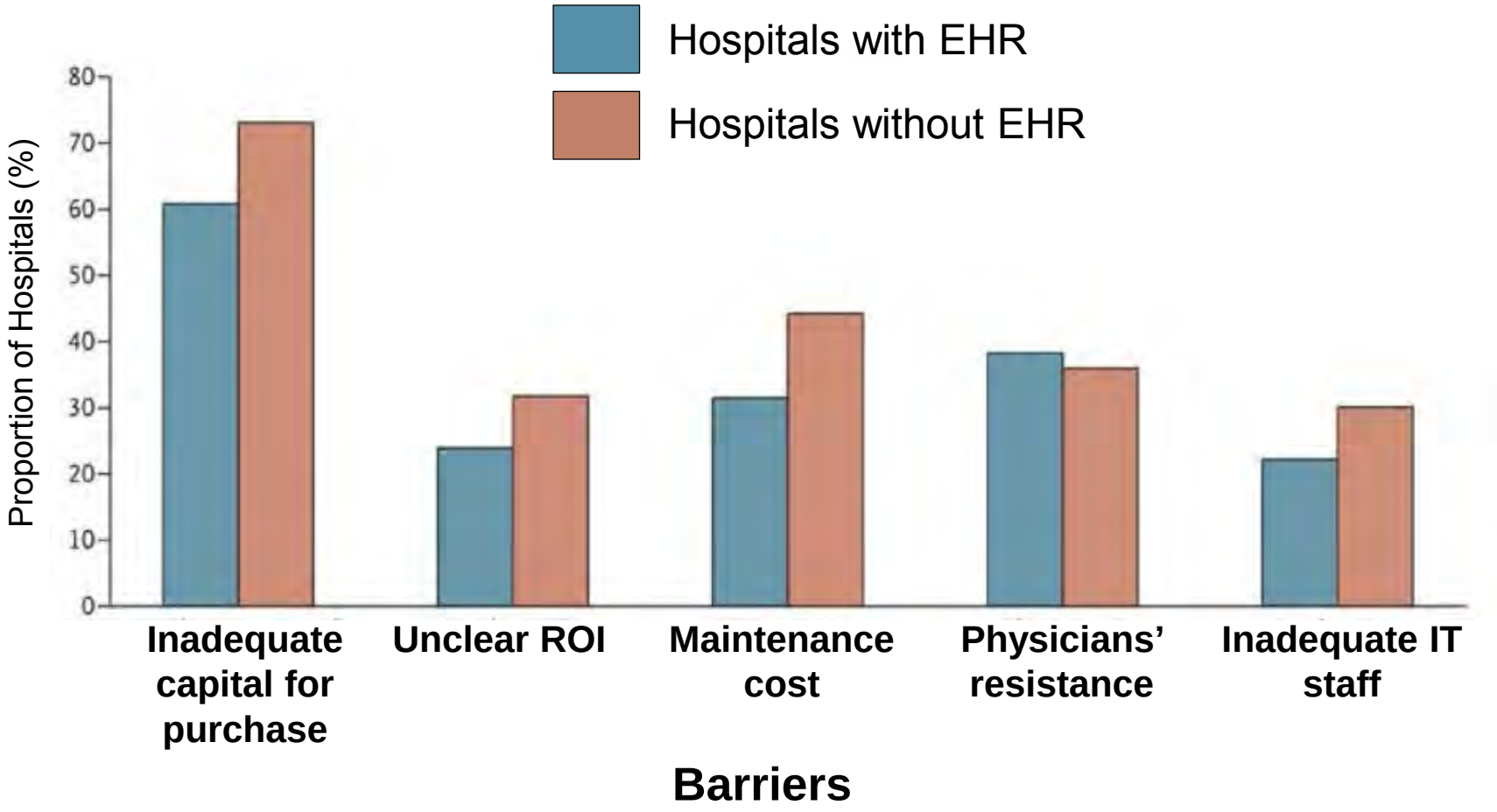
- Barriers and Impetus for HITECH
- 'Meaningful Use' of Electronic Health Records
- Evidence of Health IT Impacts
  - HSR Special Issue
  - Updated Systematic Review
- Challenges Ahead

Major Barriers to Physician EHR Adoption



Source: DesRoches CM et al. Electronic Health Records in Ambulatory Care—A National Survey of Physicians. *NEJM*, 2008 .

Major Barriers to Hospital EHR Adoption



Source: Jha AK et al. "Use of Electronic Health Records in U.S. Hospitals." *NEJM*, 2009.

The Federal Government's Response: HITECH Act

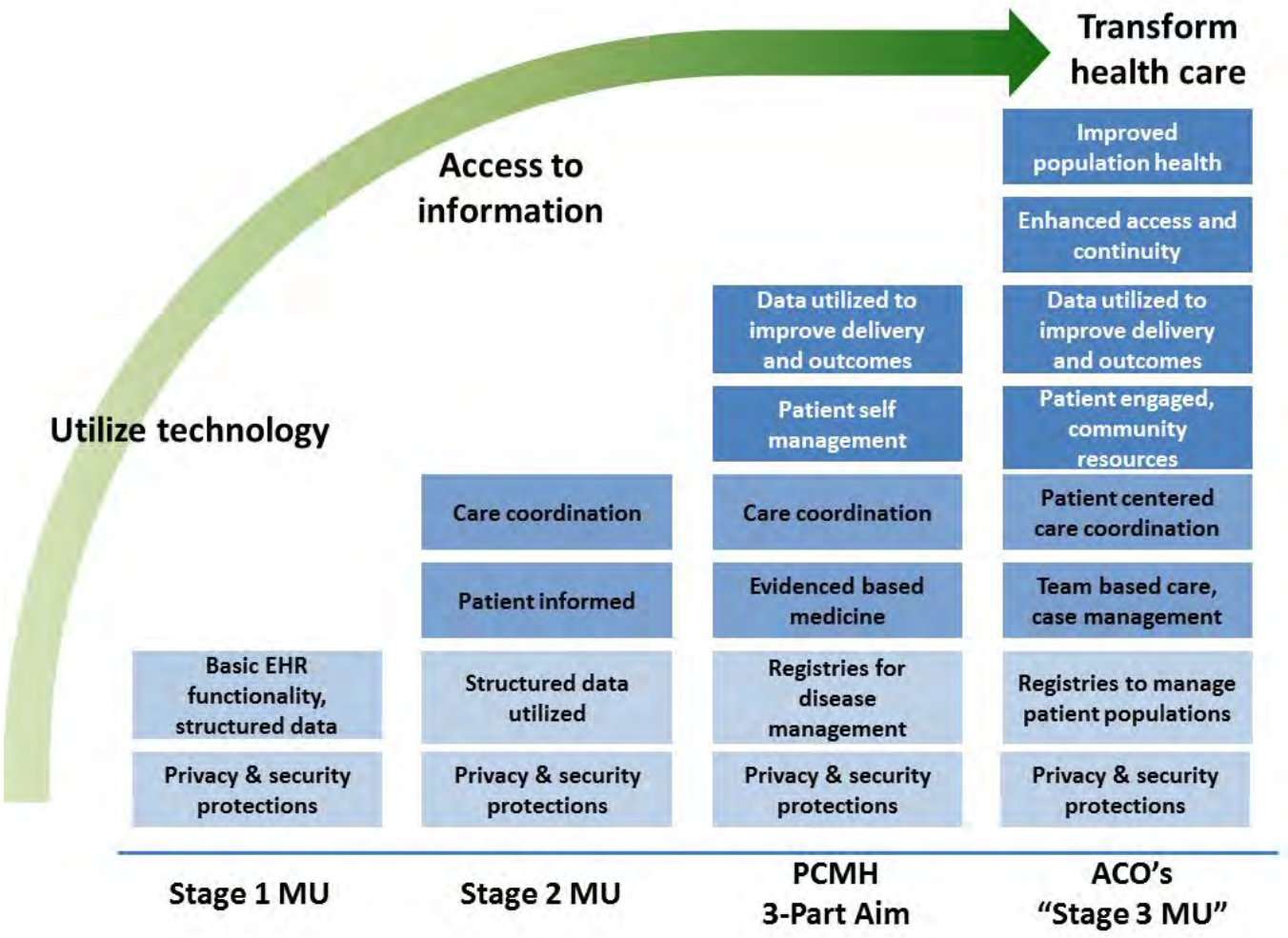
- Part of American Recovery and Reinvestment Act of 2009 (ARRA)
- Addresses major barriers to adoption, and much more
  - Money, market reform
  - Technical assistance, support/workforce shortages
  - Health information exchange
  - Privacy and security

Dr. David Blumenthal, previous National Coordinator of HIT, emphasizes

"HIT is the means, but not the end. Getting an EHR up and running in health care is not the main objective behind the incentives provided by the federal government under ARRA. Improving health is. Promoting health care reform is."

- At the National HIPAA Summit
in Washington, D.C.
on September 16, 2009

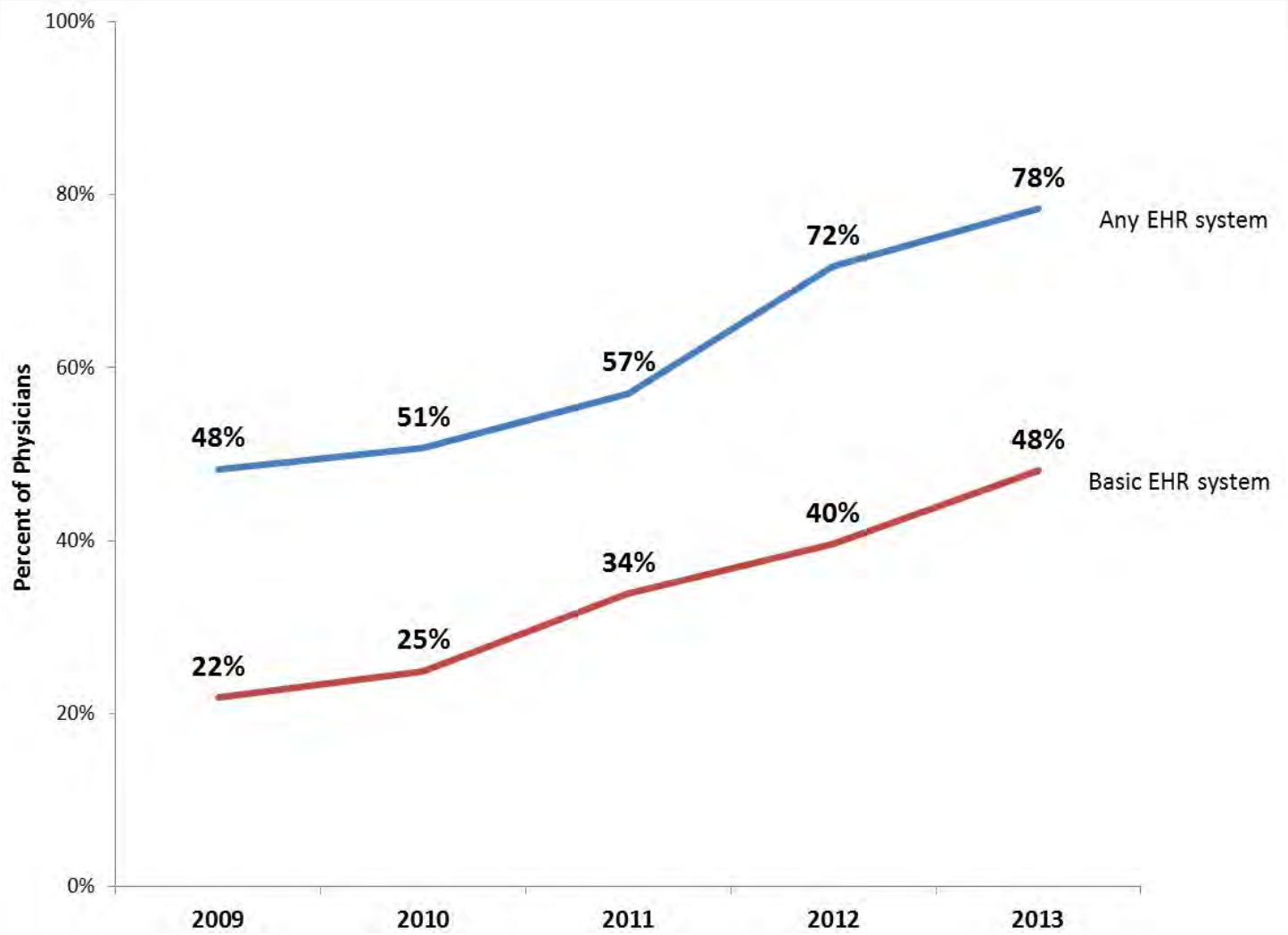
Conceptual Approach to Meaningful Use



ONC Programs
Tech Assistance and HIE / Interoperability

Technical Assistance	~150,000 providers enrolled with the Regional Extension Centers (8/14)
Workforce Training	~20,000 community college trainees (10/13) ~1,700 post-grad/masters trained (10/13)
State Health Information Exchange	56 states and territories with HIT coordinators and operational plans
Interoperability	Over 1,700 certified EHR products on the market conforming to standards

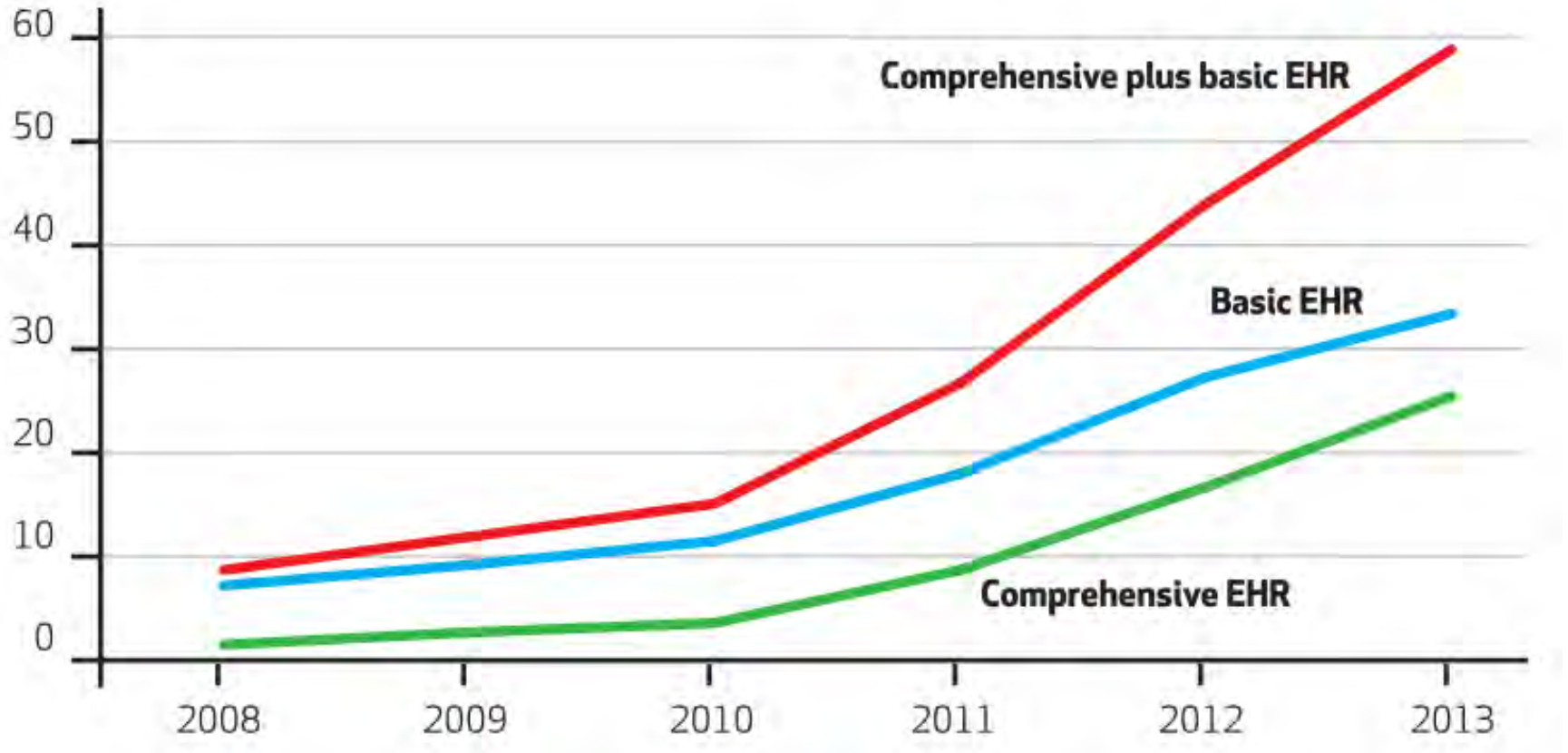
EHR Adoption Among Office-Based Physician Practices, 2009-13



Source: Furukawa, et al. “Despite substantial progress in EHR adoption, health information exchange and patient engagement remain low in office settings.” *Health Affairs*, September 2014.

EHR Adoption Among Hospitals, 2008-13

Percent of hospitals



Source: Adler-Milstein, et al., “More Than Half of US Hospitals Have At Least A Basic EHR, But Stage 2 Criteria Remain Challenging For Most,” *Health Affairs*, August 2014.

Meaningful Use Registration and Attestation

- Registrations as of July 2014:
  - More than 480,000 providers
  - New registrations ~6,000 per month in 2014

- Meaningful use attestation became possible mid-May 2011
  - As of July 2014:
    - $24.8 billion in payments to 410,000+ unique providers
    - 392,447 are eligible professionals
    - 323,457 of the eligible professionals are physicians

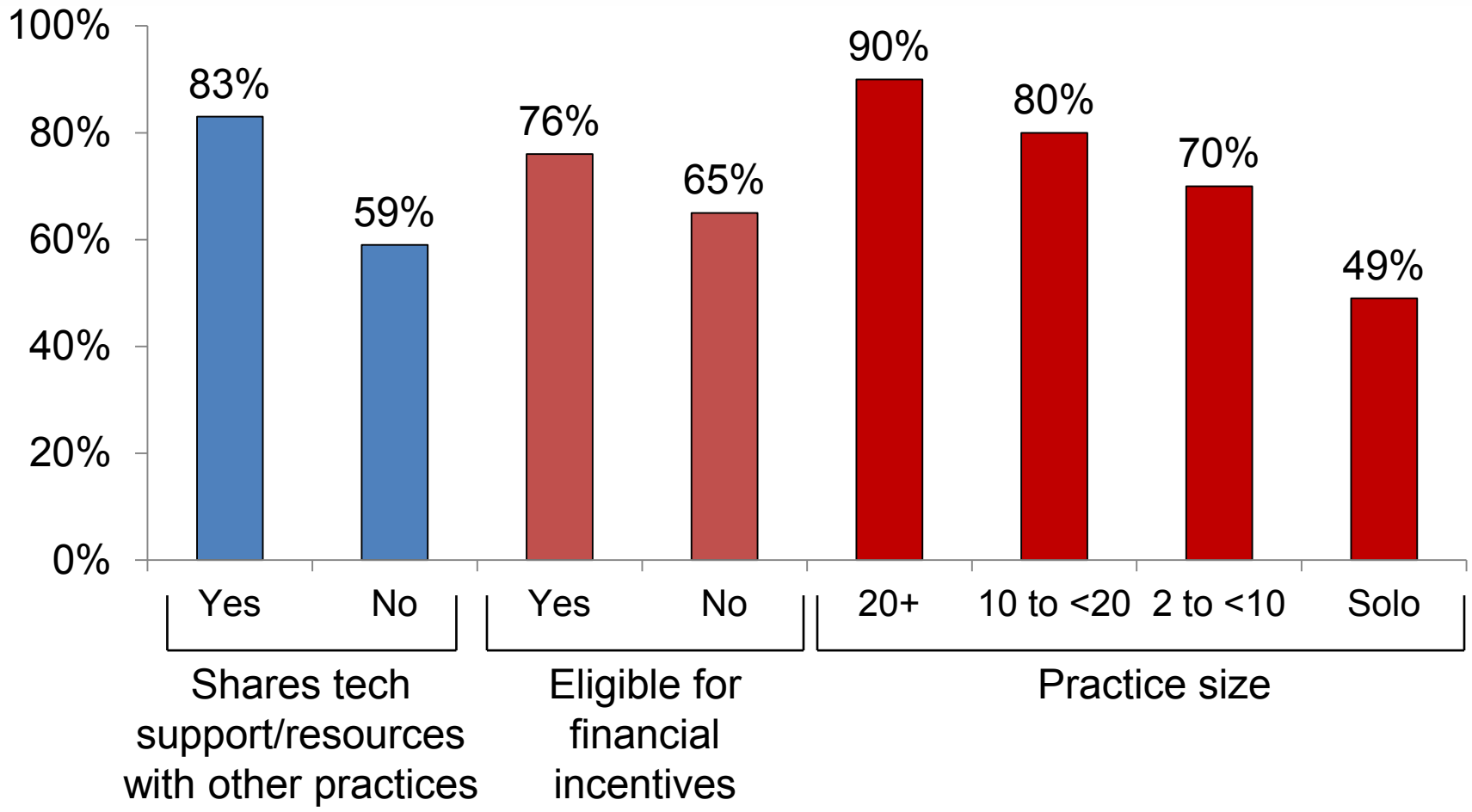
- As of July 2014, 81% of eligible professionals and 97% of eligible hospitals have received Medicare or Medicaid incentive payments for adopting or meaningfully using electronic health records

Source: “EHR Incentive Program,” August 2014, CMS.

Health Services Research
Special Issue

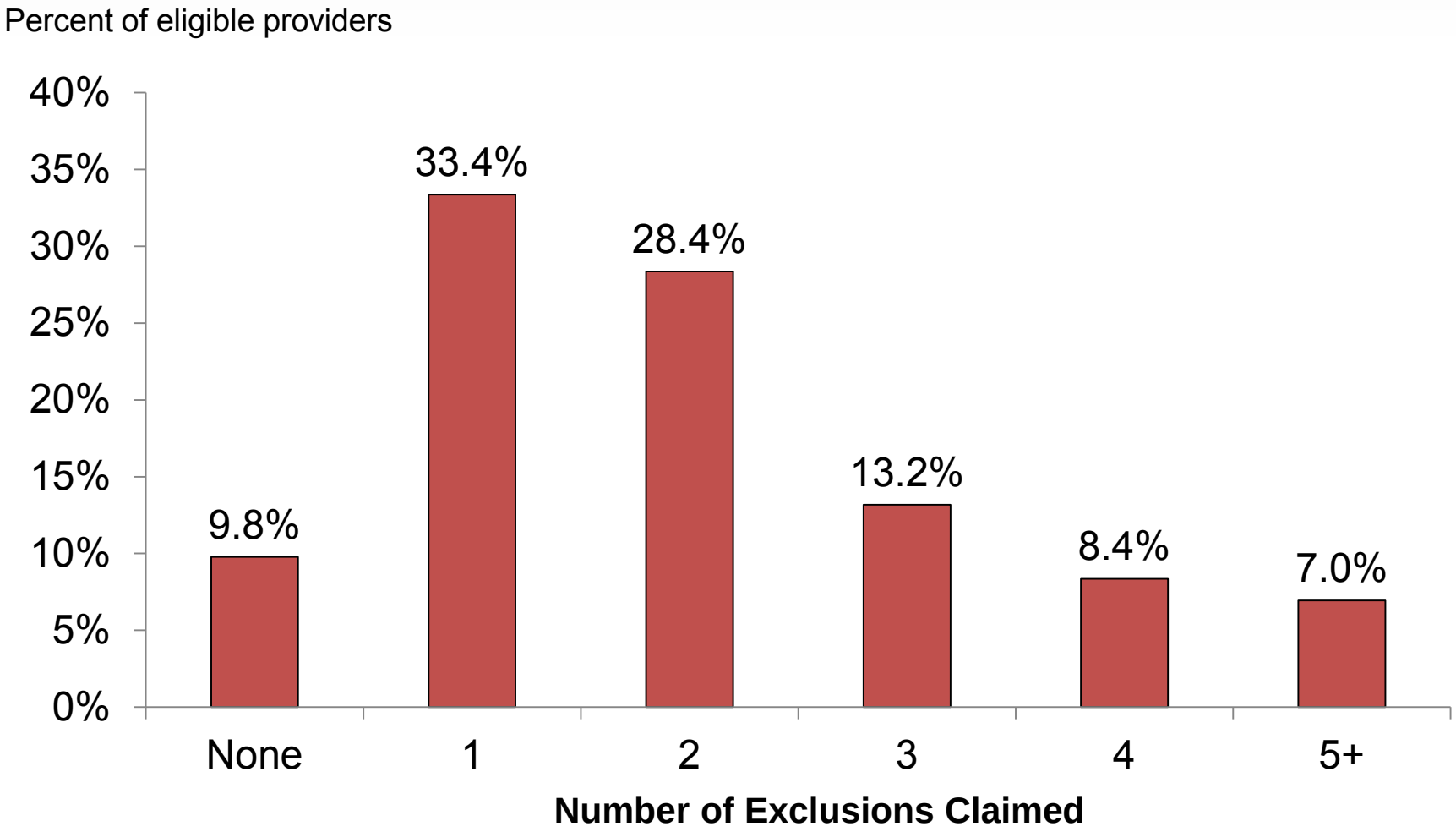
Adoption of Electronic Health Records Varies by Size, Organization, and Financial Factors

Percent of primary care physicians, 2012



Audet AM, et al. "Where are we on the diffusion curve? Trends and drivers of primary care physicians' use of HIT." *Health Services Research*, 2014 Feb;49(1 Pt 2):392-404.

Eligible Providers Often Exceeded MU Stage 1 Thresholds; But 90% Claimed At Least One Exclusion



Wright A, et al. "The Medicare Electronic Health Record Incentive Program: Provider Performance on Care and Menu Measures." *Health Services Research*, 2014 Feb;49(1 Pt 2):325-346.

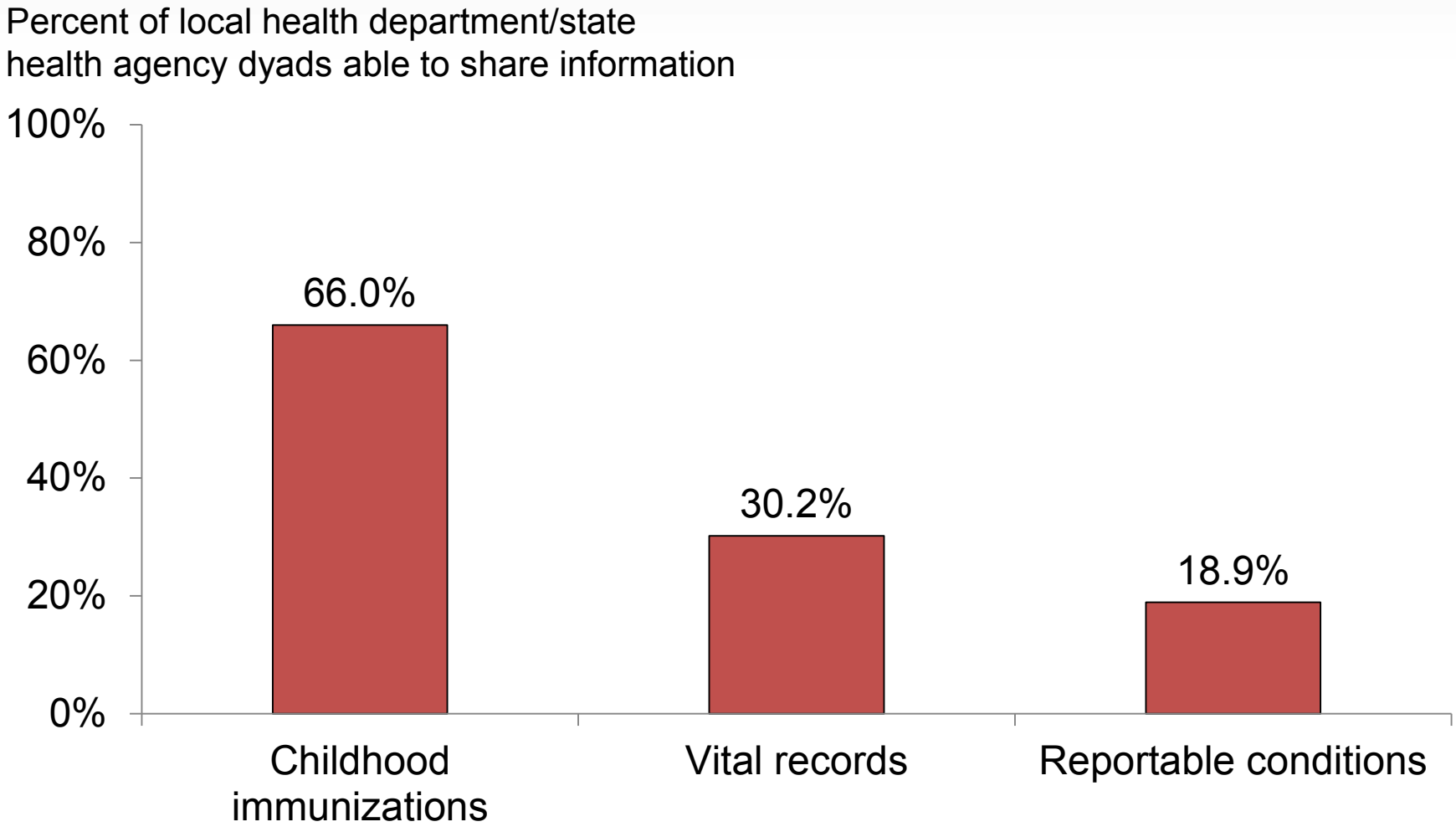
Regional Extension Centers Have Made Substantial Progress Assisting PCPs Adopt EHRs

Between January 2010 and June 2013:

- RECs recruited almost 134,000 primary care providers (44% of the US total)
  - 86 percent of these were using an EHR with advanced functionality
  - 48 percent have demonstrated Meaningful Use
- 83% of FQHCs and 78% of Critical Access Hospitals participate with an extension center

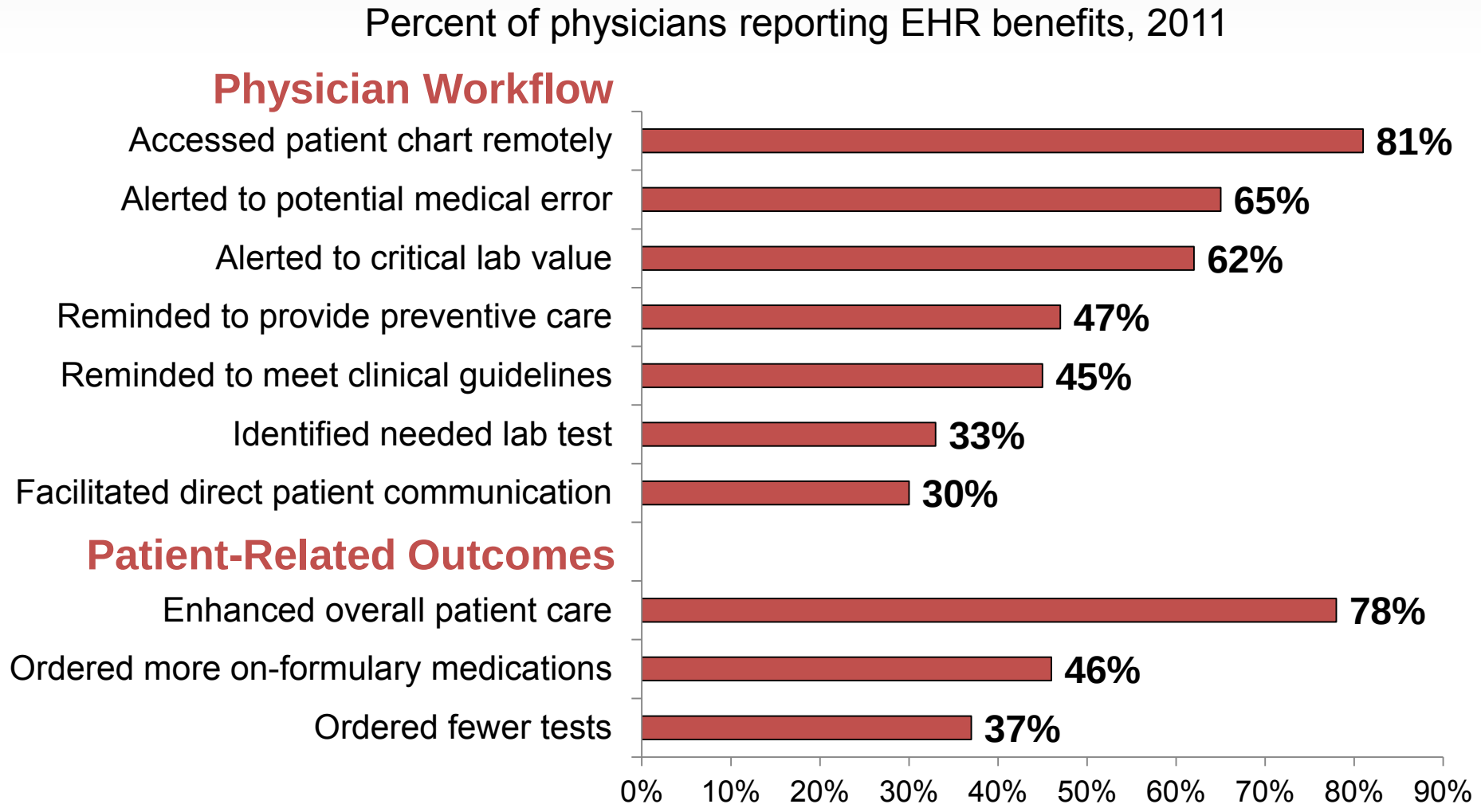
Lynch K, et al. “The Health IT Regional Extension Center Program: Evolution and Lessons for Health Care Transformation.” *Health Services Research*, 2014 Feb;49(1 Pt 2):421-437.

Limited Data Sharing Capability Between Local Health Departments and State Health Agencies



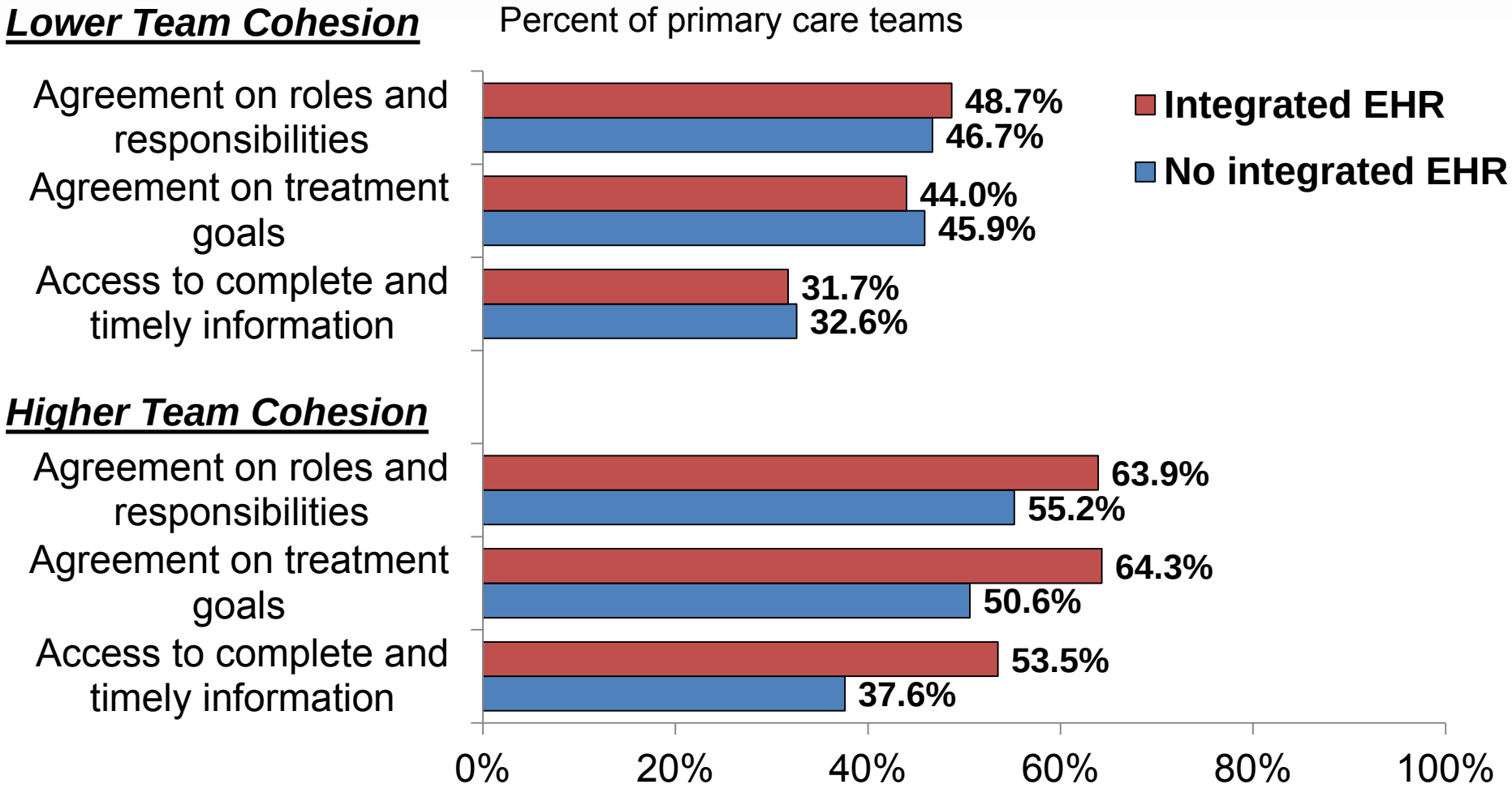
Vest JR, et al. "Factors Related to Public Health Data Sharing between Local and State Health Departments." *Health Services Research*, 2014 Feb;49(1 Pt 2):373-390.

Growing Evidence of Clinical and Workflow Benefits of Electronic Health Records



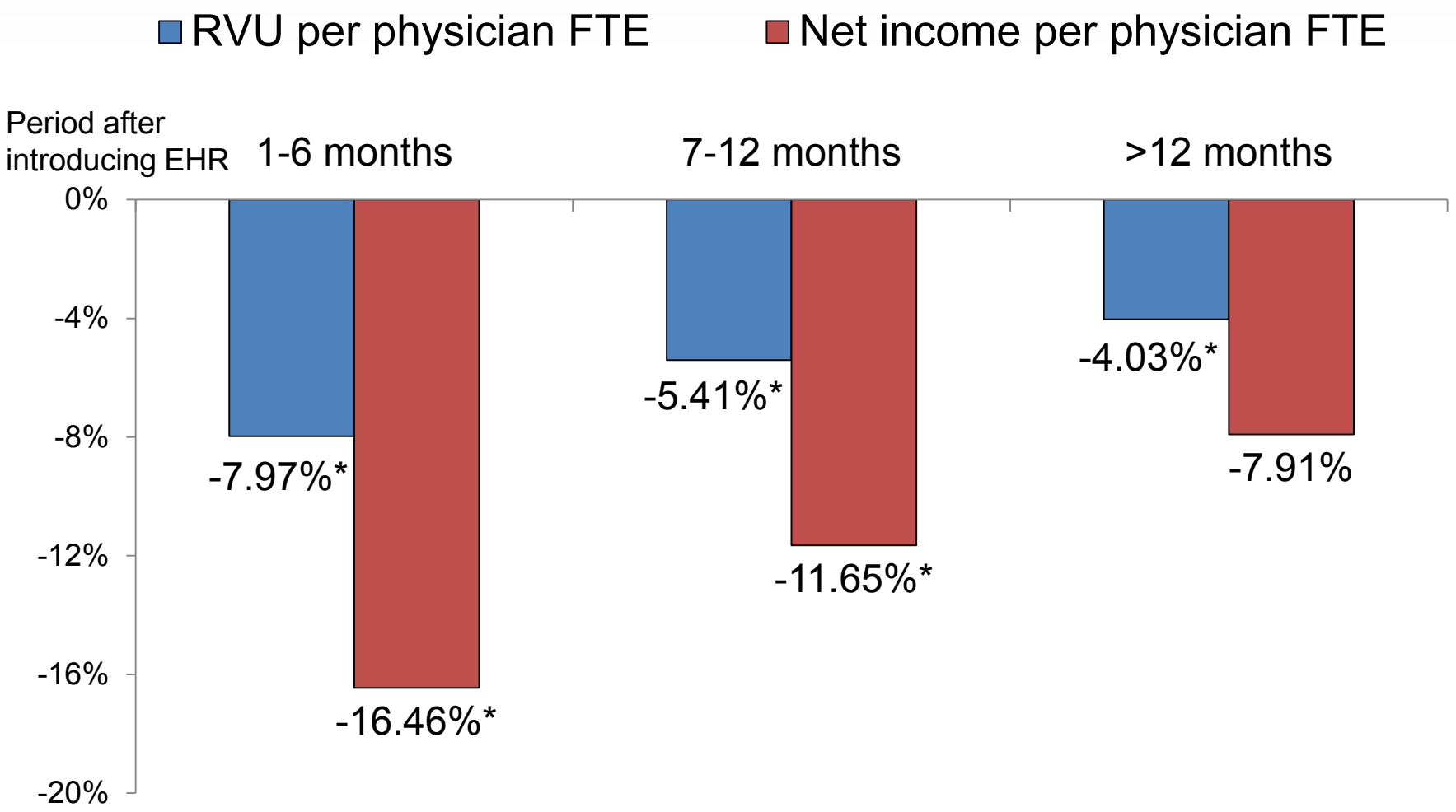
King J, et al. "Clinical Benefits of Electronic Health Record Use: National Findings." *Health Services Research*, 2014 Feb;49(1 Pt 2):392-404.

Integrated EHRs Associated with Better Coordination Among More Cohesive Clinical Teams



Graetz I, et al. "The Association between EHRs and Care Coordination Varies by Team Cohesion." *Health Services Research*, 2014 Feb;49(1 Pt 2):438-452.

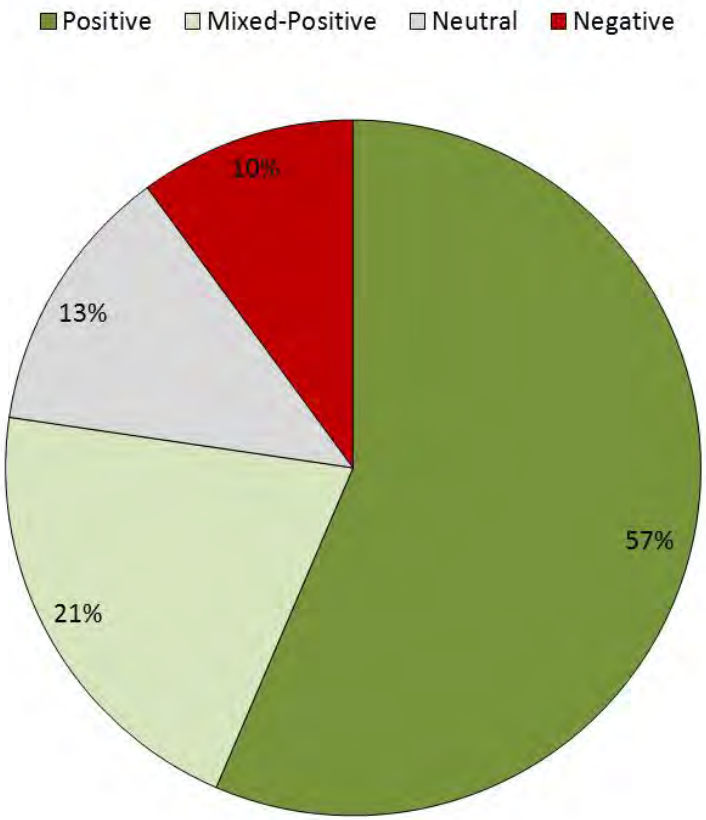
Short-Term Declines in Productivity After EHR Implementation in Primary Care Practices



* p-value < 0.05

Fleming NS, et al. "The Impact of Electronic Health Records on Workflow and Financial Measures in Primary Care Practices." *Health Services Research*, 2014 Feb;49(1 Pt 2):405-420.

Updated Systematic Review of Effects of Meaningful Use Functionalities on Quality, Safety and Efficiency

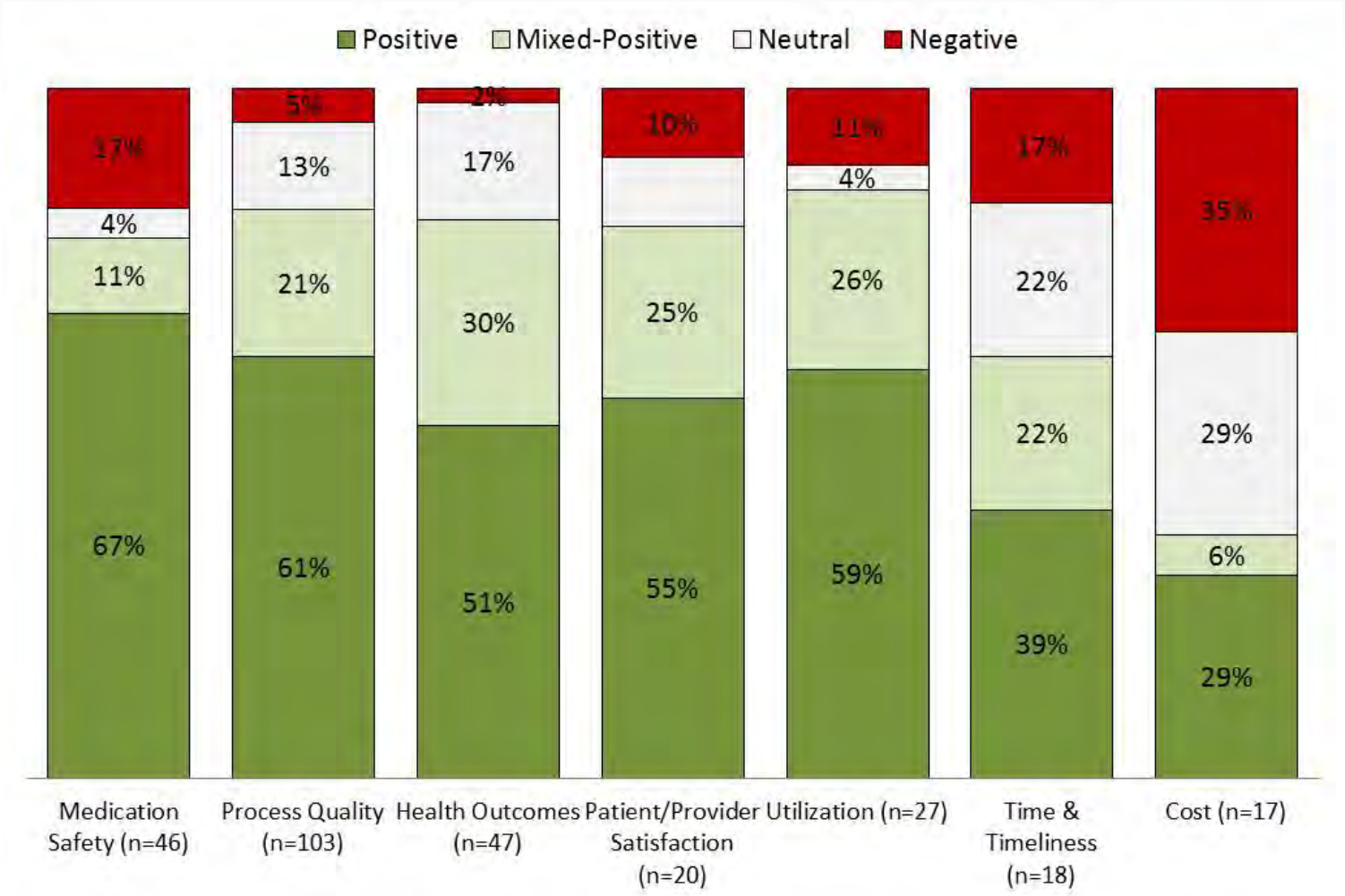


78% of recent studies report positive outcomes from health IT

Health IT evaluation studies, 2010-2013 (n=278). Positive defined as health IT improved key aspects of care but none worse off; Mixed-positive defined as positive effects of health IT outweighed the negative effects; Neutral defined as health IT not associated with change in outcome; Negative defined as negative effects of health IT on outcome.

Jones, et al. “Health Information Technology: An Updated Systematic Review with a Focus on Meaningful Use,” *Annals of Internal Medicine* 2014;160:48-54.

Evidence Varies by Outcome Type, Weakest on Cost/Efficiency



Jones, et al. “Health Information Technology: An Updated Systematic Review with a Focus on Meaningful Use,” *Annals of Internal Medicine* 2014;160:48-54.

Meaningful Use Stage 2: What's New?

New Core Objectives

Health Information Exchange

- Provide summary of care record for 50 percent of transitions of care or referral, 10 percent electronically
- Provide patients the ability to view online, download and transmit their health information
- Use secure electronic messaging to communicate with patients (professionals only)

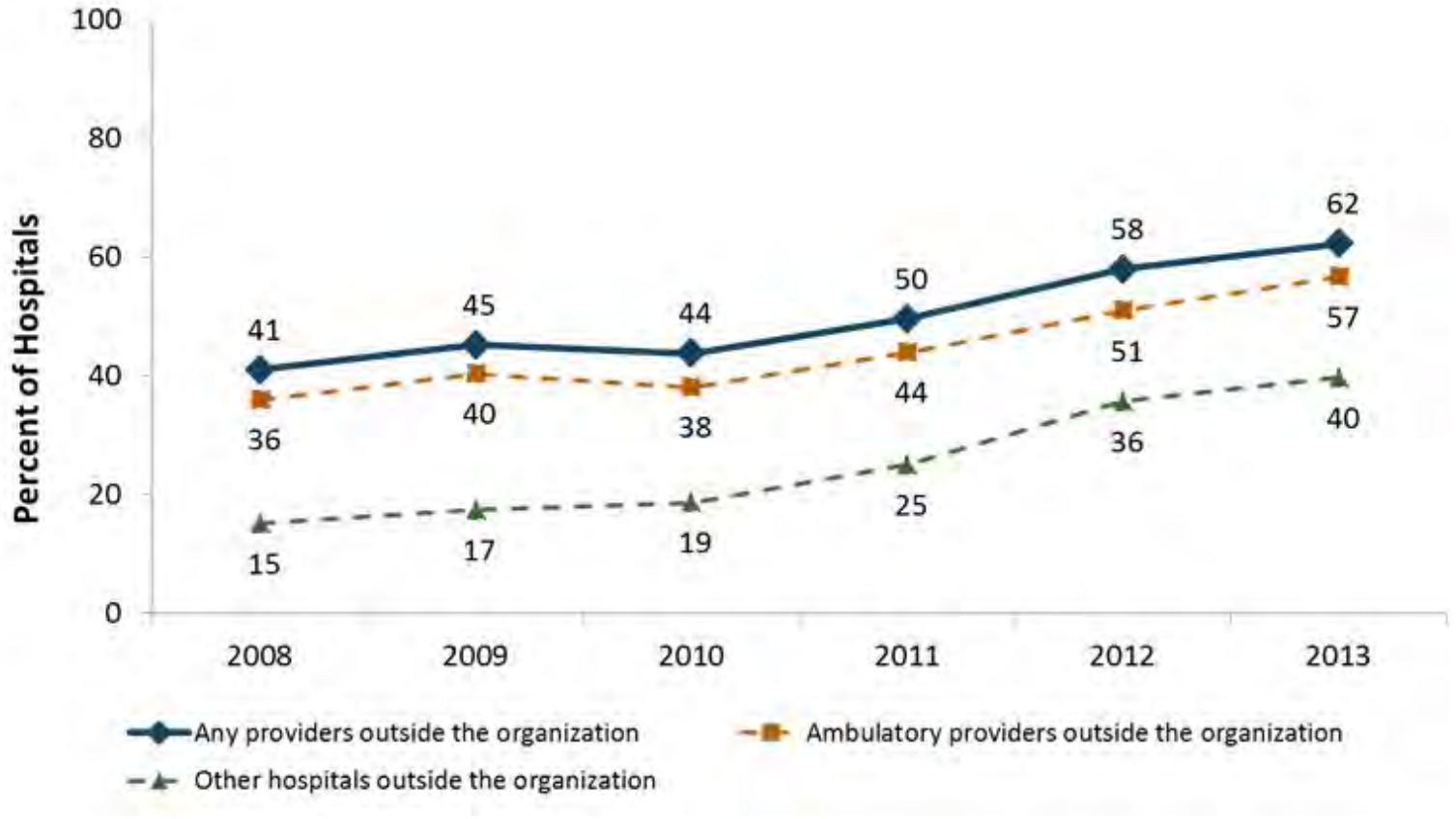
Computerized Decision Support

- Use five clinical decision support to improve performance on high-priority health conditions (only one required in Stage 1)
- Identify patients to be reminded for preventive/follow-up care (menu objective in Stage 1)

New Menu Objectives

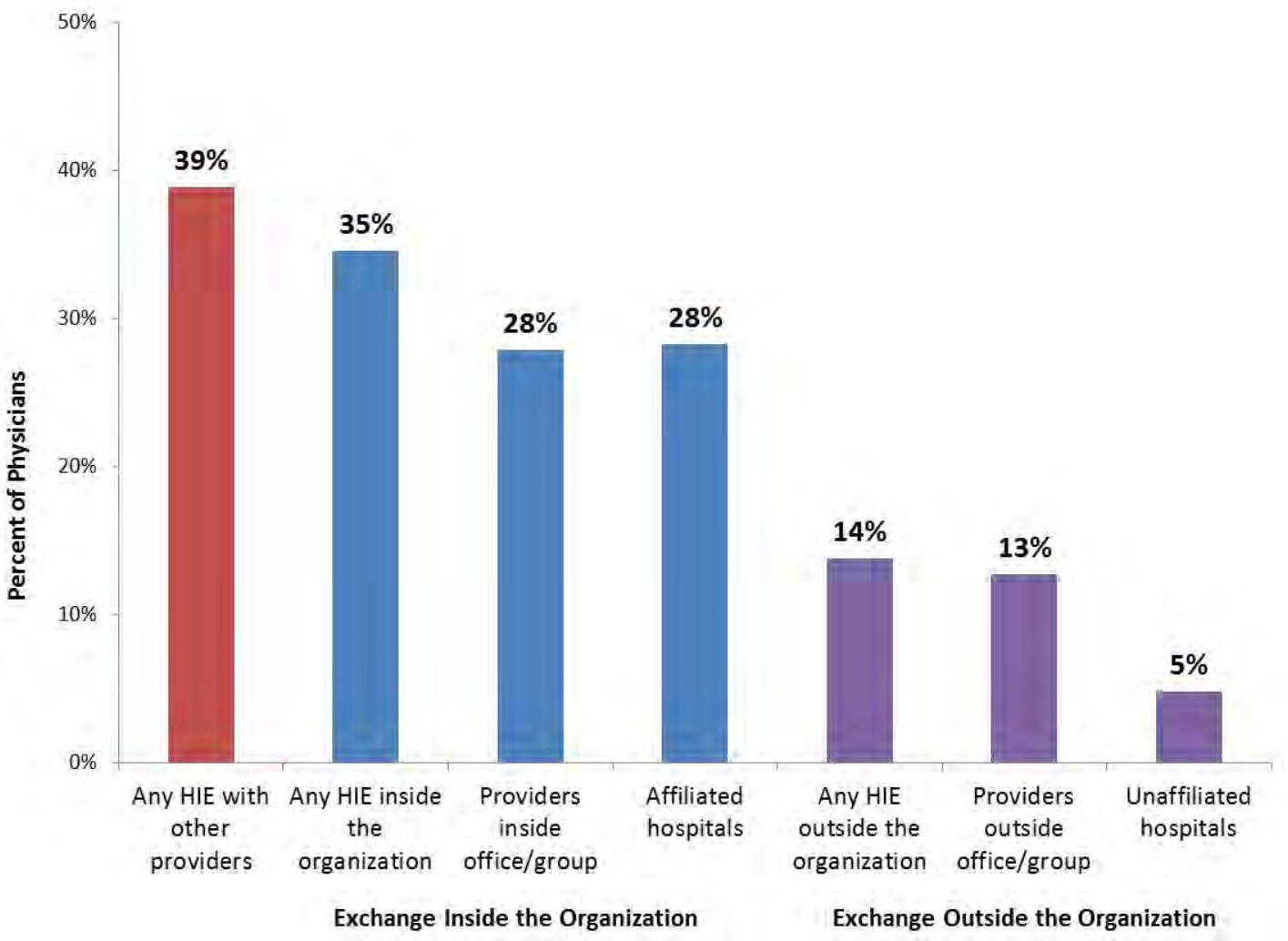
- Identify and report cases to a State cancer **or** specialized registry (professionals only)
- Provide structured electronic lab results to ambulatory providers (hospitals only)
- Generate and transmit discharge prescriptions electronically (new for hospitals)

Health Information Exchange Among Hospitals, 2008-13



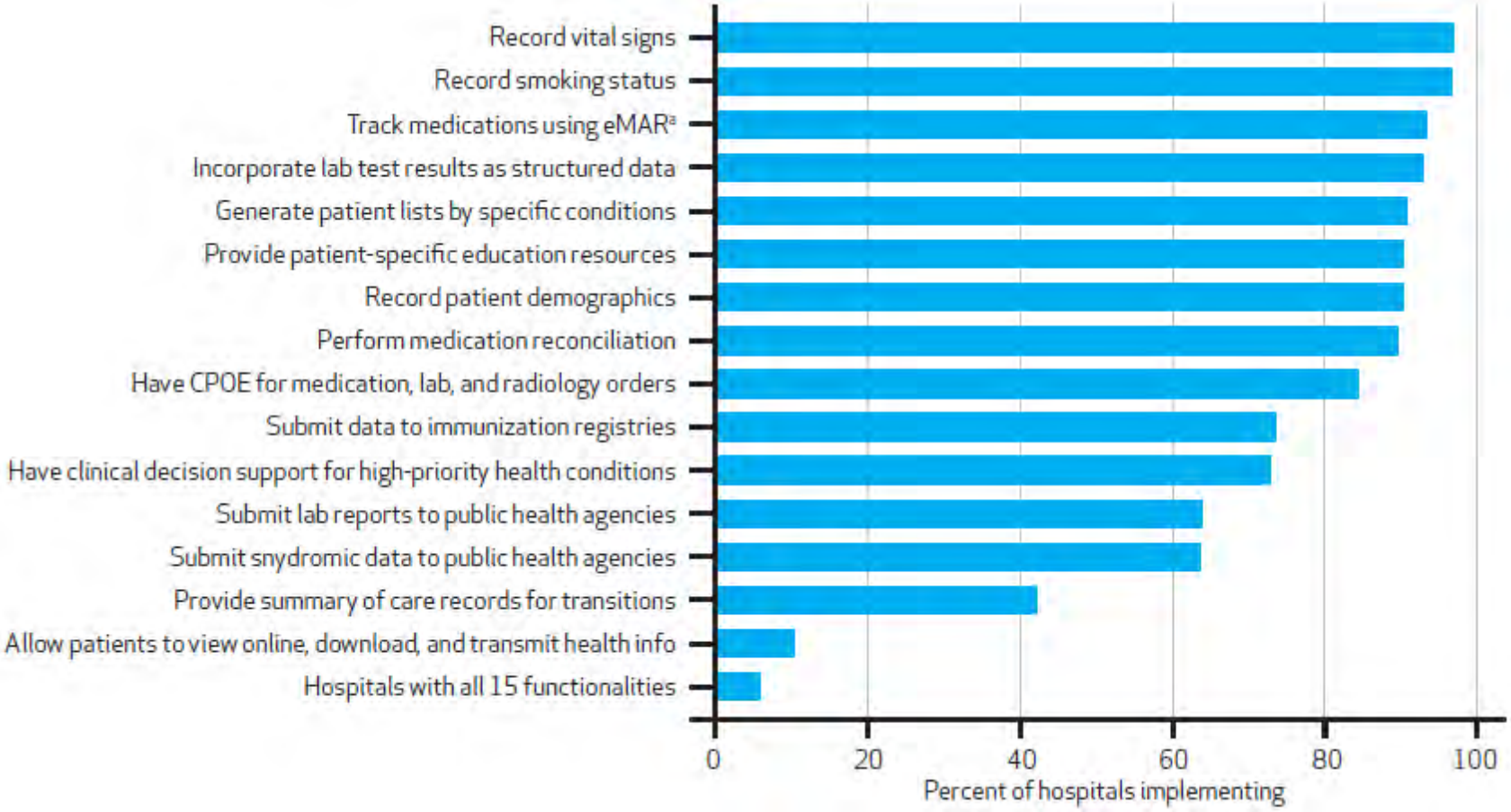
Source: Swain, et al. “Health Information Exchange among U.S. Non-federal Acute Care Hospitals: 2008-2013.” *ONC Data Brief*, May 2014. Available at http://dashboard.healthit.gov

Health Information Exchange Among Office-based Physicians, 2013



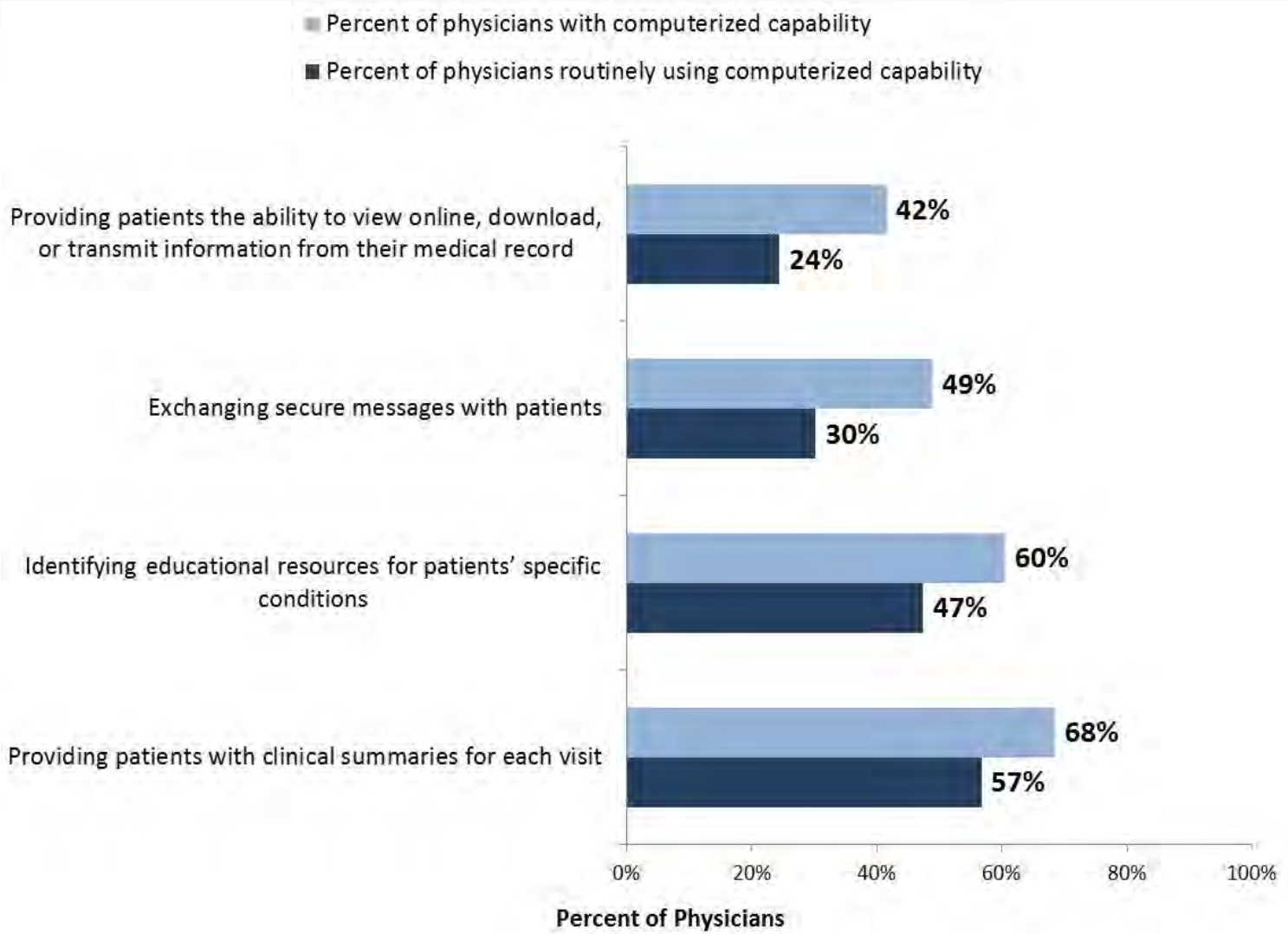
Source: Furukawa, et al. “Despite substantial progress in EHR adoption, health information exchange and patient engagement remain low in office settings.” *Health Affairs*, September 2014.

Hospital Capabilities to Meet Meaningful Use Stage 2 Objectives, 2013



Source: Adler-Milstein, et al., "More Than Half of US Hospitals Have At Least A Basic EHR, But Stage 2 Criteria Remain Challenging For Most," *Health Affairs*, August 2014.

Routine Use of Patient Engagement Tools by Office-based Physicians, 2013



Source: Furukawa, et al. "Despite substantial progress in EHR adoption, health information exchange and patient engagement remain low in office settings." *Health Affairs*, September 2014.

Challenges Ahead

- Health information exchange
  - Interoperability
  - Governance
  - Privacy and Security
- Alignment of MU and payment/delivery models
- Improving the usability of electronic health records
- Addressing and reducing disparities

A Statewide Assessment of Electronic Health Record Adoption and Health Information Exchange Among NY Nursing Homes

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Assistant Professor of Pediatrics and Healthcare Policy and Research

Weill Cornell Medical College

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The EHR Incentive Program

- Unprecedented federal initiatives are promoting adoption of EHRs by physicians and hospitals across the US
- Result has been tremendous increases in adoption in both sectors
- None of the incentives are directed toward the 16,100 nursing homes nationwide

HIT is Critical for Nursing Homes

- Elderly population is 1.5 million and growing
- Patients are medically complex and have high medical costs
- Patients are frequently transferred to hospitals

» Levinson, Dept of HHS, 2010

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Challenges to HIT Adoption Faced by Nursing Homes

- High costs of HIT implementation
- Ongoing maintenance costs
- Challenges associated with implementation and training
- Limited evidence for return on investment

» Cherry, Carter, Owen, Lockhart. *J Healthc Qual*. 2008.

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Early Adopters Report Significant Benefits

- Improved information access
- Improved documentation accuracy
- Increased adherence to evidence-based guidelines
- Improved employee satisfaction and retention
- Cost reductions

» Cherry, Ford, Peterson. Health Care Manage Review. 2011

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Data on Nursing Homes is Lacking

- Nursing homes are believed to lag behind other sectors in HIT adoption
- Reported rates vary widely (18-47%)

» Richard A, et al. US Department HHS, 2009

Goals for this Study

- To assess rates of EHR adoption and HIE participation by NYS nursing homes
- To identify characteristics associated with higher rates of adoption
  - Particularly important to assess emerging gaps
- Collect baseline data for planned future surveys

Importance of Evaluation

- Provide data to help guide state and federal HIT policy in this healthcare sector

New York State's HIT Policy

- Prior to EHR Incentive Program, NYS began investing hundreds of millions of dollars to promote HIT adoption
  - Total investment = $840 million
- HEAL Phase 5: focused on advancing interoperability and community-wide EHR adoption
- No direct investments went to nursing homes for implementation of EHRs

Methodology

- Cross sectional survey given to administrators at all nursing homes across NYS
  - November 2011-March 2012

- Evaluation conducted by HITEC
  - NYS designated HEAL evaluation entity
  - Investigators from 4 universities across NYS

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Survey Instrument

- Novel survey instrument developed in collaboration with leading NH agencies
- Survey Domains:
  - EHR Implementation
  - Level of automation of key functionalities
    - Administrative, Documentation, Order Entry, Results Vieiwing, Clinical Tools
  - Participation in HIE
  - Barriers to Implementation

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Survey Administration

- Surveyed all 632 nursing homes in NYS
- Electronic survey with paper option
- No incentives offered

*Gathered nursing home characteristics through CMS Nursing Home Compare database

Nursing Home Characteristics

- Location
- Size (<100 beds, 100-159 beds, 160-239 beds, 240+ beds)
- Ownership
  - Private for profit, private not-for-profit, public
- Hospital affiliation
- Chain ownership
- Continuing care retirement community status

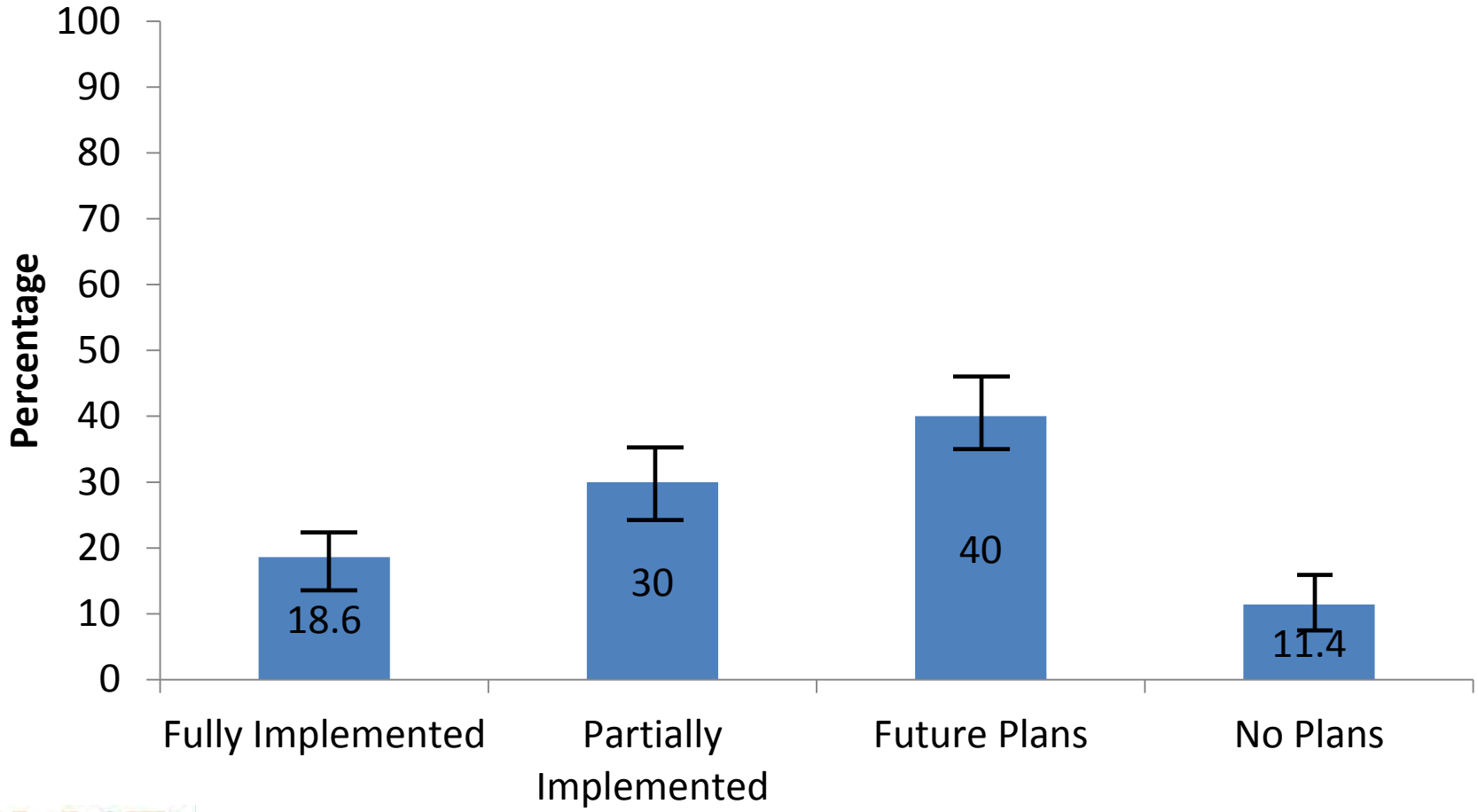
Statistical Analysis

- Evaluated level of EHR adoption and participation in HIE
- Evaluated level of automation of clinical functionalities
- Analyzed relationship between adoption and key nursing home characteristics

Results

- Received responses from 375 of 632 nursing homes surveyed (59.3%)
- Higher proportion of respondents were from:
  - Upstate
  - Not associated with a hospital
  - For profit or private not-for profit

Rates of EHR Adoption



Only bed size associated with adoption

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Available Functionalities

	EHR
	Full/Partial EHR N = 176
	%
Minimum Data Set Assessment/ Care Area Assessments	82.4
Patient demographics	77.3
Financial management	60.2
Allergy list	53.4
Patient care planning	48.9
Medication order entry	47.7
Clinical notes	46.6
Medication administration record	45.5
Treatment administration record	44.9
Other order entry	43.8
Task list (e.g., CNA workflow)	42.1
Problem list	35.8
Assessments other than Minimum Data Set	35.2
Medical history	28.4
Labs	25.0
Summary reports including transfer, discharge, and consults	23.9
Radiology	21.0
Quality improvement and reporting	18.8
Advance directives	17.1
Other diagnostic tests	13.1
Clinical decision support	9.1
Consults	5.7
Telemonitoring/Telehealth	5.7

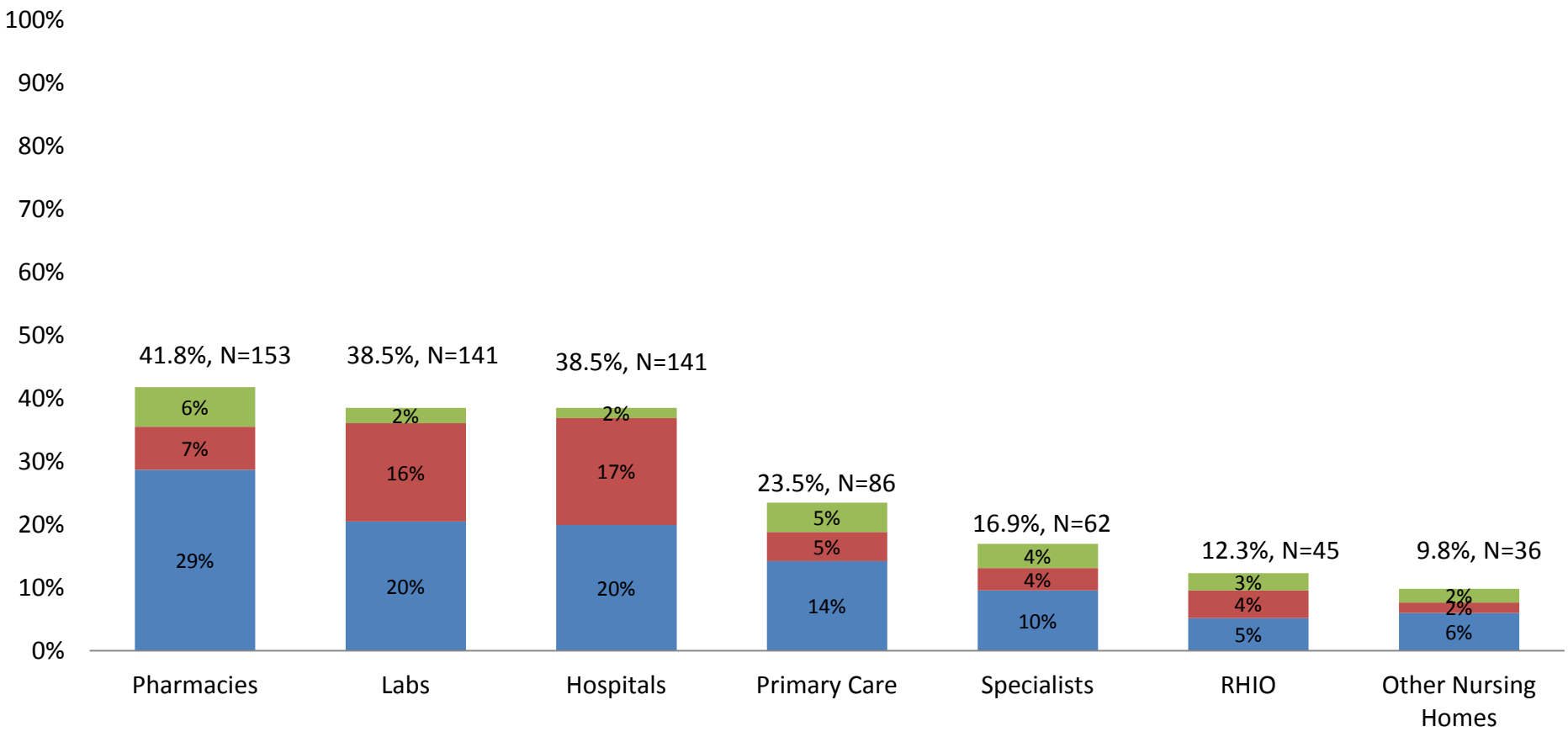
Available Functionalities

	EHR
	No EHR N = 190
	%
Minimum Data Set Assessment/ Care Area Assessments	45.2
Patient demographics	28.5
Financial management	37.6
Allergy list	7.5
Patient care planning	9.1
Medication order entry	17.2
Clinical notes	4.3
Medication administration record	8.1
Treatment administration record	5.4
Other order entry	9.7
Task list (e.g., CNA workflow)	5.9
Problem list	3.2
Assessments other than Minimum Data Set	8.1
Medical history	4.3
Labs	10.8
Summary reports including transfer, discharge, and consults	2.2
Radiology	8.6
Quality improvement and reporting	3.8
Advance directives	2.2
Other diagnostic tests	4.8
Clinical decision support	0.5
Consults	1.1
Telemonitoring/Telehealth	2.7

Rates of Participation in HIE

- 54.4% (n = 192) participated in HIE
- Facilities with an EHR were 2.5X more likely to participate in HIE
- Among facilities with an EHR:
  - 59.7% (n = 105) participated in HIE with providers within their system
  - 31.3% (n = 55) participated in HIE with providers outside their system

Exchange Partners for HIE



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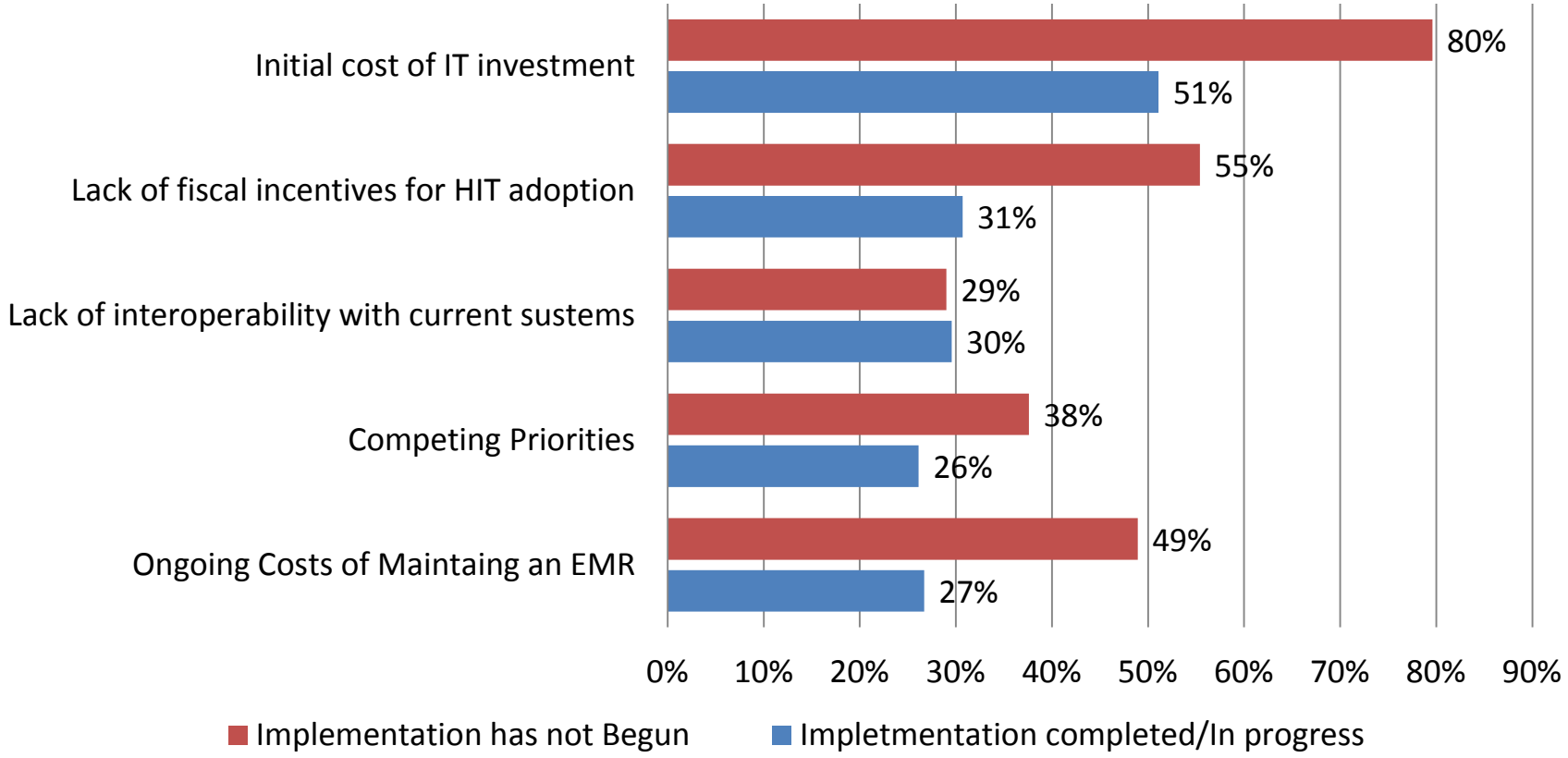
Barriers to Adoption



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Limitations

- Survey conducted only in NYS, limiting generalizability
- Assessed availability of computerized functions, rather than usage
- Need repeated studies over time to better compare how nursing homes are progressing relative to hospitals and physicians

Conclusions

- As of 2012, 18% of NYS nursing homes had fully adopted an EHR and another 30% had partially implemented an EHR
- Over 50% of nursing homes were engaging in HIE
- Results suggest that nursing homes may not lag as far behind as hospitals and physicians as previously thought

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Conclusions

Nursing homes may be adopting for several reasons:

- Reported benefits
- NYS Initiatives such as the NYS Nursing Home HIT Demonstration Project
- Ability to participate in community HIE

Conclusions

- However, available functionalities largely administrative, rather than clinical
  - Lesser impact on safety and quality of care
- Given that top barriers to EHR adoption reported are financial, gap between nursing homes and the hospital and physician sectors may widen over time

Acknowledgements

- Funding:
  - New York State Department of Health
- (PI): Rainu Kaushal, MD MPH
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  - Sandra McGinnis, PhD
  - Jean Moore, MSN
- Leadership of Continuing Care Leadership Coalition, Leading Age New York, and New York State Health Facilities Association

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