HEALTH IT: HYPE AND REALITY AT THE HEART OF THE POLICY DEBATE

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ICT and Public Policy Seminar, HKS, September 29, 2011

Agenda for this talk

- Why is HIT central to the policy debate?
- What ICTs critical to transforming healthcare?
  - And where is the nation on adoption, use?
- Where are the big challenges?
- Where are the likely benefits?
- Next steps

“U.S. Healthcare is Broken”

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Cottage Industry to Postindustrial Care — The Revolution in Health Care Delivery

Stephen J. Swensen, M.D., M.M.M., Gregg S. Meyer, M.D., Eugene C. Nelson, D.Sc., M.P.H., Gordon C. Hunt, Jr., M.D., M.B.A., David B. Pryor, M.D., Jed I. Weissberg, M.D., Gary S. Kaplan, M.D., Jennifer Daley, M.D., Gary R. Yates, M.D., Mark R. Chassin, M.D., M.P.P., M.P.H., Brent C. James, M.D., M.Stat., and Donald M. Berwick, M.D., M.P.P.

U.S. health care is broken. Although other industries have transformed themselves using tools such as standardization of value-generating processes, performance measurement, and trans-

in neighboring “out-of-network” facilities; they cannot treat and track patients over space and time. Today’s system usually pays for volume rather than value, and we get what we pay for: more

Why Broken?

- 2.5 trillion in 2009 and rising
  - $8,050 per person
- Social impact of high, rising costs staggering
  - Crowding out of other social spending
  - The fundamental issue in the federal budget debate

"Rising health care costs represent the central fiscal challenge facing the country"

Peter Orszag

Why Broken?

- Disappointing quality of care
  - Effectiveness far below where it should be
  - Care that is unsafe
- Care delivered in silos
- 21st century care using19th century processes
  - Victims of our own success

Why Health Information Technology?

- Paper-based records part of the problem
- Inability to access key data at point of care
  - Leads to large number of errors
  - Practice of “defensive”, expensive medicine
- Inability to learn
  - No data on outcomes for our patients
  - No feedback loop

What's the Evidence?

- Information Technology holds promise
  - 400+ studies showing better quality
  - Most focused on "EHRs" or some component thereof

- Bipartisan support for broad-based HIT use

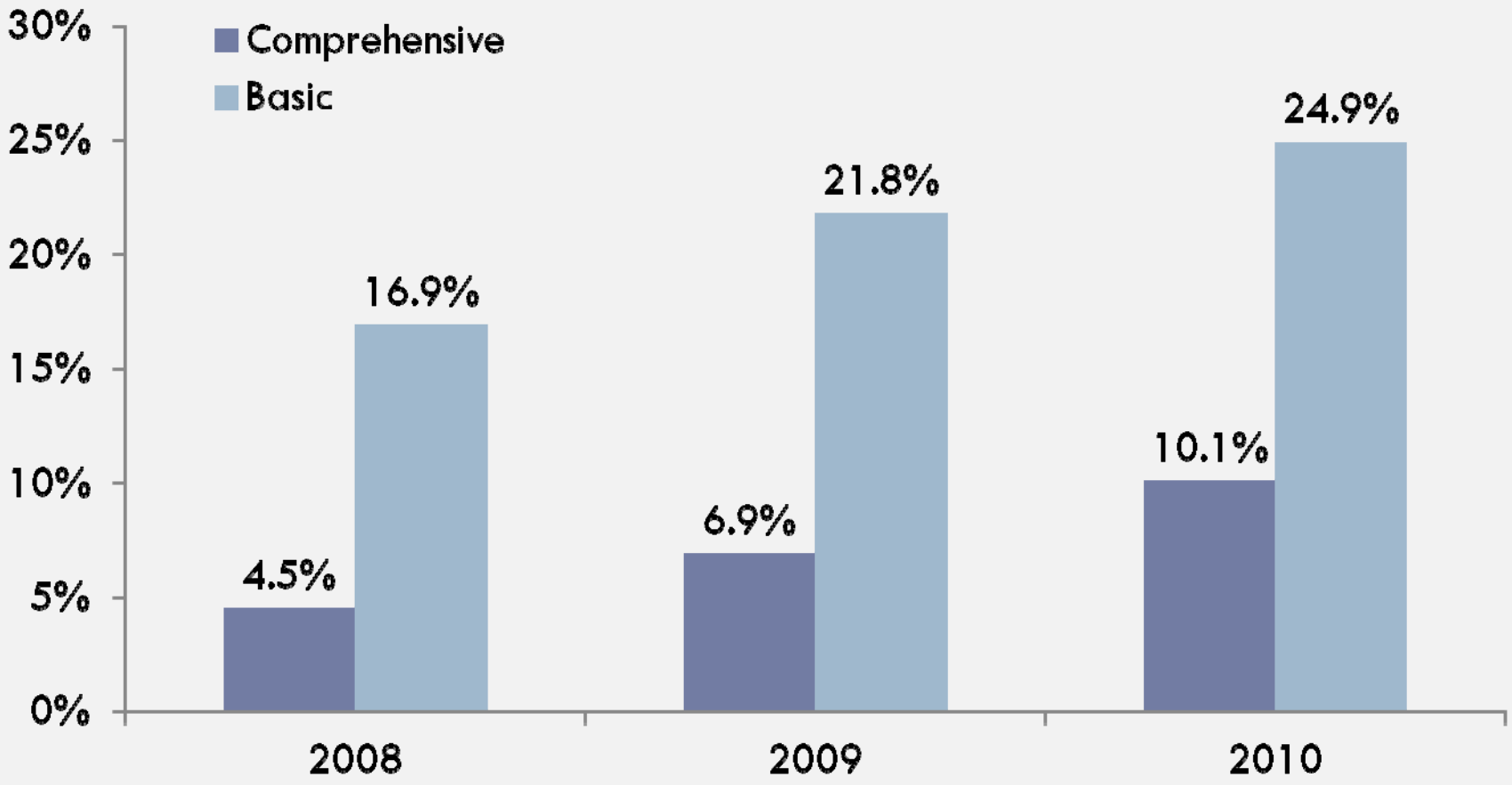
Where Are We on EHR Adoption?

- Until 2008, inadequate data on where U.S. stood
  - No good data on adoption
- Policy response heavily dependent on good data

Approach To Surveys

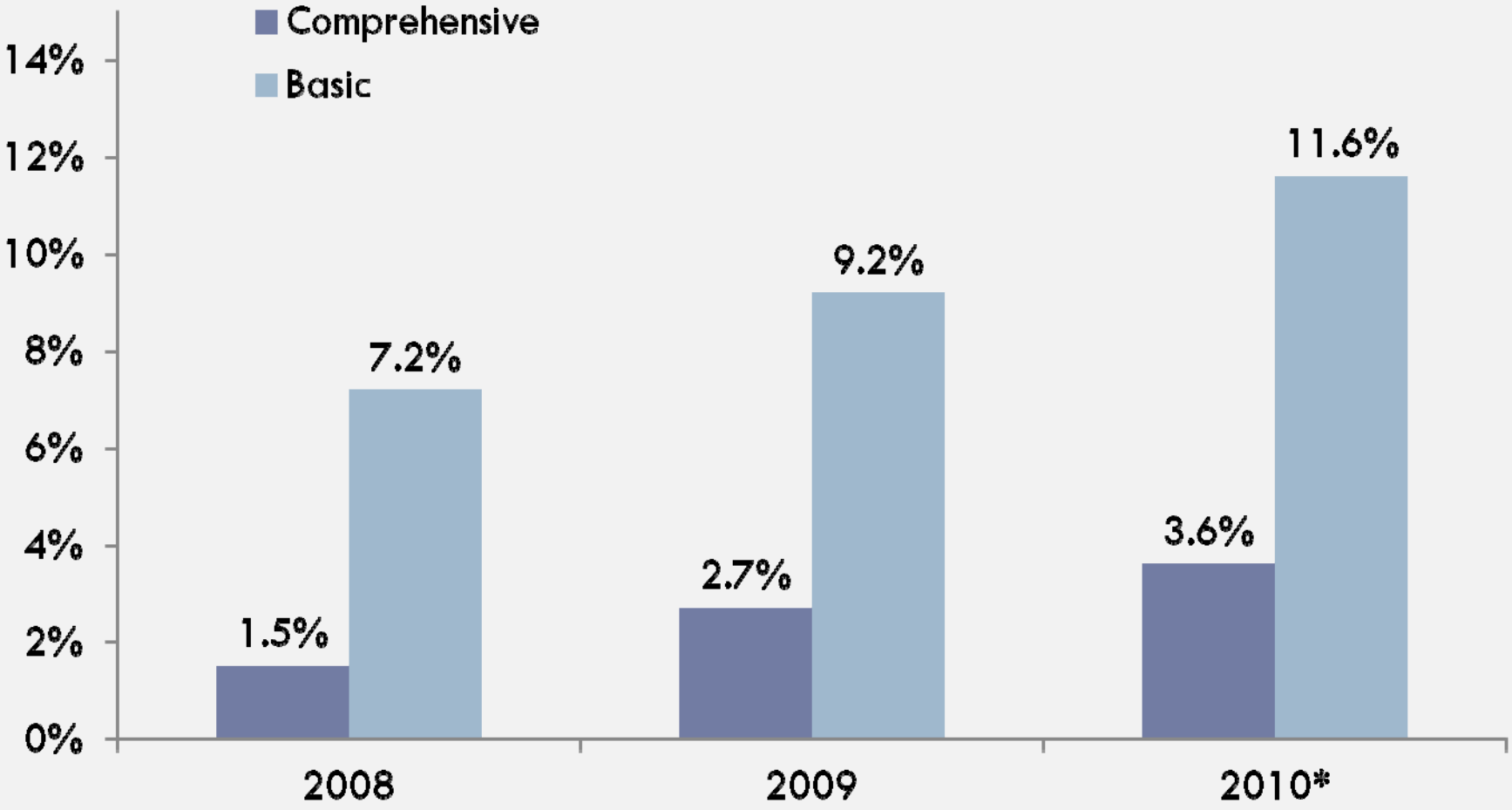
- Prior work:
  - No consensus on what is an EHR
  - Poor quality surveys
- Our approach
  - National samples
  - Focused on functionalities
- Clear definitions of EHR from experts

Ambulatory EHRs



Source: Hsiao et al, National Ambulatory Medical Care Survey

Hospital EHRs



Source: Jha et al, Health Affairs, 2010
*Data not yet published

Adoption of Functions, 2010

	All Units	At Least 1 Unit	Not yet installed
Clinical Documentation	**Percent of hospitals**		
Medication Lists	51	20	29
Physician Notes	16	22	62
Problem Lists	30	19	51

*Data not yet published

Adoption of Specific Functions, 2010

	All Units	At Least 1 Unit	Not Yet Installed
Results Viewing	**Percent of hospitals**		
Lab Reports	81	7	12
Radiology Images	79	10	11
Radiology Reports	80	8	12

*Data not yet published

Adoption of Specific Functions, 2010

	All Units	At Least 1 Unit	Not yet installed
Computerized Provider Order Entry	**Percent of hospitals**		
Medications	18	17	64

*Data not yet published

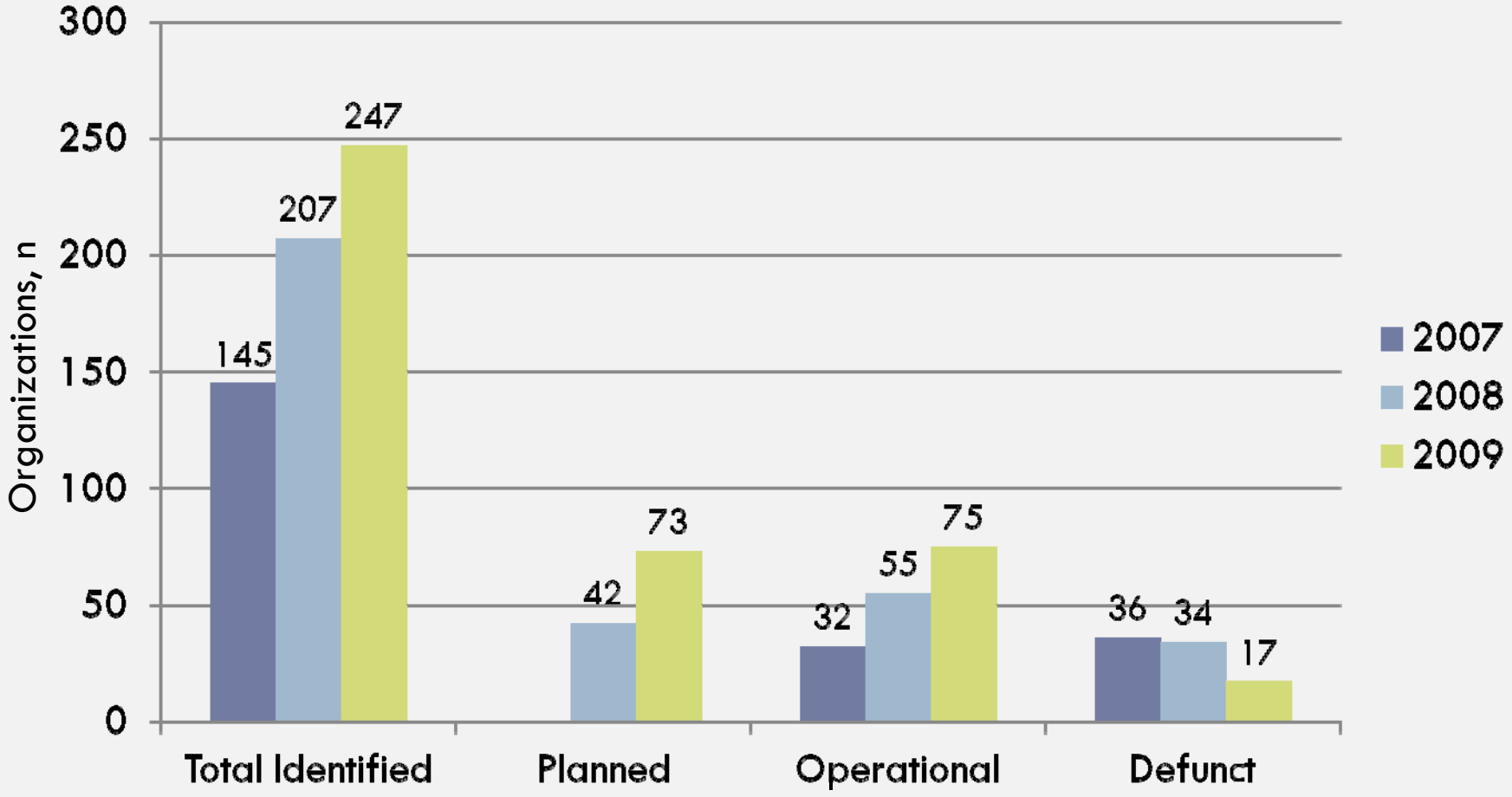
What about sharing of clinical data?

- Key to improvements in health, costs
  - $100 billion in savings?
- Multiple approaches
  - Health Information Exchanges
  - Personal Health Records
  - NHIN Direct
  - Others
- Primary approach through promoting HIEs

Regional HIOs, 2010

- The primary approach to promoting HIE
  - HIE central to improving the healthcare system
- Business / sustainability models unclear
- Third annual survey completed early 2010
- Has important implications for thinking about how the nation will promote HIE

Number of Regional HIOs Over Time



Source: Adler-Milstein, Annals of Internal Medicine, 2011

Characteristics of Operational Regional HIOs

Total organizations, n	*75*
Mean time pursuing HIE (SD), mo	66 (44)
Governance	**n (%)**
Operates as an independent organization	48 (64)
Operates from within another organization	24 (32)
Other	3 (4)

Source: Adler-Milstein, Annals of Internal Medicine, 2011

Features of a Basic &Comprehensive HIE

- How robust are these efforts?
  - 14 (19%) meet the definition of a "basic" HIE
    - They exchange a minimum set of data with at least a few different types of providers for a broad population
  - 0 (0%) meet the definition of a "comprehensive" HIE
    - Exchange a variety of types of clinical data for a large population (>50,000) across a broad set of providers

Challenges to Data Exchange

- Why has clinical data exchange been so hard?
  - Technical issues
  - Financial issues
  - Privacy/security issues
- What really matters?
  - Culture, competition!

Which hospitals participate in an HIO?

		Participates in HIO		P-Value
		Odds Ratio	95% CI	
Ownership	Private, non-profit	Reference		
	For-profit	0.35	[0.19, 0.66]	0.012
	Public	0.86	[0.62, 1.18]	

Which hospitals participate in an HIO?

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		OR	95% Confidence Interval	
Ownership	Private, non-profit	Reference		
	For-profit	0.35	[0.19, 0.66]	0.012
	Public	0.86	[0.62, 1.18]	
Market Share	Quartile 1 – Lowest share	Reference		
	Quartile 2	1.44	[0.93, 2.25]	<0.001
	Quartile 3	2.00	[1.31, 3.06]	
	Quartile 4 – Highest share	3.64	[2.21, 5.98]	

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	Quartile 4 – Highest bed share	3.64	[2.21, 5.98]	
Market concentration	Most competitive	0.35	[0.18, 0.67]	0.015
	2nd most competitive	0.71	[0.43, 1.20]	
	3rd most competitive	0.87	[0.59, 1.28]	
	Most concentrated	Reference		

What about Personal Health Records?

PHRs: Tremendous Advantages

- Make patients the locus of control
- Big benefits for exchange
  - Patients decide whom to give access
  - Avoids tricky issues like data ownership, authentication
- Activates patients
  - Makes them engaged in their care
  - Brings transparency to the healthcare system

PHRs: Promise versus reality

- Patients not yet beating down the doors
- Estimates suggest 7-15% of Americans using PHR
  - Using may even be generously defined
- Google Health's recent decision to fold
  - Autopsies abound

Policy Response

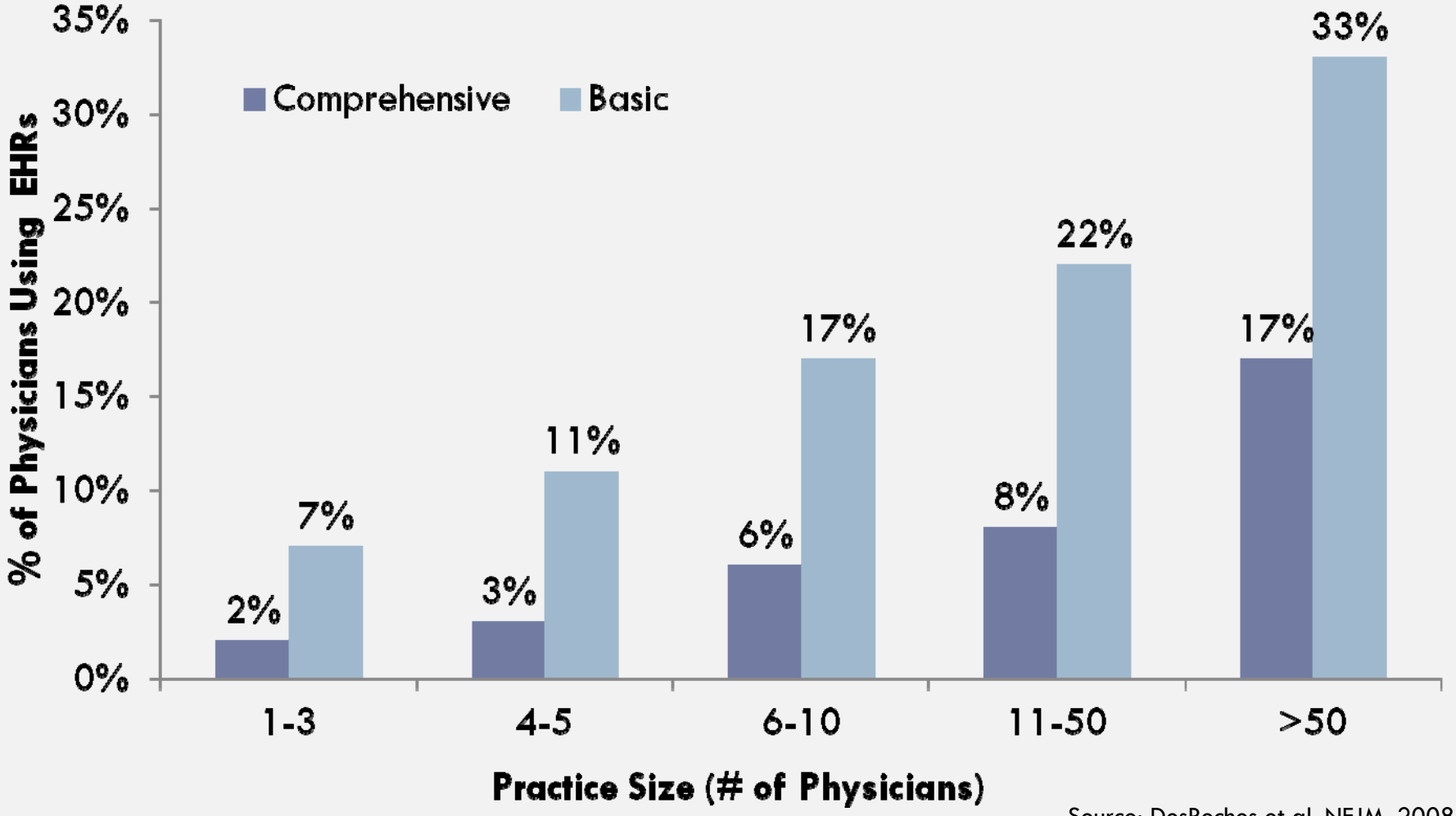
- HITECH Act
  - Part of the Stimulus Bill
- $30 Billion in incentives for HIT
  - Doctors and hospitals must meet "Meaningful Use"
- Incentives front-loaded through 2012
  - Penalties kick in after 2015
- Broad efforts to offer greater privacy protection

Stages of Meaningful Use

- Congress mandated 3 criteria
  - CPOE with clinical decision support
  - Health Information Exchange
  - Automated quality reporting
- Stage 1 (2011-2012) sets up easier goals
  - Getting data into systems in electronic form
  - CPOE, basic decision support
  - "Ability" to exchange clinical data
  - Giving patients access
- Stages 2 and 3 will raise the bar

Where are the Biggest Challenges?

Physician Use of EHRs by Practice Size, 2008

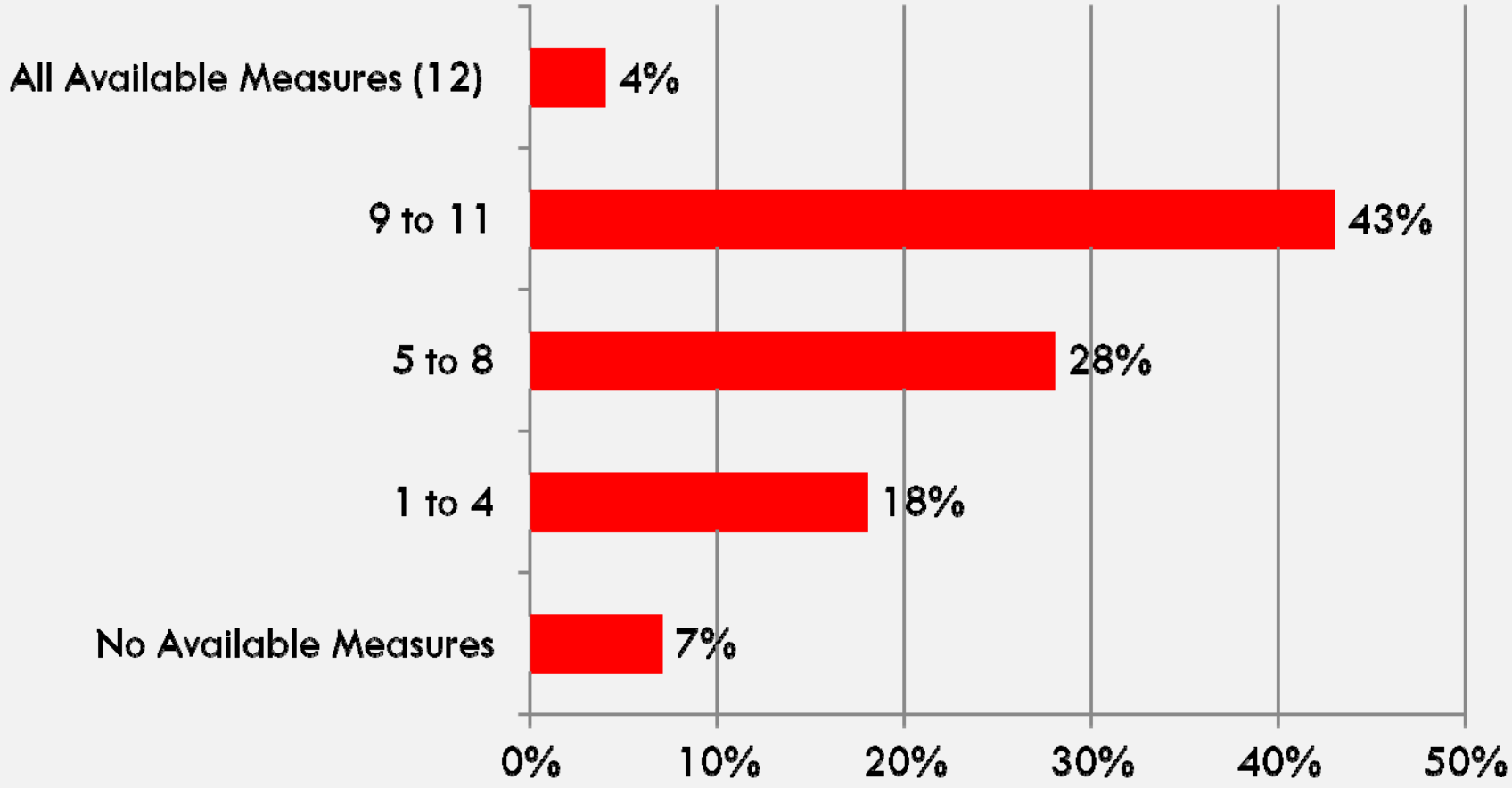


Source: DesRoches et al, NEJM, 2008

What About Hospitals?

- How many hospitals can meet MU?
  - Mapped 12 of the 14 core functions
  - Examined how many hospitals can meet all 12
  - Did not include need to engage in HIE

Number of Core Functionalities in Place Among Acute Care Non-federal Hospitals*



*Preliminary Results: Please do not quote or distribute

Timeline for Implementation

- We know little about how best to implement
- EHRs can cause harm as well as good
  - Pediatrics ICU at Pittsburgh
  - Other anecdotal stories

What are the Likely Benefits?

Likely Benefits

- Short-term
  - Reductions in medication errors
  - Greater adherence to guidelines
  - Patients with greater access to own record
- Medium-term
  - Infrastructure for payment/delivery reform
- Long-term
  - Learning healthcare system

Final Thoughts

- Healthcare system at a crossroads
- Health ICTs will play a critical role
  - Fundamentally important to fixing a "broken" system
- Adoption of EHRs still early
  - Market-based efforts moving slowly
  - HITECH meant to be a jolt
- Whether HITECH will be a success is unclear
- Early on the journey towards 21st century healthcare

How does the U.S. compare?

	Ambulatory Care		Hospital Care	
	EHR	CPOE	EHR	CPOE
USA	35%	40%	15%	35%
Canada	12%	11%	<5%	10%
England	95%	85-95%	8%	2-5%
Netherlands	98%	85-90%	10-20%	10-20%
Australia	79%	65-98%	<5%	<5%
New Zealand	92%	78-97%	<5%	<5%