

# KENTUCKY eHEALTH SUMMIT

September 16, 2009



# THIS IS GOING TO BE VERY, VERY, VERY MESSY

## **The New York Times**

Published: December 14, 1901

Copyright © The New York Times

### **THE TELEPHONE BUSINESS.**

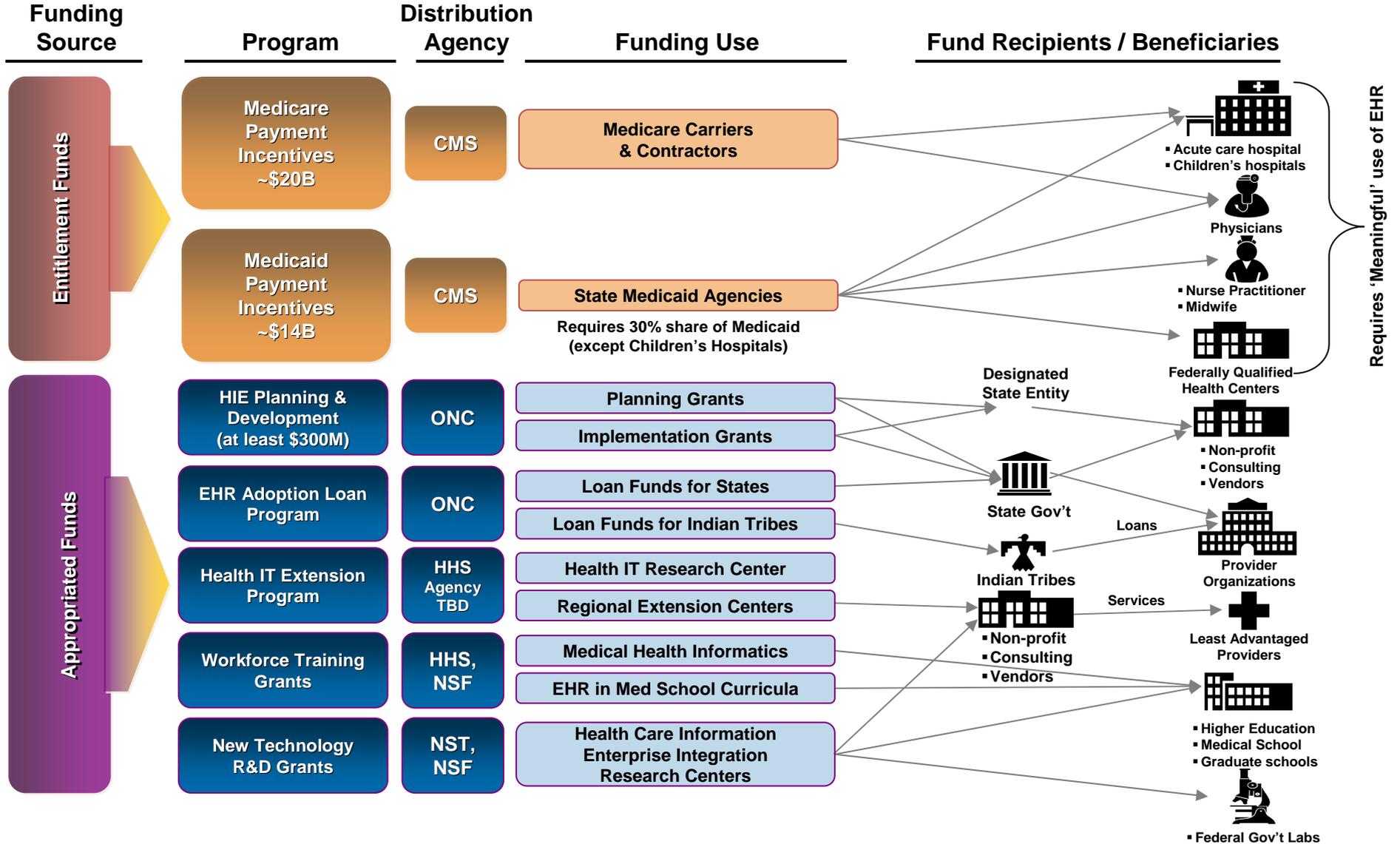
#### **Statistics Showing Growth and Development of the Telephone Industry in the United States.**

In its current issue The Electrical Review contains a study of the telephone situation, in which it is shown that the amount invested in the telephone industry in the United States is nearly half a billion of dollars. This estimate includes both the lines and instruments of the American Telephone and Telegraph Company, generally called the Bell Company, and of the opposition or independent companies.

A table is published showing that all the states of the Union, with the exception of Nevada, Rhode Island, and Utah, are provided with opposition telephone exchanges, the total number of exchanges of this character being 2,811, and the number of telephones connected to them being 708,717. The largest extension of the independent telephone business is in the State of Ohio, which has 226 exchanges and 155,664 independent telephones. In order, Indiana and Pennsylvania come next, having respectively 192 and 198 exchanges and 88,669 and 64,004 telephone connections. The total capital invested in the independent telephone business, including toll lines and manufacturing establishments, is estimated at from \$125,000,000 to \$150,000,000.

- In 1901, there were 2,000,000 phone users in the US
- Cumulative public and private investment was \$500M, or \$13B in 2009 dollars (about \$6500 per user)
- Networks were operated by:
  - AT&T: ~1.3m
  - Independent networks: ~700k
- Number of independent networks: 2,811

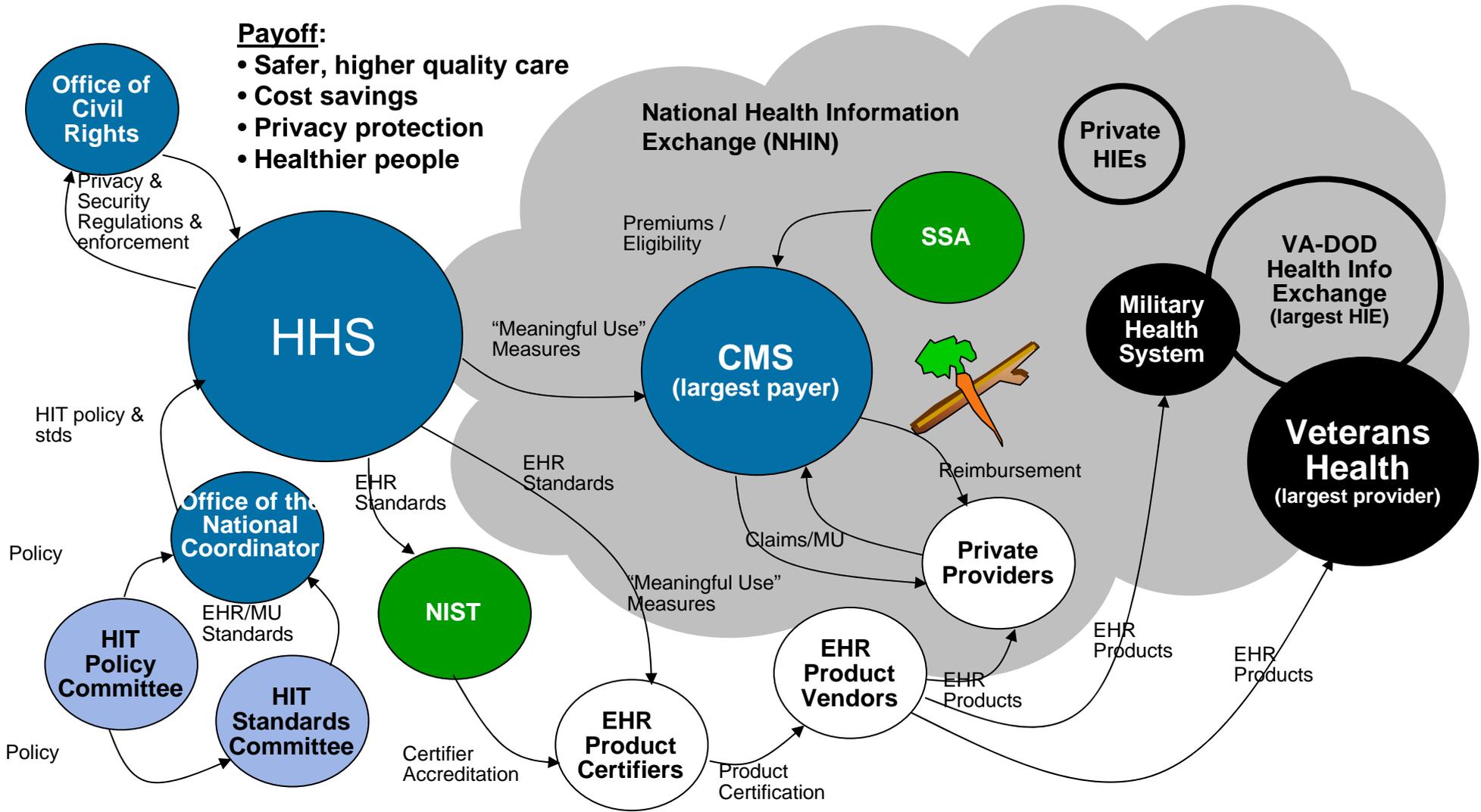
# RECOVERY ACT FUNDING FLOWS



# THE ARRA BUSINESS MODEL

**Payoff:**

- Safer, higher quality care
- Cost savings
- Privacy protection
- Healthier people



# WHY DO SO MANY PHYSICIANS OFFICES LOOK LIKE THIS?

“Hey Sally!  
Where is Mrs.  
Jones x-ray?”

Prescription refill  
request on fax  
machine (Right  
behind the joke of the  
day)

Printer with  
results from one  
lab

Unopened  
mail

Unsorted  
results

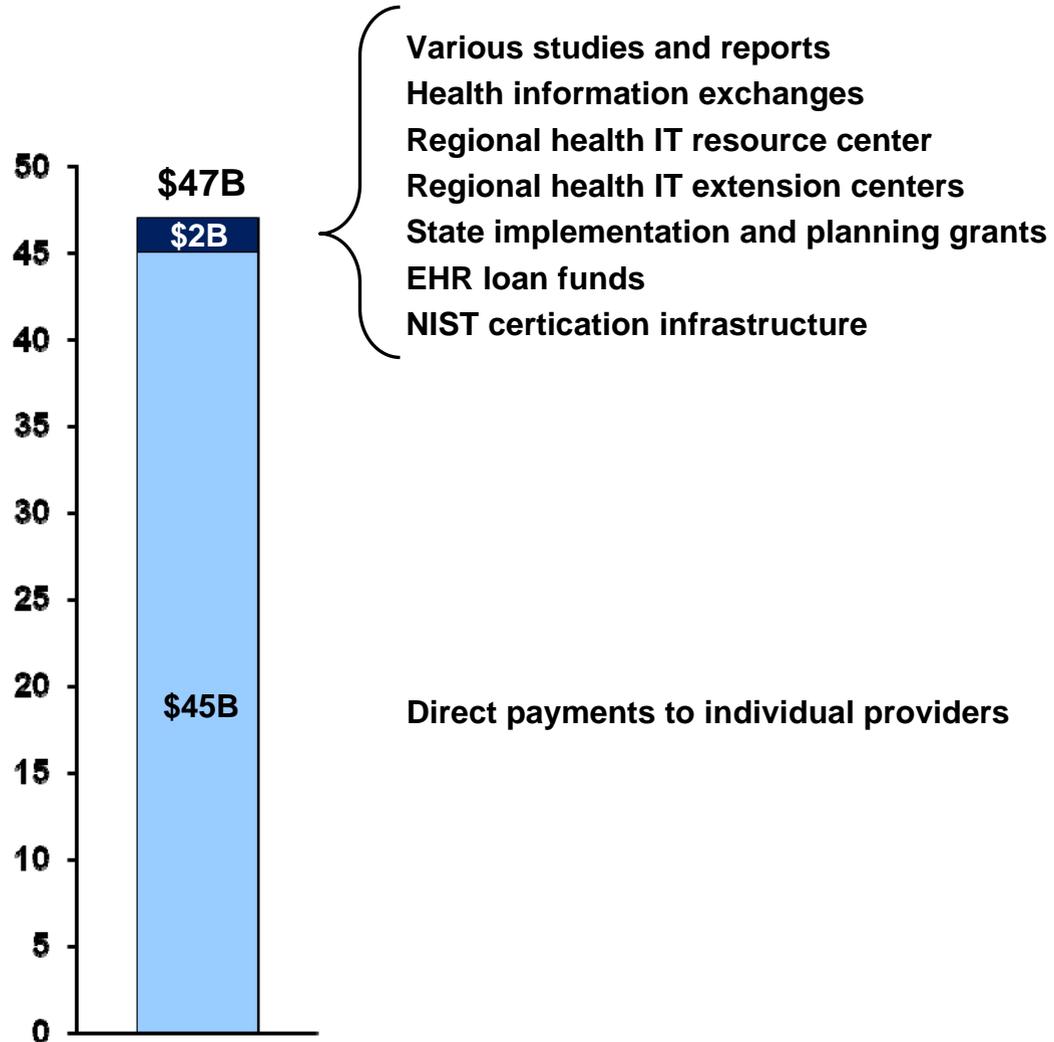
Courier just  
dropped off  
more  
envelopes

About to ring  
with stat  
results

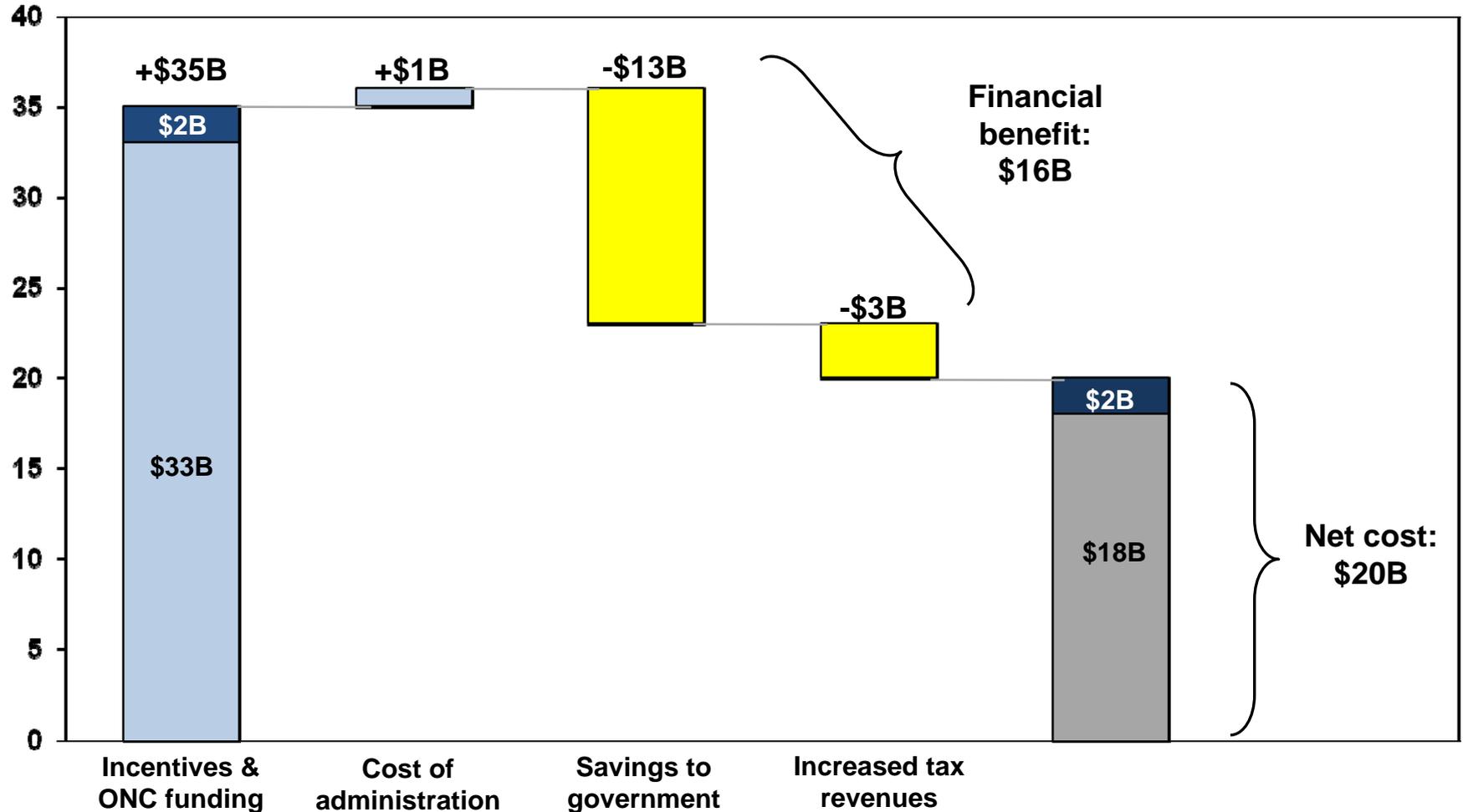
Web portal  
(from one  
hospital)



# HEALTH IT SPENDING IN ARRA



# US GOV'T EXPECTING TO GET 50% PAYBACK ON ARRA HEALTH IT INVESTMENTS



**ANNING**

**USE**

# MEANINGFUL USE INTEROPERABILITY REQUIREMENTS COULD PUSH THE ENTIRE INDUSTRY TOWARD HIE

## Meaningful Use objectives requiring health exchange

2011

- Lab results delivery
- Prescribing
- Claims and eligibility checking
- Quality & immunization reporting, if available



Increases volume of transactions that are most commonly happening today

- Lab to provider
- Provider to pharmacy

2013

- Registry reporting and reporting to public health
- Electronic ordering
- Health summaries for continuity of care
- Receive public health alerts
- Home monitoring
- Populate PHRs



Substantially steps up exchange

- Provider to lab
- Pharmacy to provider
- Office to hospital & vice versa
- Office to office
- Hospital/office to public health & vice versa
- Hospital to patient
- Office to patient & vice versa
- Hospital/office to reporting entities

2015

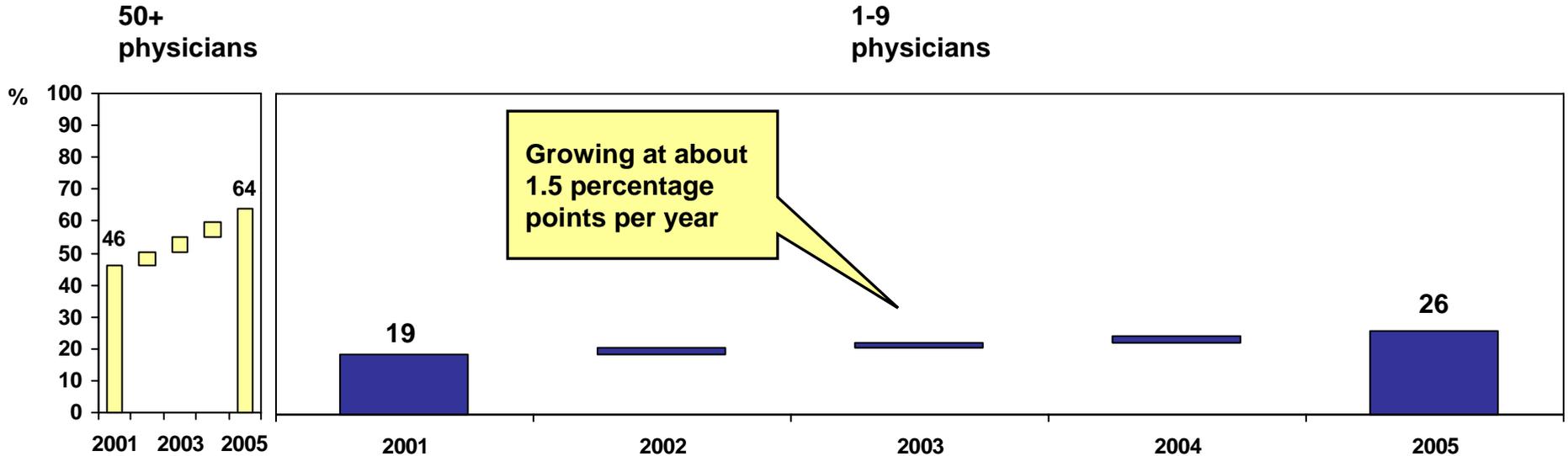
- Access comprehensive data from all available sources
- Experience of care reporting
- Medical device interoperability



Starts to envision routine availability of relatively rich exchange transactions

- “Anyone to anyone”
- Patient to reporting entities

# THE EHR MARKET IS MOVING, SLOWLY, BUT ALSO CREATING A DIGITAL DIVIDE IN THE PROCESS



911 million visits in 2004

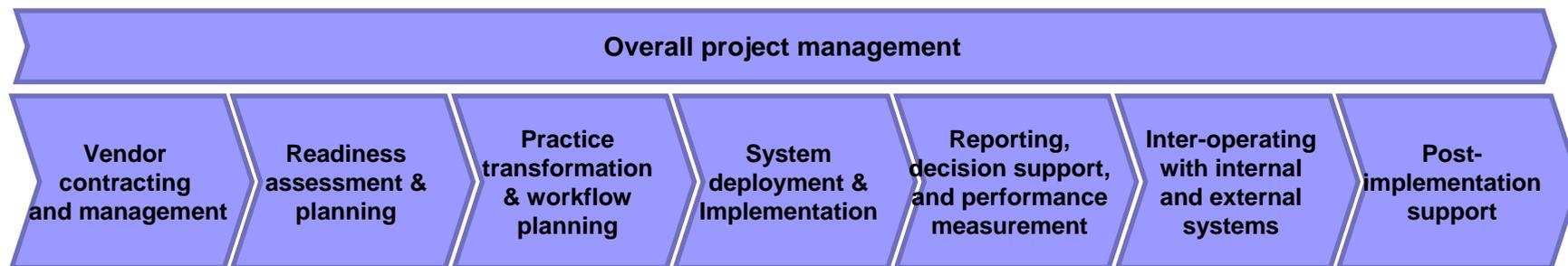
Source: CDC; Center for Health Systems Change; National Ambulatory Care Survey

Massachusetts eHealth Collaborative

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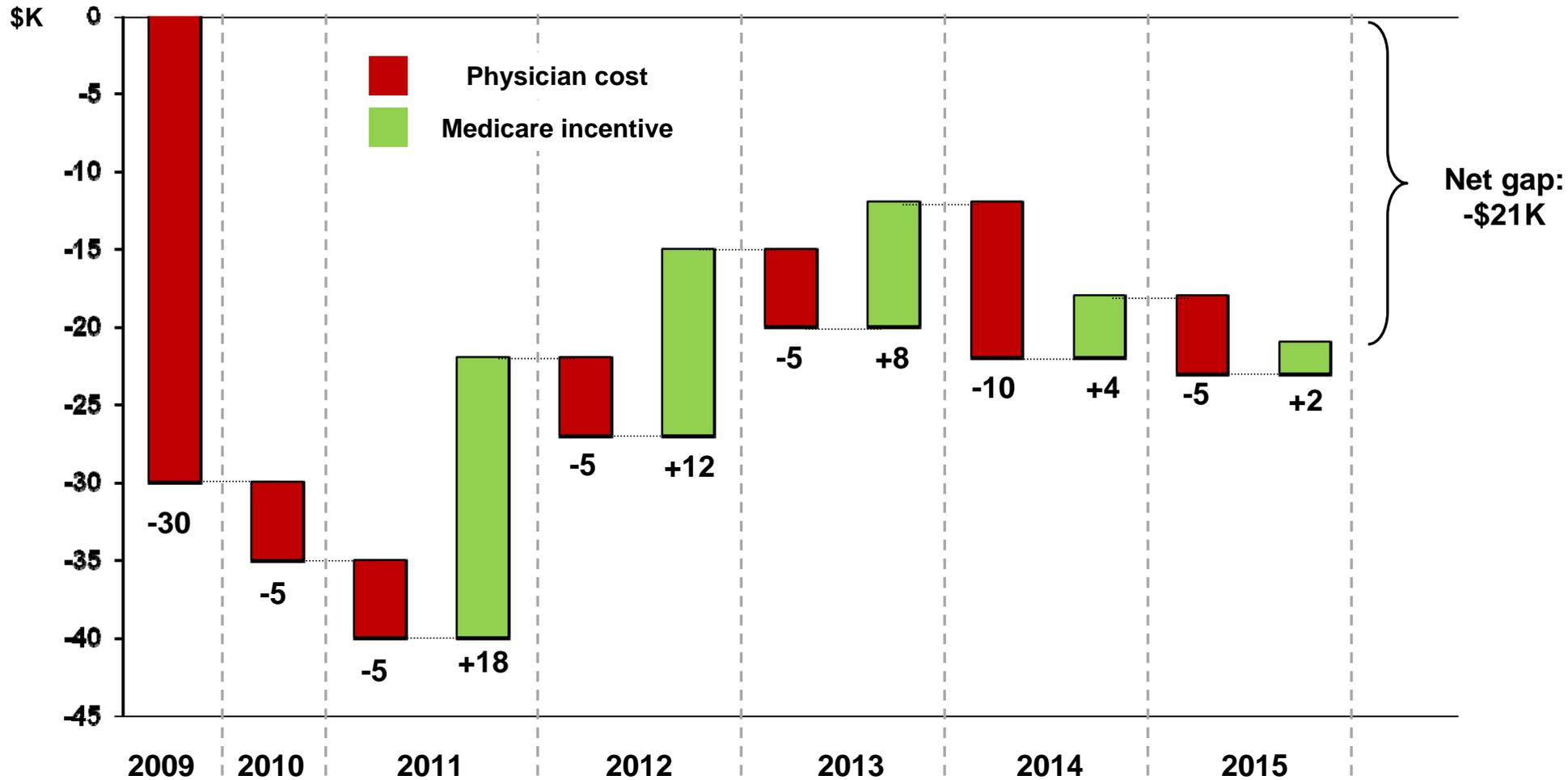
# MEANINGFUL USE DOESN'T JUST HAPPEN, IT GETS DONE

## *Illustrative EHR Implementation Value Chain*



- Gaps at any point along the way will kill adoption

# PAYMENTS MAY NOT COVER THE OUTLAYS AT AN INDIVIDUAL PHYSICIAN-LEVEL



# MAeHC ROOTS ARE IN MOVEMENT TO IMPROVE QUALITY, SAFETY, EFFICIENCY OF CARE

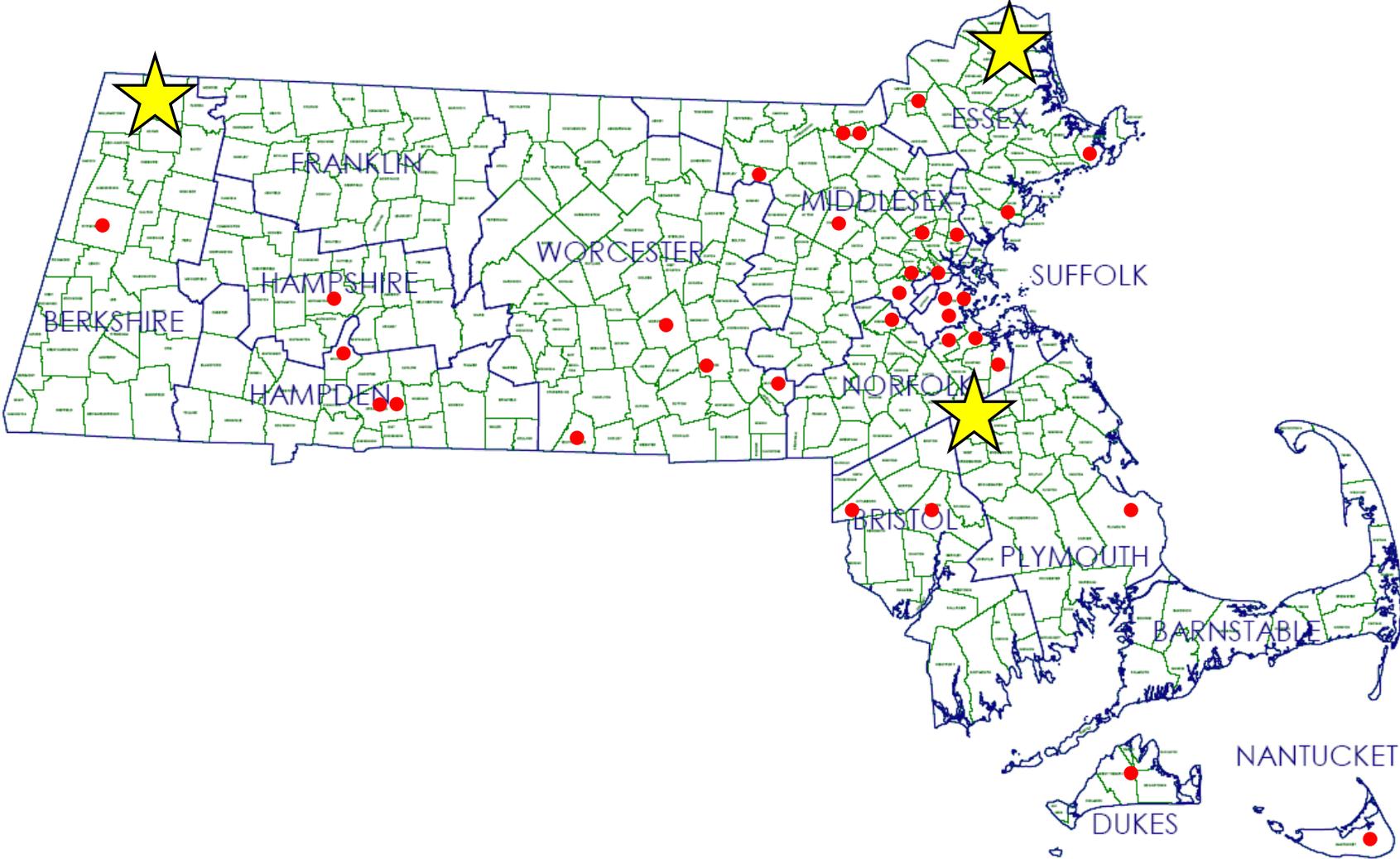


MASSACHUSETTS  
MEDICAL SOCIETY



- **Company launched September 2004**
  - Non-profit registered in the State of Massachusetts
- **CEO on board January 2005**
- **Backed by broad array of 34 MA health care stakeholders**

# MAEHC SELECTED THREE PILOT SITES FROM 35 APPLICANTS: BROCKTON, NEWBURYPORT, NORTH ADAMS



# FIRST PRACTICE LAUNCHED IN MARCH 2006



Technology Adoption Zone



Home of the first MAeHC eHealth practice in Massachusetts!



## Docs link up to new record style

By Jennifer Heldt Powell  
Tuesday, March 14, 2006



## The end of the paper trail

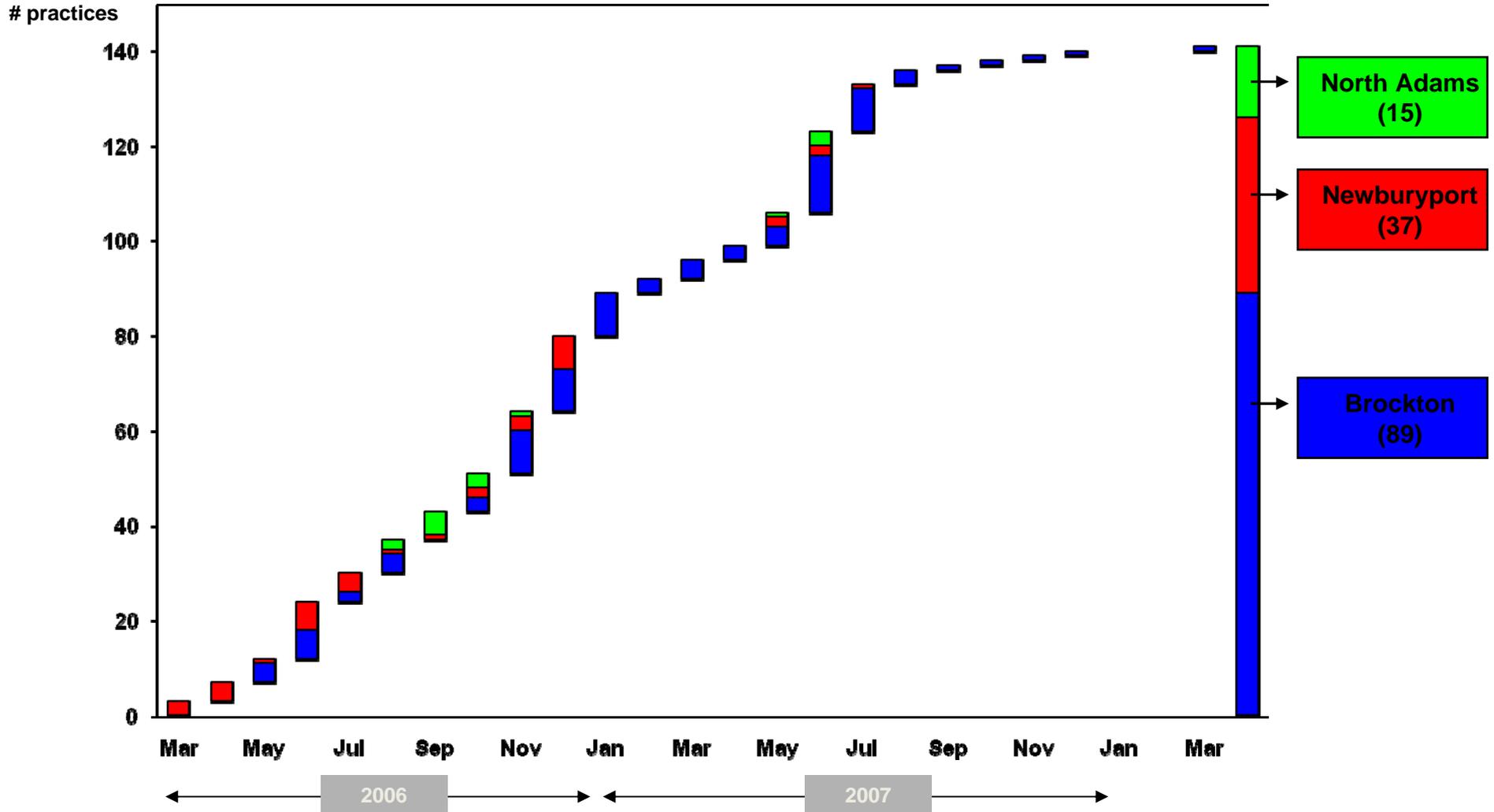
By Ulrika G. Gerth/ [ugersh@cnc.com](mailto:ugersh@cnc.com)  
Friday, March 17, 2006



## Setting a new record: Local doctors pilot electronic patient history system

By Stephanie Chelf  
Staff Writer

# OVER 550 CLINICIANS LIVE IN 18 MONTHS



# PILOT COMMUNITIES WILL BE THE FIRST IN THE COUNTRY TO BE COMPLETELY “WIRED” FOR HEALTHCARE

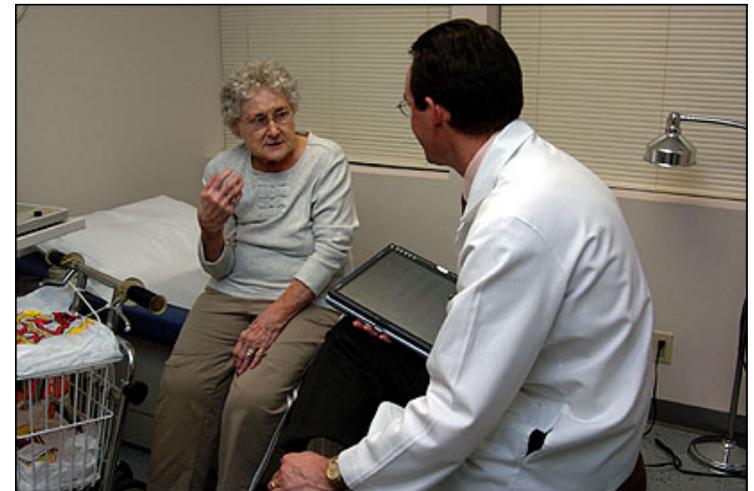
## Hope, challenges in computerizing medical records

The Boston Globe

### North Adams blazes a trail

By Liz Kowalczyk, Globe Staff | January 30, 2007

NORTH ADAMS -- This old textile city is about to become the first in the United States where residents have electronic medical records that in an instant can be viewed by any physician and many nurses in the community, from their offices, the local hospital, or the visiting nurses association.



Ethel Roy, 81, visited earlier this month with Dr. Stephen St. Clair, her urologist, at his office in North Adams. (Stephen Rose for the Boston Globe)

# NORTH ADAMS HIE SCREEN SHOT

eClinicalWorks eHX - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://172.16.100.90:8080/mobiledoc/jsp/emp/Patients.jsp?ptSearchFlag=0&tabOnId=1>

**eClinicalWeb**  
Schedule. Prescribe. Chart. Charge.

Home | Sign out

test, opi    General    eHS    Referrals    Lab Results    Permission

Merged view by: Date from [ ] to [ ] Facility All Name [ ] Go

**Problems**

Type	Date	Code	Description	Status	Source

**Procedures**

Type	Date	Code	Description	Location	Substance	Method	Position	Site	Status	Source
	Service Date: Aug 26, 2006	99391 (CPT-4)	Well Child to Age 1						Active	Robert Hertzig
	Service Date: Aug 26, 2006	99391 (CPT-4)	Well Child to Age 1						Active	Robert Hertzig

**Medications**

Medication	Date	Form	Strength	Quantity	SIG	Indications	Instruction	Refills	Source
<b>Advair Diskus</b>	Prescription Date: Aug 26, 2006	enteric coated tablet	250	60	1 0 mcg-50 mcg inhaled BID		Continue Amox for 2 more days to finish 7 day course as ears look good	0	Robert Hertzig
<b>acetaminophen</b>	Prescription Date: Aug 26, 2006	enteric coated tablet	160	90	5 0 mg/5 mL orally Q4H		Continue Amox for 2 more days to finish 7 day course as ears look good	0	Robert Hertzig
<b>Adderall XR</b>	Prescription Date: Aug 26, 2006	enteric coated tablet	15		15 mg orally QAM		Continue Amox for 2 more days to finish 7 day course as ears look good	0	Robert Hertzig

**Immunizations**

Code	Vaccine	Date	Route	Site	Source

**Vital Signs**

Vital Sign	Date	Result

**my Referrals**

- Referral Inbox
- Archived Referrals
- Response to Referrals
- Archived Responses

**Messages**

- Inbox
- Sent Messages
- Deleted Messages

**Community**

- My Home Page
- Find a Patient
- My User Account

# MAeHC ARCHITECTURE AND DATA FLOWS

**MAeHC-level:  
Analysis**

**MAeHC-level:  
QDC**

**Community-level:  
HIE**

**Provider-level:  
EHR**

Outcomes  
analysis

Benchmarking

Negotiated reporting  
to plans  
• P4P  
• Chart review



Brockton



Newburyport

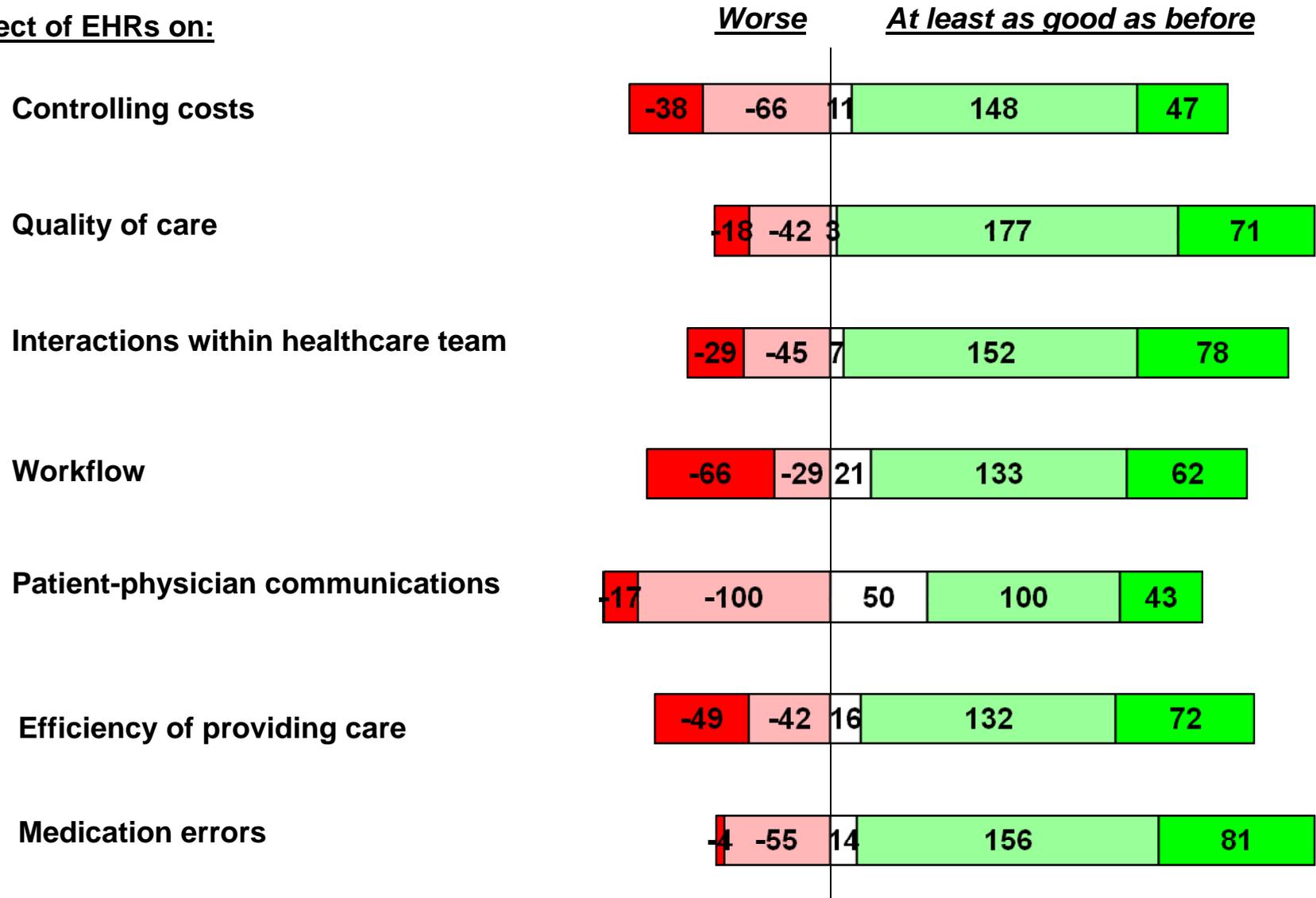


North Adams



# CLINICIAN ATTITUDE TOWARD EHRs (I)

Effect of EHRs on:



n = 319, 2009

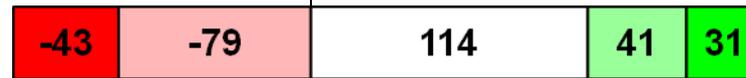
# CLINICIAN ATTITUDE TOWARD EHRs (II)

How much do you agree:

Worse

At least as good as before

EHR has hurt my earning potential from clinical activities



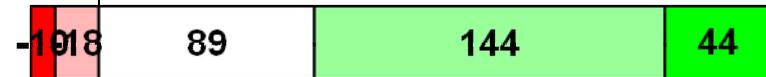
EHR has been more costly than expected



EHR has created more opportunities for errors



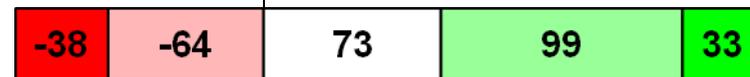
EHR has prevented more errors than it as created



EHR has given me more control over my practice than I had before



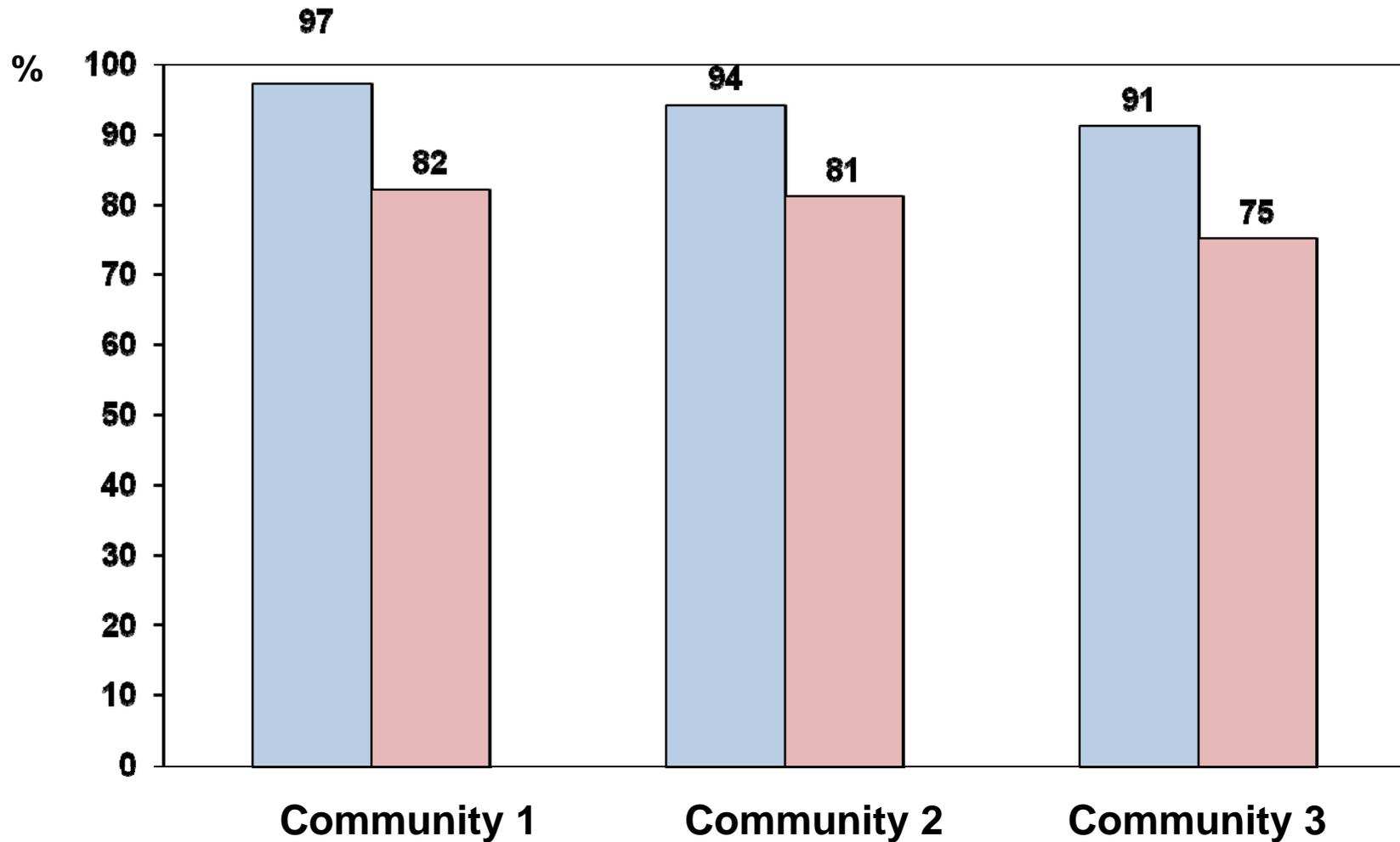
EHR has helped to streamline processes and improve office productivity



n = 319, 2009

# CLINICAL USE OF DEPLOYED EHRs

% of Encounters Documented Clinically in EHRs (Q2 2006 – Q2 2008)



# BREAKOUT OF CLINICAL USE MEASUREMENT

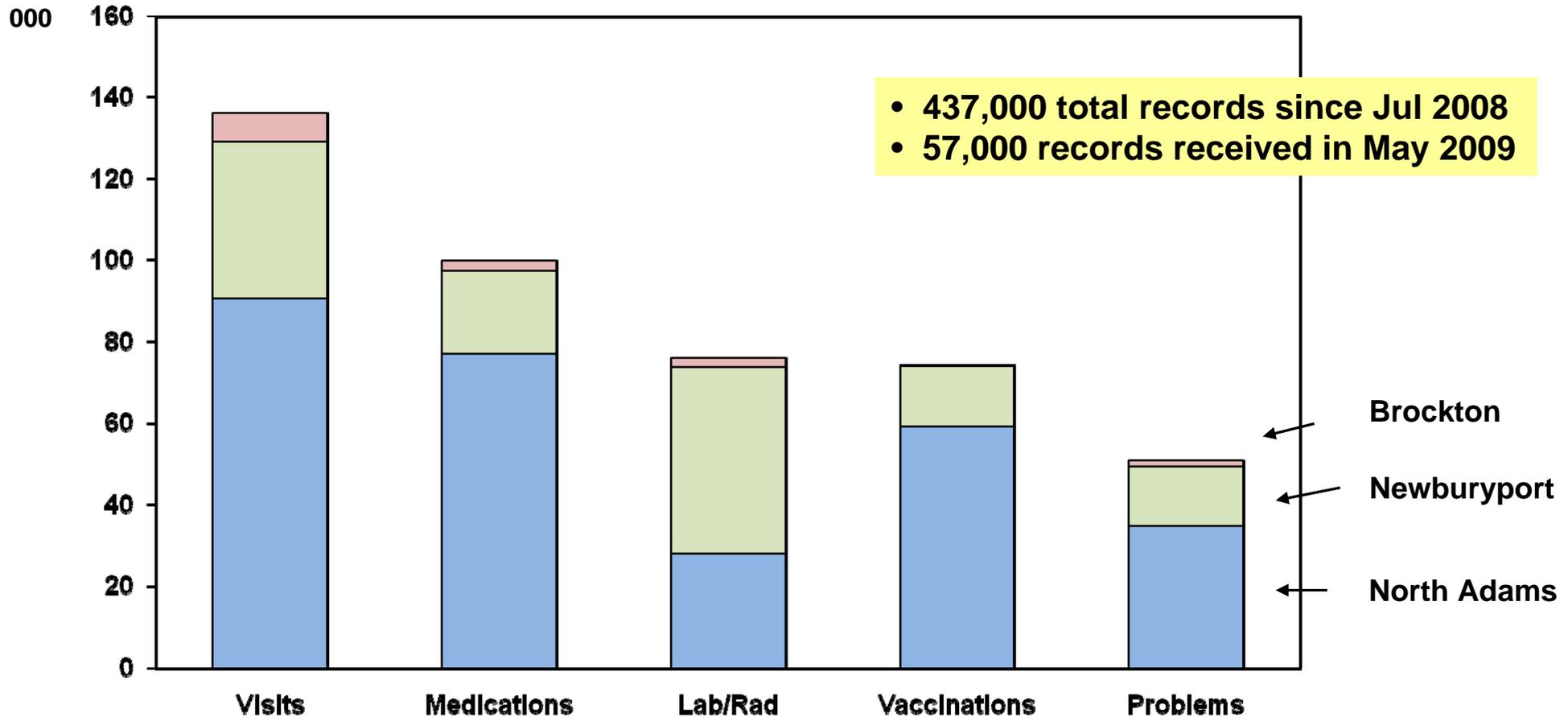
Community	Brockton
PracticeName	(All)
Quarter	(Multiple Items)

	Specialty Groups	
Data	Primary Care	Specialty Care
Clinical Enc	90.7%	82.6%
Follow-up	82.8%	76.2%
HPI	68.5%	41.1%
Allergies	34.4%	23.3%
Vitals	65.0%	22.5%
Current Meds	42.3%	50.2%
Medical Hx	45.9%	33.1%
Social Hx	23.3%	21.7%
Family Hx	19.5%	11.7%
Surgical Hx	14.2%	16.3%
ROS	22.7%	17.6%
Rx	41.6%	15.2%
Phys Exam	11.8%	14.4%
Exam	68.0%	32.7%
Total Office Encounters	204,079	213,134

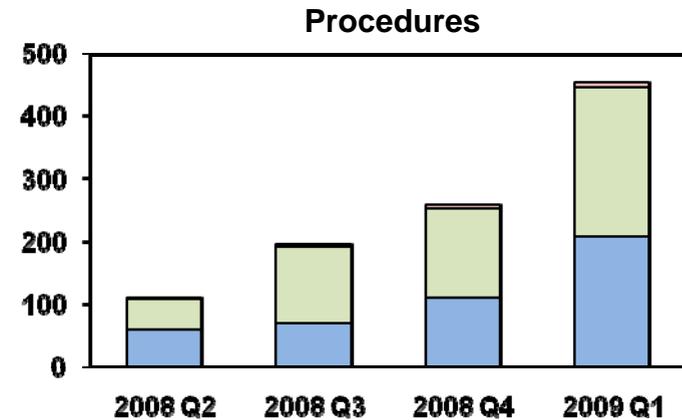
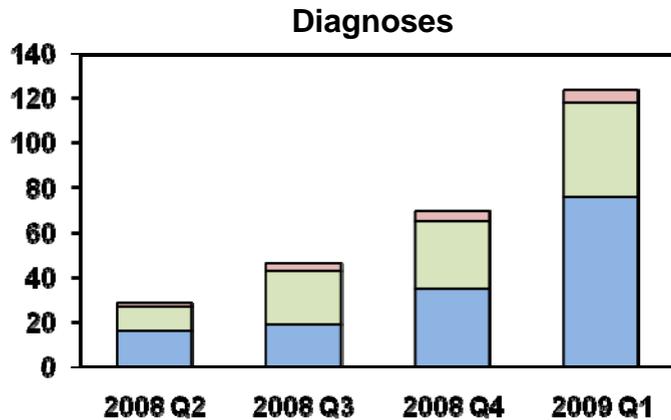
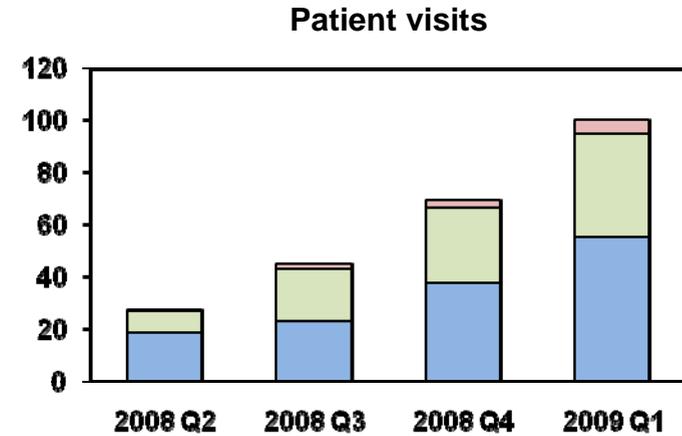
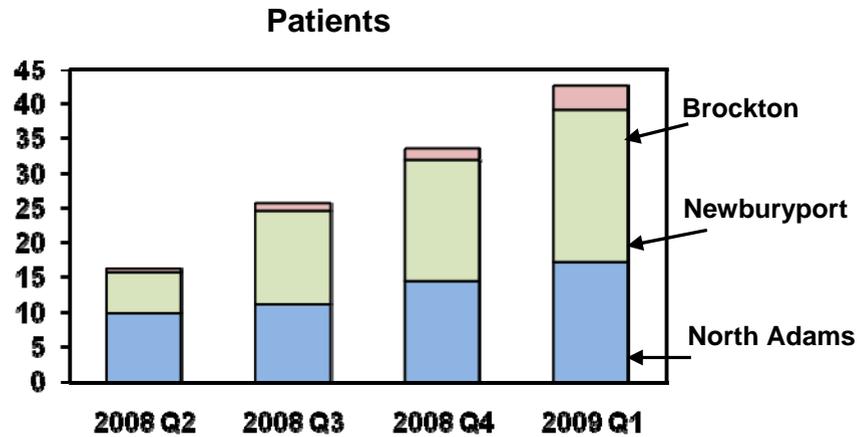
# DATA BEING SENT TO THE MAEHC QDC TODAY

- **Problems**
- **Procedures**
- **Allergies**
- **Medication**
- **Demographics[de-identified]**
- **Social/Family hx if it can be sent in discrete data**
- **Smoking status- if it can be sent over in discrete data**
- **Visits**
- **Diagnosis**
- **Lab results**
- **Rad results**
- **Future[ inpatient data to include surgical history]**

# Records Received By MAeHC QDC Through May 2009

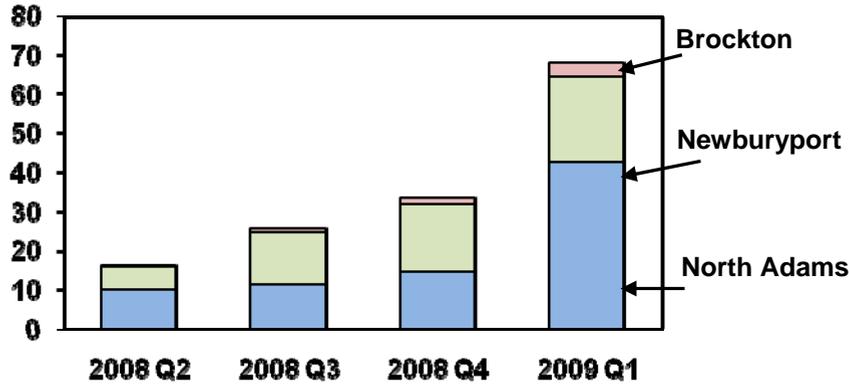


# MAEHC QDC DATA COUNTS (I)

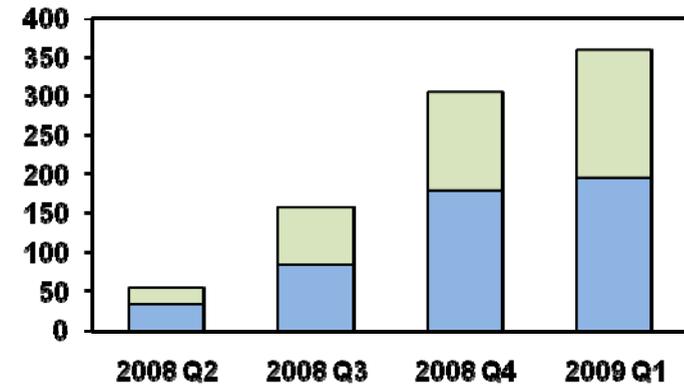


# MAEHC QDC DATA COUNTS (II)

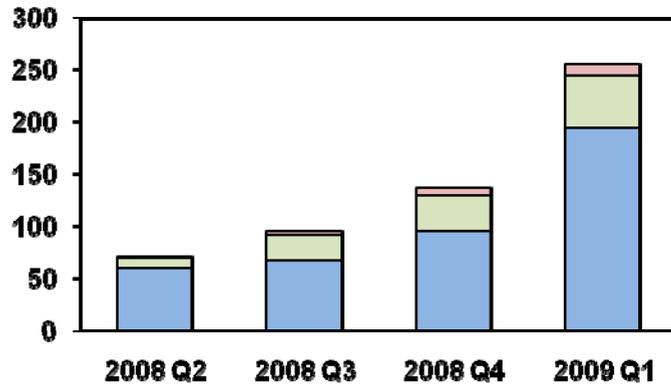
Problems



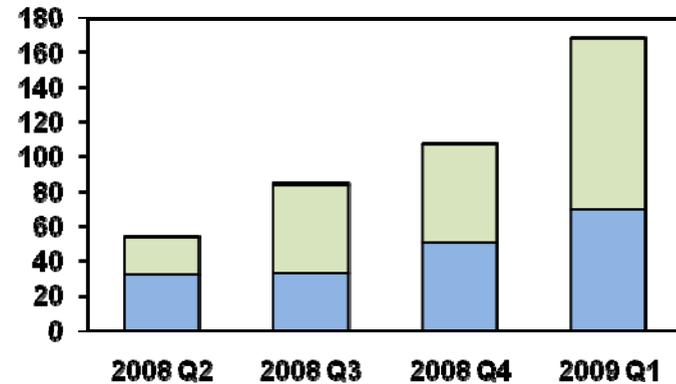
Lab results



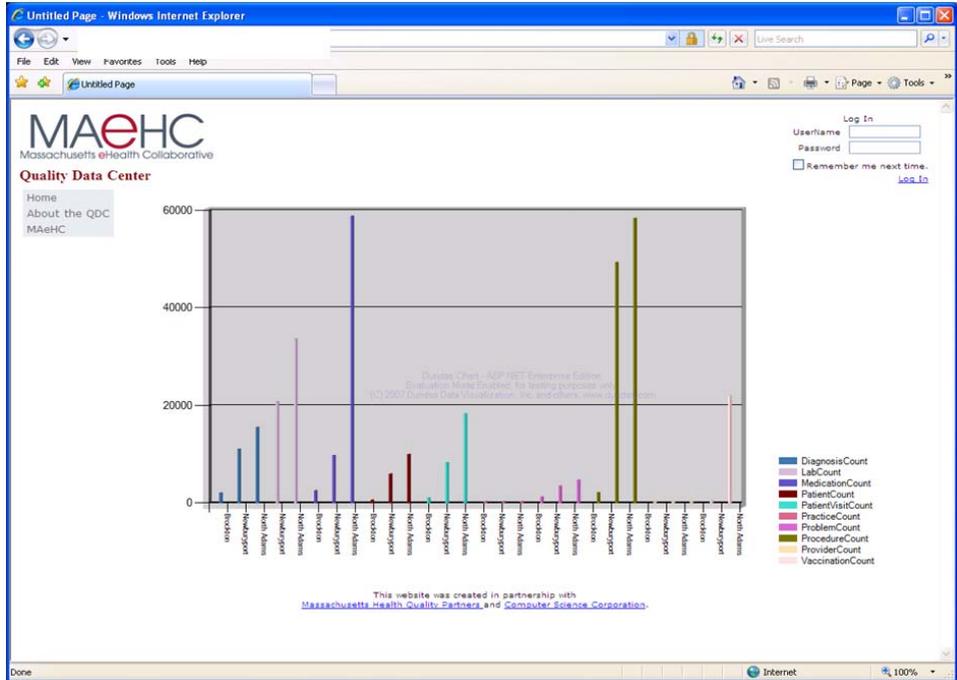
Medications



Vaccinations



# MAEHC QDC LOG-IN SCREENSHOTS



MAeHC  
Massachusetts eHealth Collaborative

Quality Data Center

Home  
About the QDC  
MAeHC  
Reports Home  
FAQs  
Measure Descriptions  
Measure Specifications  
Helpful links  
Technical support  
Sitemap

You are now logged in as: Agent-Bill  
[Logout](#)

Measure descriptions

**Coronary Artery Disease (CAD)**  
[LDL-C test ordered/lipid profile](#)  
[LDL-C level < 100](#)  
[Lipid-lowering therapy prescribed](#)  
[Antiplatelet therapy prescribed](#)

**Diabetes**  
[HbA1c test ordered](#)  
[HbA1c level > 9 \(poor control\)](#)  
[BP management](#)  
[LDL-C test ordered](#)  
[LDL-C management/control](#)  
[Eye exam performed](#)

**Asthma**  
 Appropriate Rx prescribed

**Hypertension**  
 BP management

**Pediatric**  
 Appropriate testing of children for pharyngitis  
 Appropriate treatment of children for upper respiratory infection (URI)

**Prenatal Screening**  
 HIV screening

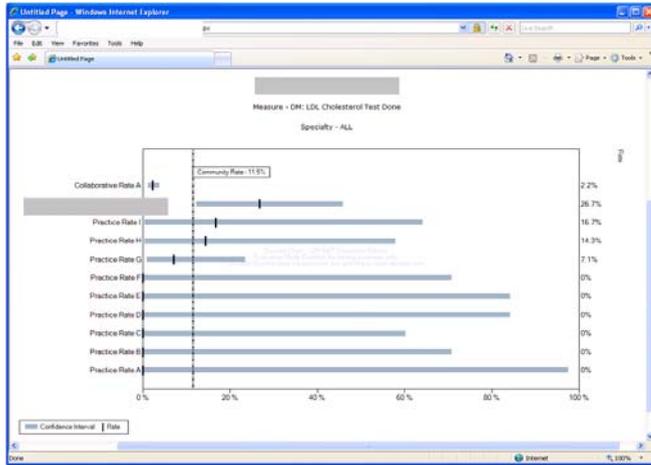
**Prevention**  
 Influenza vaccination  
 Pneumonia vaccination  
 Colorectal cancer screening  
 Breast cancer screening  
 Tobacco use

**Coronary Artery Disease (CAD) Measures**

- CAD: Lipid Profile Performed (CAD-LDL-TX)**
  - The percentage of adults, ages 18 to75, who had evidence of a hospital discharge for an acute cardiovascular event during the first 10 months prior to the measurement year (acute myocardial infarction (AMI), coronary artery bypass graft (CABG), or percutaneous transluminal coronary angioplasty), or who had a diagnosis of ischemic vascular disease (IVD) in both the measurement year and the previous year and received an LDL-C screening test in the measurement year.

# MAEHC QDC REPORT SCREENSHOTS

Peer comparison report (1)



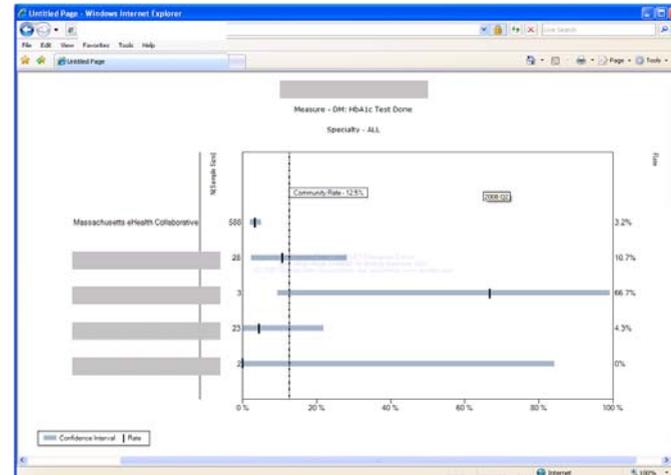
Peer comparison report (2)



Benchmark summary report

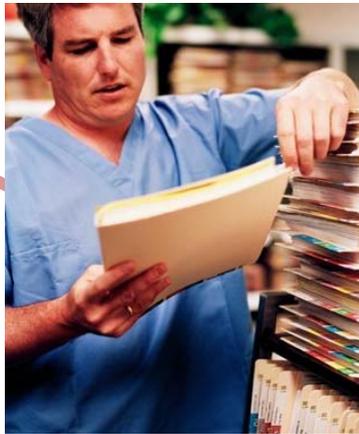


Drill-down report



# NO MATTER HOW MUCH YOU PREPARE, YOU'LL BE IN FOR A RIDE

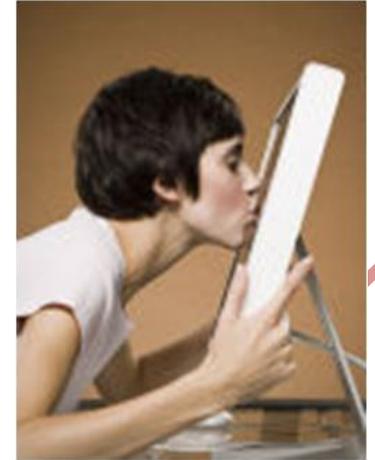
Your  
Hopes



You won't be able to avoid this...



...but if you plan, prepare, and  
commit yourself and your staff,  
you should be able to achieve  
this....



**Warning:** For  
illustration only --  
MAeHC does not  
recommend kissing  
computers.



Go-live day

Time



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