



Agency for Healthcare Research and Quality

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A National Web Conference on Translating Electronic Data into Better Quality Care

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1:30 pm – 3:00 pm ET



Moderator and Presenters Disclosures

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There are no financial, personal, or professional conflicts of interest to disclose for the speakers or myself.



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Translating Electronic Data into Better Quality Care: Synthesizing Lessons Learned

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Medical University of South Carolina



Objectives

- Identify implementation strategies, barriers, and facilitators of successful quality improvement (QI) efforts by practices using electronic health records (EHRs)
- Synthesize lessons learned in an evaluation of seven (PPRNet) studies translating research into practice

PPRNet Is...

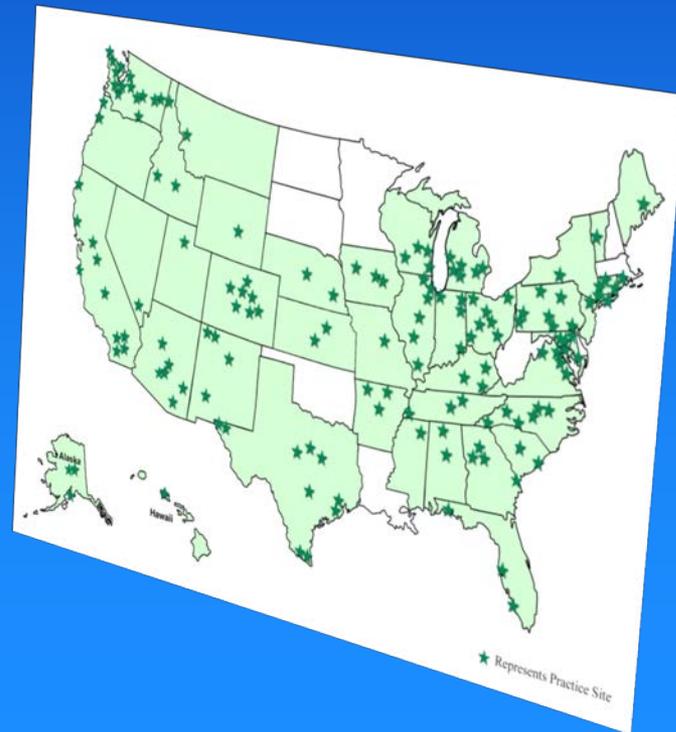
A Practice-Based Research Network (PBRN)

- Consists of practices devoted principally to the primary care of patients
- Aims to answer community-based health care questions and engage in QI activities
- Maintains an ongoing commitment to network activities that transcends individual research projects



PPRNet's Network

- Small/medium-sized primary care practices in 39 states
- 172 current practices as members





PPRNet Aims To...

- Turn clinical data into actionable information
- Empirically test theoretically sound interventions using EHRs to improve health care quality
- Disseminate successful interventions

“Blurring the distinction between quality improvement and research”



Background

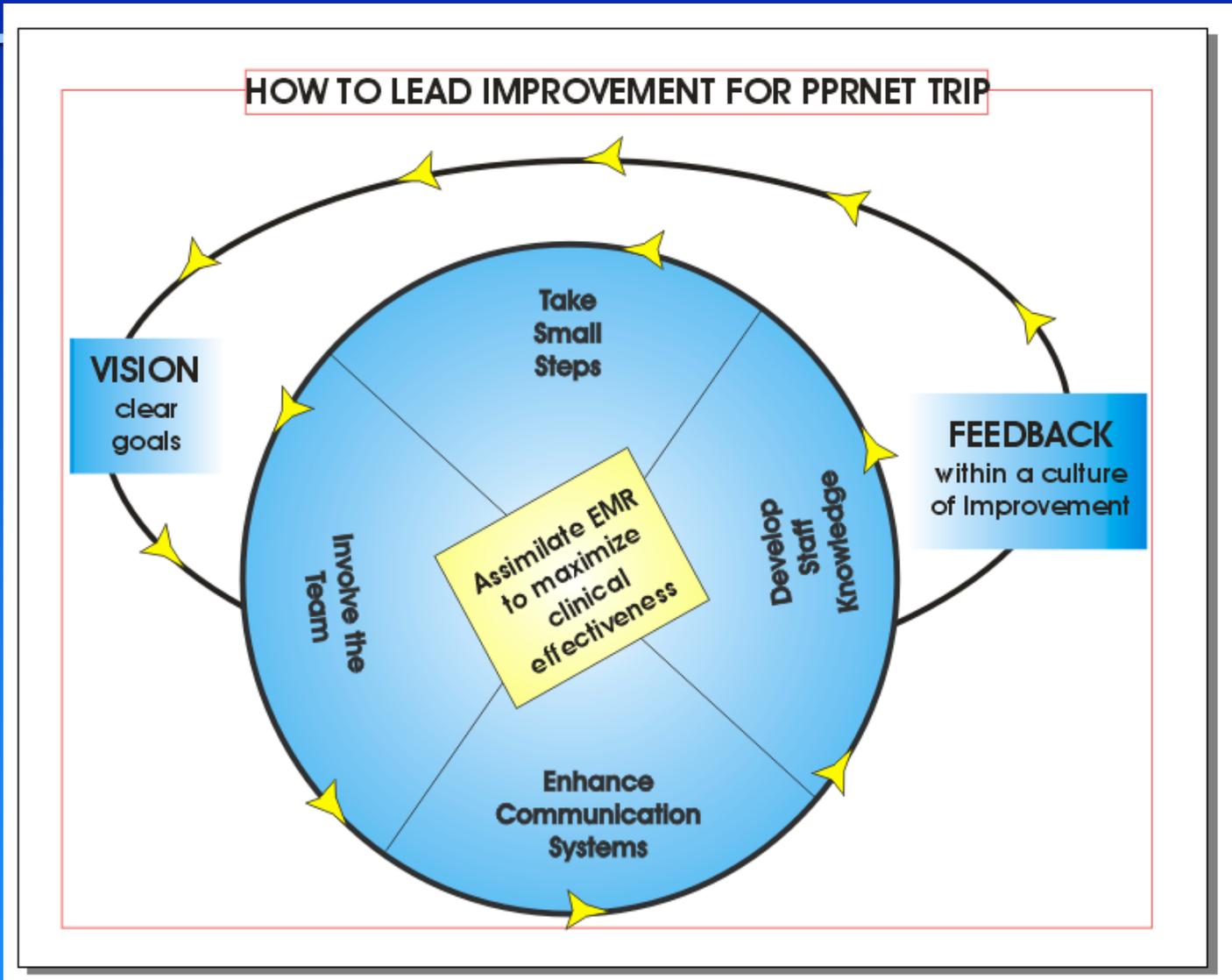
- Diverse set of primary care studies
- Focus and findings were project specific
- Research questions were:
 - What is the learning from the PPRNet-TRIP studies about how practices create change and make improvement while using health information technology (HIT)?
 - What is needed to develop high-performing primary care teams?

PPRNet-TRIP QI Model

- Prioritize performance
- Involve all staff
- Redesign delivery system
- Activate the patient
- Use EMR tools



Practice Development Model



Methods

- Secondary analysis of mixed methods data from seven studies
 - Field notes and observations at practice site visits, network meetings, memos, correspondence, interviews
 - Merged within NVivo 9.0 database
 - Immersion and crystallization
 - Cross-case comparative analysis/matrix
 - Member checking by practice members

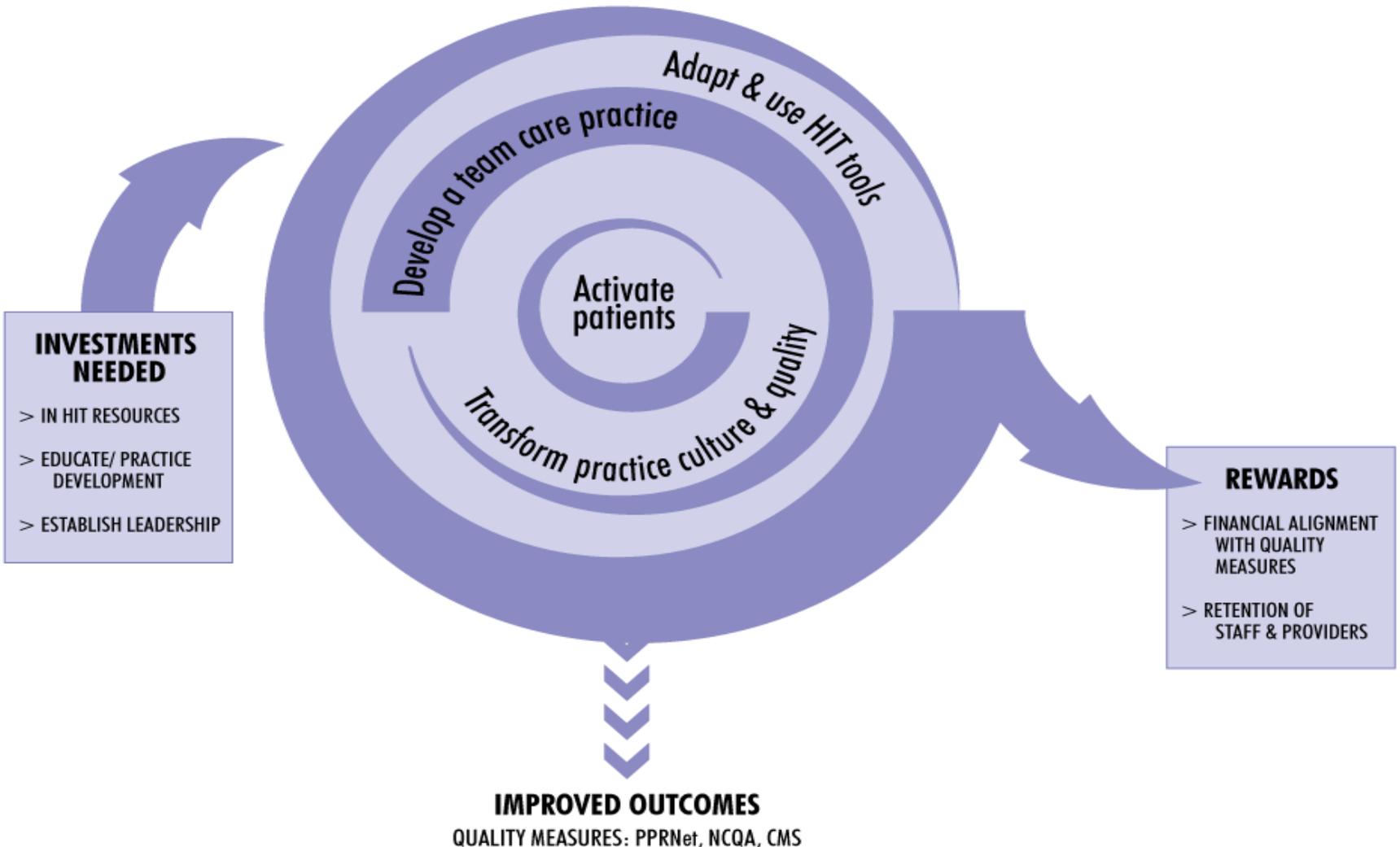


Findings

- 134 practices: collaborative learning community
- Practices use HIT/staff in new ways
- Complex interventions rely on four main concepts:
 - Develop a team care practice
 - Adapt and use HIT tools
 - Transform practice culture and quality
 - Activate patients

Improving Primary Care Using HIT

PPRNet - TRIP - QI



Concepts and Strategies: Complex Interventions



Specific Approaches by Study

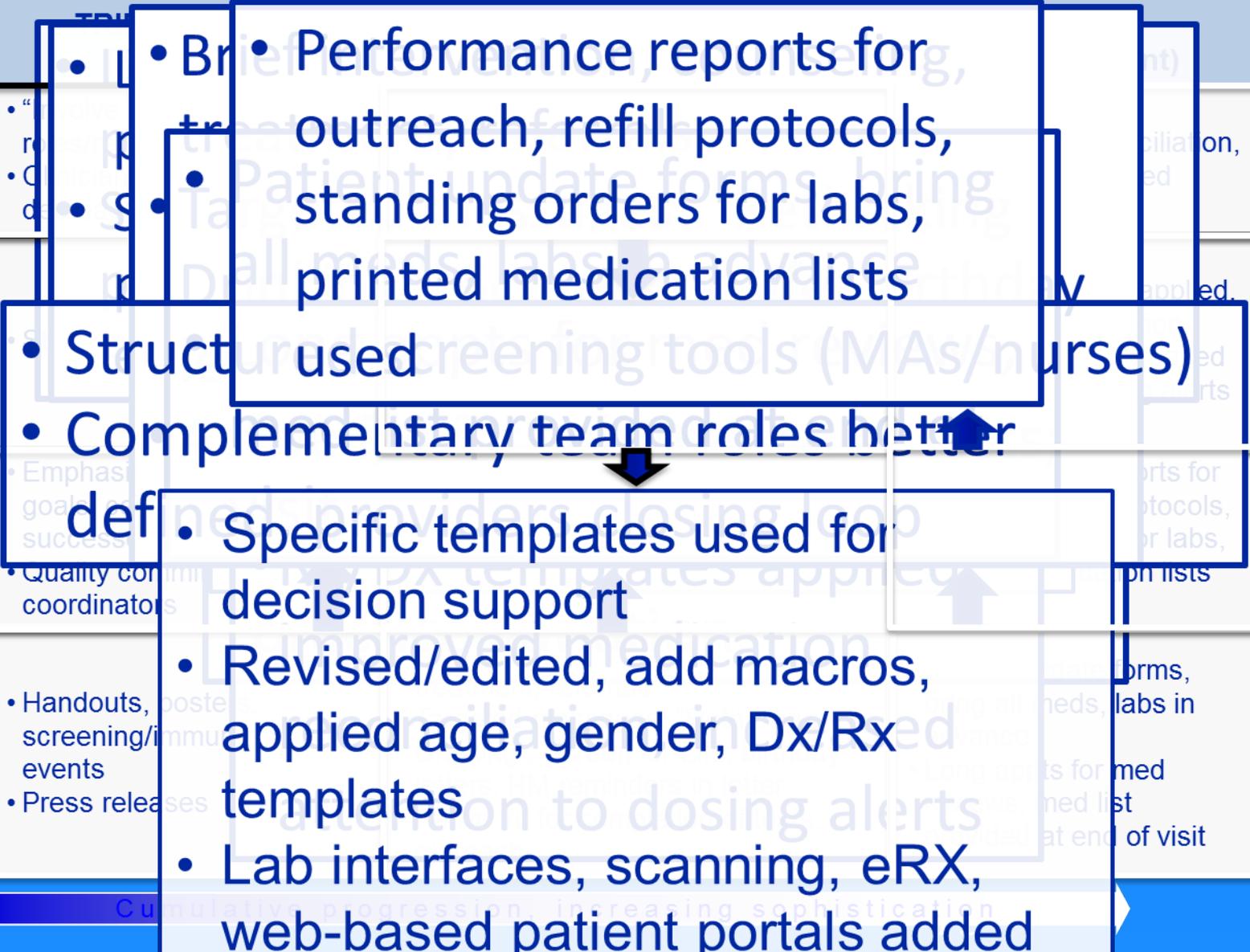
Concepts

Develop a Team Care Practice

Adapt and Use HIT Tools

Transform Practice Culture and Quality

Activate Patients





Barriers

- Lack of practice leadership/vision/goals
- Lack of provider agreement/consensus
- Need for HIT technical support/ expertise and resources
- Staff/provider turnover, organizational change, practice ownership
- Differences in the extent that individuals use the practice's HIT to facilitate workflow



Facilitators

- Practice policies and protocols
- Staff education and follow-up by leaders
- Communication
- Streamlined tools and templates improve workflow and efficiency
- Practice-wide approach reinforces staff adoption of expanded roles
- Providers close loop on what staff initiate



Discussion/Conclusions

- Practices expanded use of EHRs, adding many enhanced features to support QI
- Practices recognized the value and asset of their staff in supporting QI goals
- External recognition and rewards were motivators
- Patients were receptive to expanded roles of practice team



Acknowledgements

- This project was supported by grant number R03HS018830
- PPRNet practice providers and staff
- PPRNet research team:
 - Steven M. Ornstein, M.D., Ruth G. Jenkins, Ph.D., Andrea M. Wessell, Pharm.D., Paul J. Nietert, Ph.D., Cara B. Litvin, M.D., M.S., Peter Miller, Ph.D.
- Brian Mittman, Ph.D., Lisa Rubenstein, M.D., Elizabeth Yano, Ph.D.



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Improving the Quality of Care in EHR-enabled Practices

Amanda Parsons, M.D., M.B.A.

Deputy Commissioner, Health Care Access &
Improvement

NYC Department of Health & Mental Hygiene
(DOHMH)

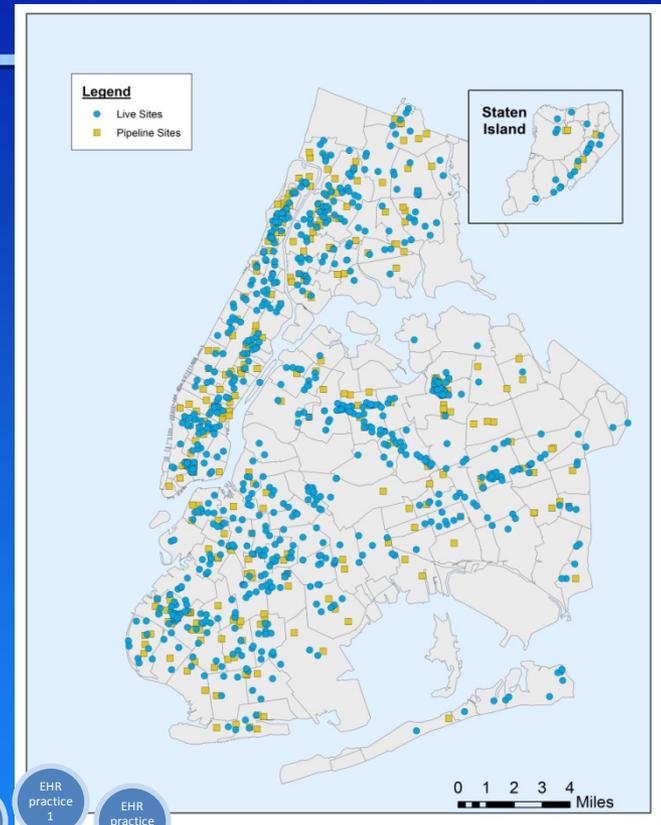


Agenda

- Primary Care Information Project (PCIP) history
- Lessons learned

Primary Care Information Project

- PCIP, a bureau of NYC DOHMH, was founded by Mayor Bloomberg in 2005
- Mission
 - Improve the quality of care in medically underserved areas through HIT
 - “Clinical action arm” of the DOHMH
 - Data → information → action → dissemination
- Success
 - Almost 9,000 providers receiving EHR and Meaningful Use assistance
 - 1,064 small practices
 - 31 large practices
 - 63 community health centers
 - 54 hospitals & outpatient clinics





Services Provided to Practices to Get Them to Use Their EHRs Meaningfully

Contemplation

- Provider outreach & education
- Vendor selection
- Group purchasing discounts
- Readiness assessments
- IT consultation
- Partners for financing & workforce development

Implementation

- Contract accountability
- Project management
- Workflow redesign (large practices)
- Social networking
- Communication outreach
- 16 CME credits for training

Go live

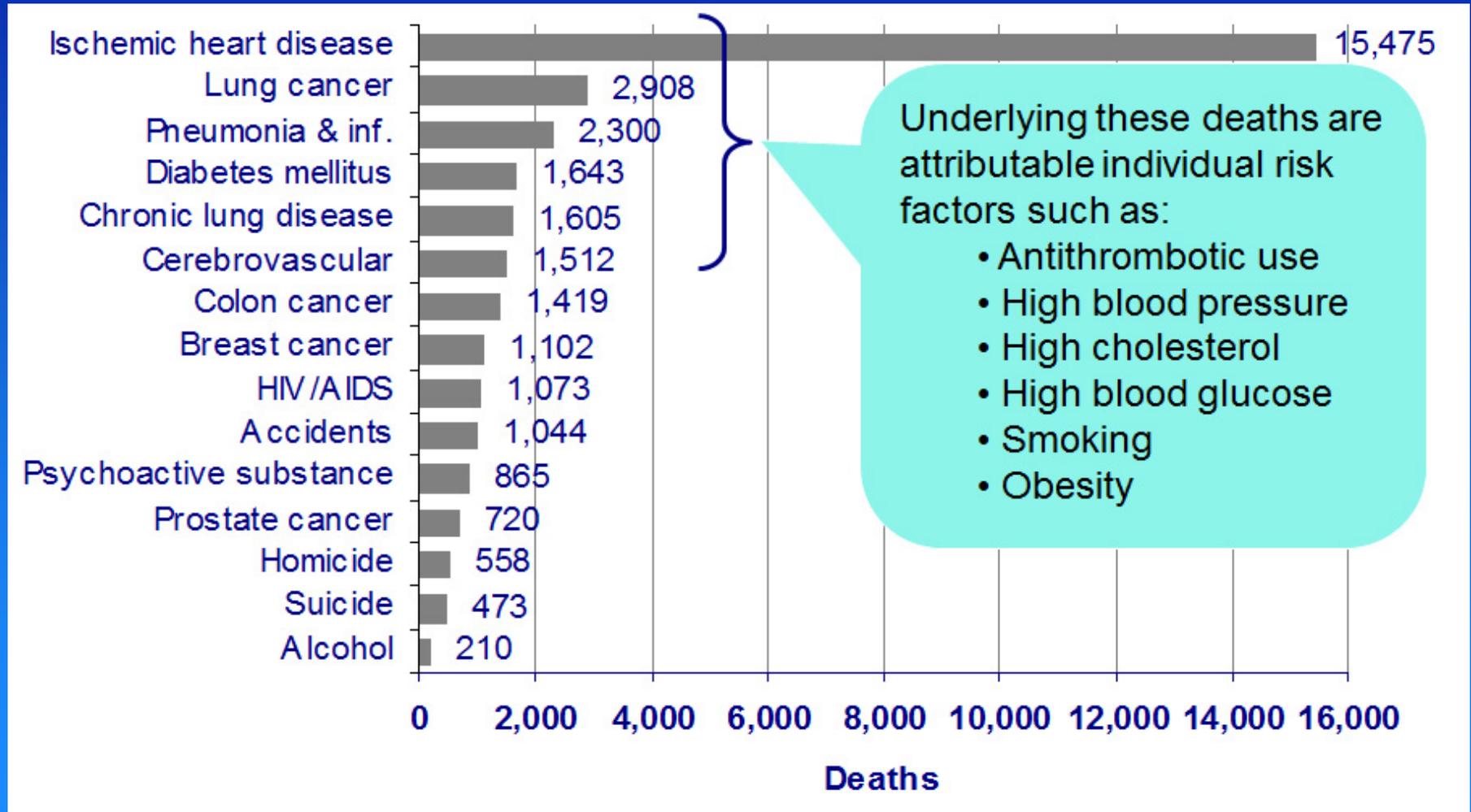
Post-go live

- Revenue cycle optimization
- EMR consulting
- QI consulting
- PCMH preparation
- Privacy & security consulting
- Work flow redesign (small practices)
- Patient portal training
- Interfaces (e.g., labs, registries)
- Pilots

Population health

- Quality measures
- Interoperability
- Patient engagement
- Biosurveillance
- Pay-for-Quality programs

Leading Causes of Death in New York City, 2008

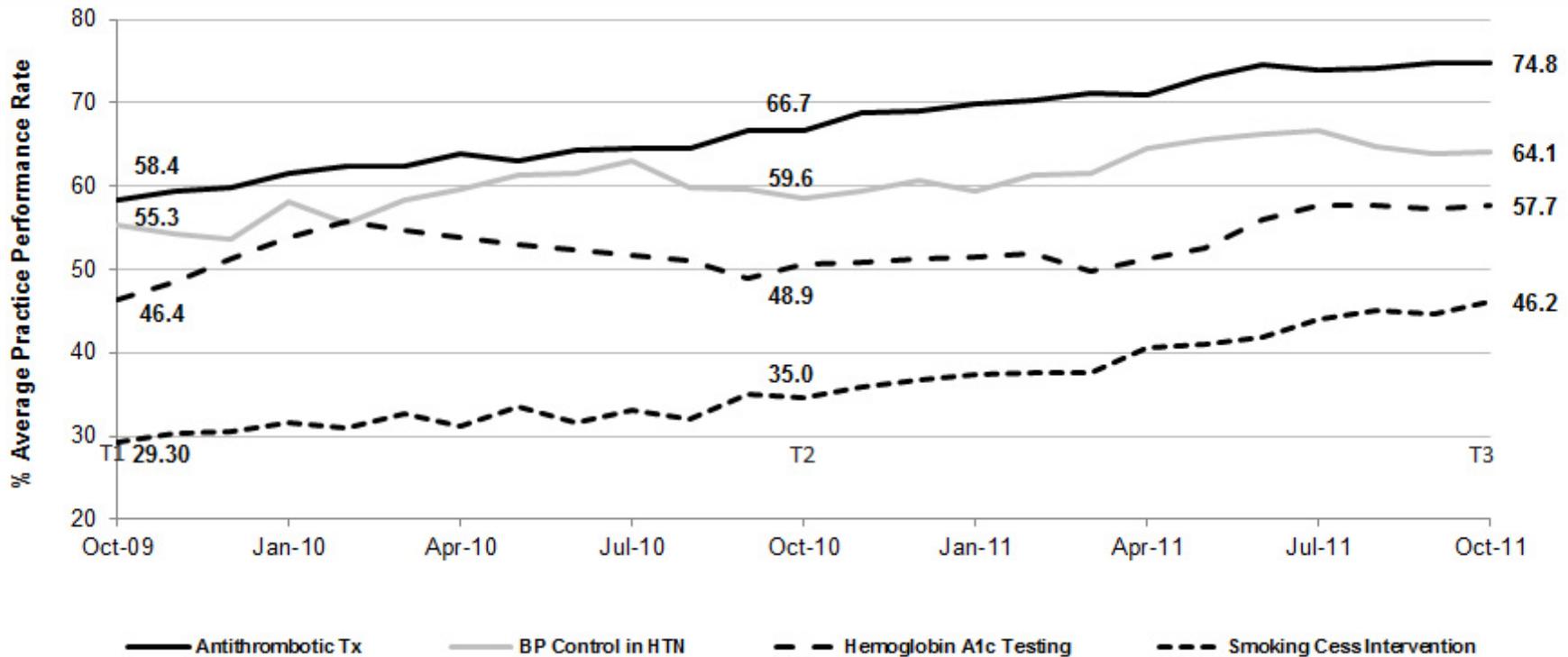


Do we see improvement in quality of care amongst providers who use EHRs?

Yes. Absolutely.



Overall Progress in PCIP: 2-Year Trend



Time	Antithrombotic therapy	Blood pressure control	Hemoglobin A1c Testing	Smoking Cessation Intervention
Oct 2009 (T1)	58.4	55.3	46.4	29.3
Oct 2010 (T2)	66.7	58.5	50.6	34.5
Oct 2011 (T3)	74.8	64.1	57.7	46.2
Difference between T1 and T2	8.3*	3.1	4.2	5.2
Difference between T2 and T3	8.1*	5.5*	7.1*	11.7*
Difference between T1 and T3	16.4**	8.8*	11.3*	16.9**

*: p<0.05; **: p<0.001

Do EHRs alone lead to improvements in quality of care?

No. Practices need significant technical assistance and time in order to improve the quality of care.

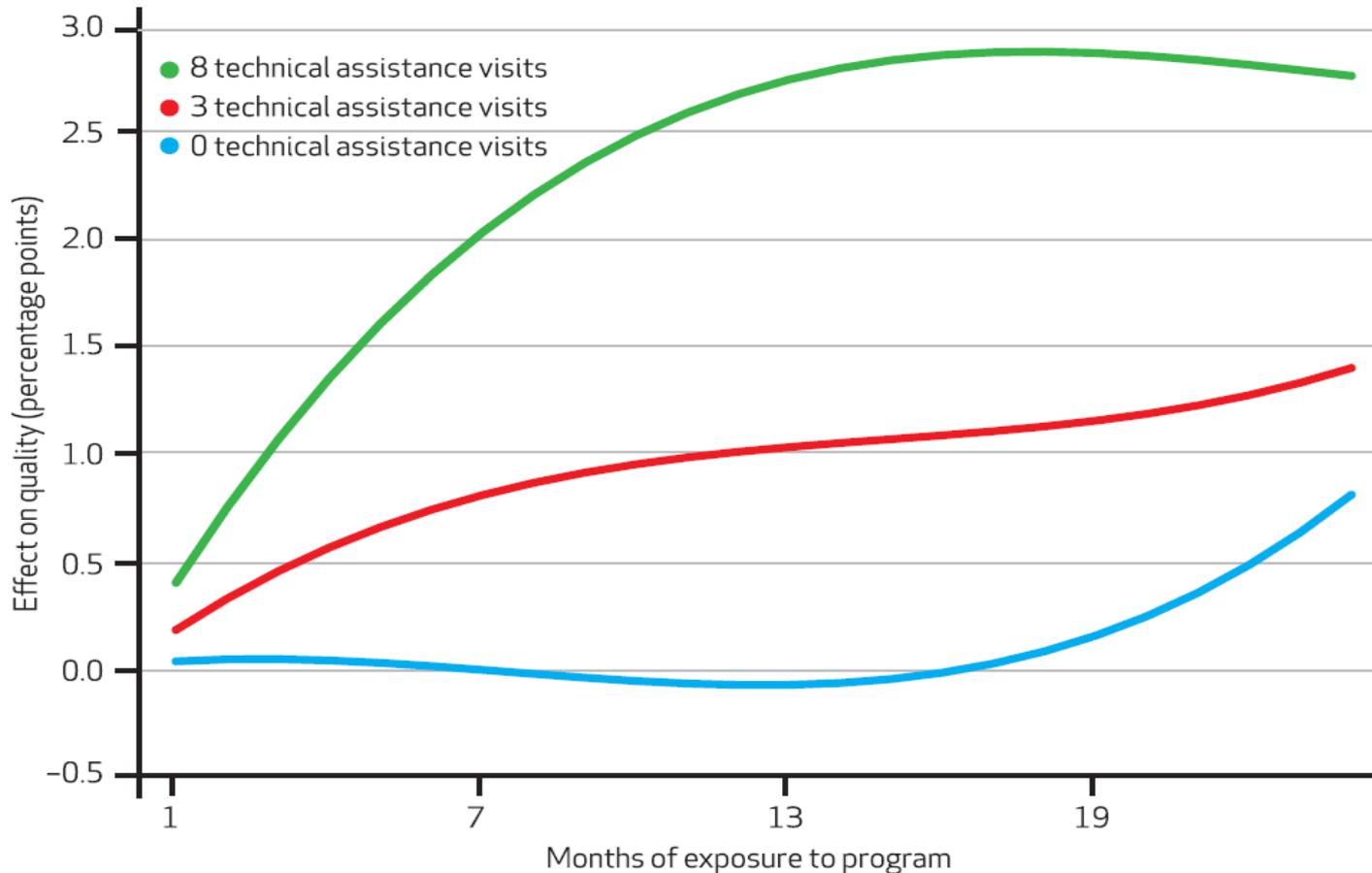


On-site Quality Improvement

- Since 2008, PCIP has maintained a team of clinical Quality Improvement Specialists (QISs).
 - Primary role is to educate and facilitate providers and clinic staff on QI in areas of high public health burden
 - QIS identify QI plans to be completed within 10 on-site visits.
 - review of disease focus areas
 - EHR functionality that reminds providers of chronic disease and preventive care clinical guidelines at the point-of-care
 - generate quality reports that allow providers to drill down to patients' level within each measure.
- Subsequently, PCIP providers have demonstrated notable QI.
 - General participation in the project was not in itself sufficient to improve quality of care
 - Participating in PCIP for 9 or more months was associated with significantly improved quality for physicians receiving technical assistance of eight or more visits.

Practices with More Technical Assistance Showed Greater Improvement

Estimated Effect Of The Primary Care Information Project On Quality For Electronic Health Record (EHR)-Sensitive Measures, By Level Of Technical Assistance



Does pay-for-performance work to improve the quality of care?

Yes, for some providers



Health eHearts – Robin Hood Foundation

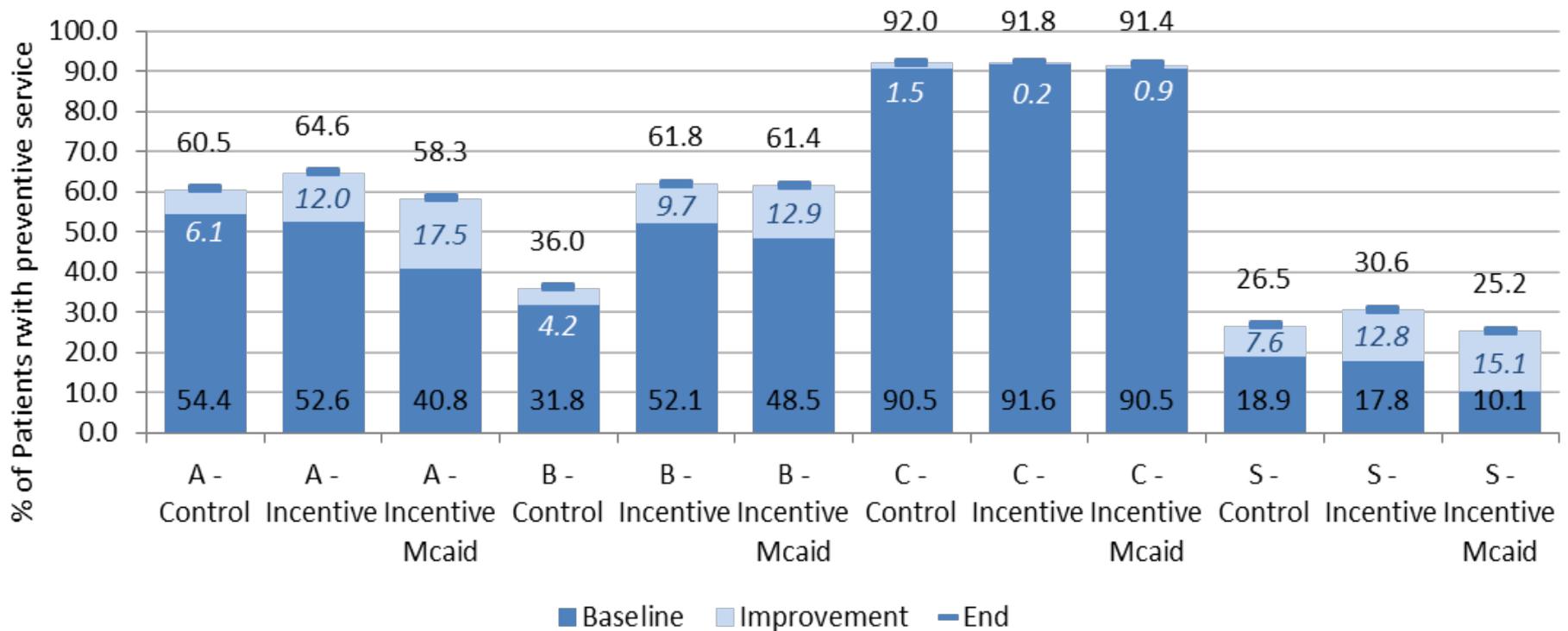
Pay-for-Quality for achieving goals on ABCS
(aspirin, blood pressure, cholesterol, and smoking measures)

Key findings for Year 1 (April 1, 2009 through March 31, 2010 (82 small practices; 13 community health centers; more than 400 providers)

- All practices participating in the program had some improvement on the A, B, and S measures.
- Practices that received monetary incentives had higher increases in the delivery of A, B, and S measures.
- Although not statistically significant, paying more for difficult-to-treat cases ensured those patients were part of the improvement efforts (e.g., incentives did not exacerbate disparities).
- If all of NYC experienced similar improvement in delivery of A, B, C, S as incentivized practices, potentially *969 deaths could be averted per year.**

**Based on estimation models from Farley Am J Prev Med. 2010 Jun;38(6):600-9, 2009 NYC Vital Statistics for population by age groups and mortality rates*

Providers Who Received Incentives Performed Better



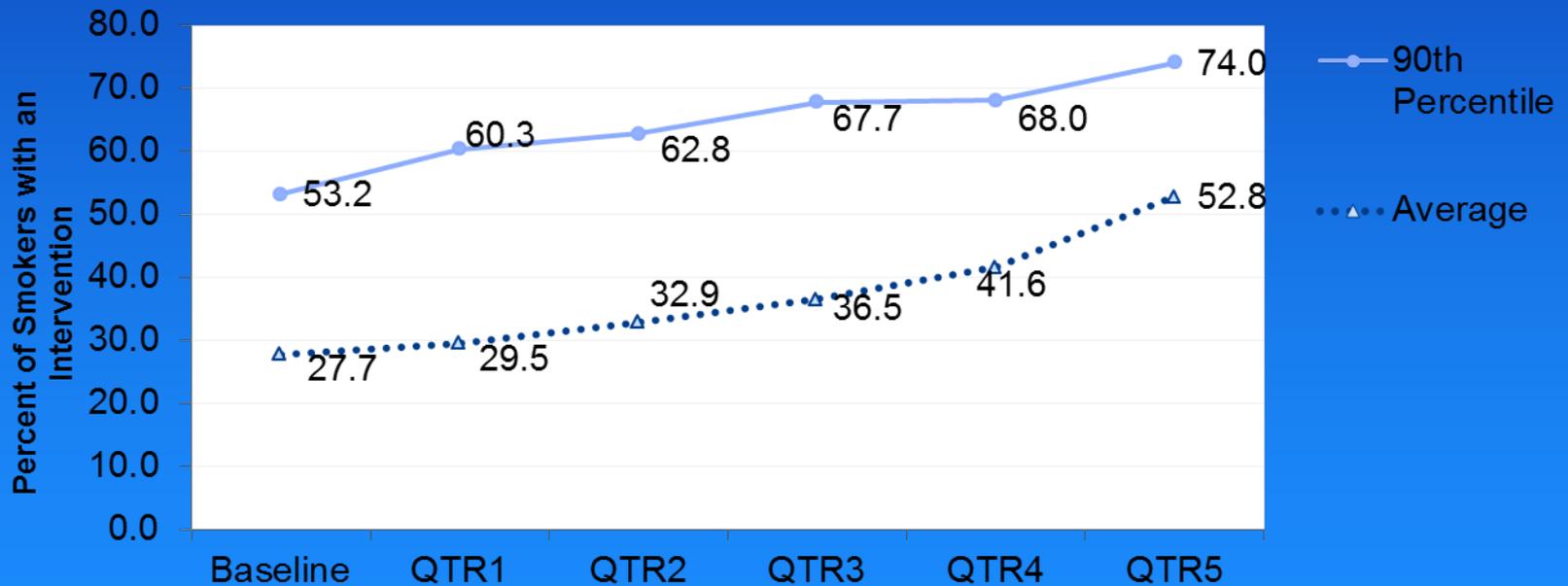
**Based on estimation models from Farley Am J Prev Med. 2010 Jun;38(6):600-9, 2009 NYC Vital Statistics for population by age groups and mortality rates*

A= Aspirin Prophylaxis B= BP control C= LCL Screening S= Smoking Cessation Intervention

Health eQuits

Of the 19 large practices participating in Health eQuits:

- 461,205 visits were recorded at the end of the program.
- Documentation of smokers at the practice increased from 4.3% to 13.9% of the visits.
- Cessation intervention rates increased from 27.7% to 52.8%.
- An additional 47,705 smoking cessation interventions* were delivered.

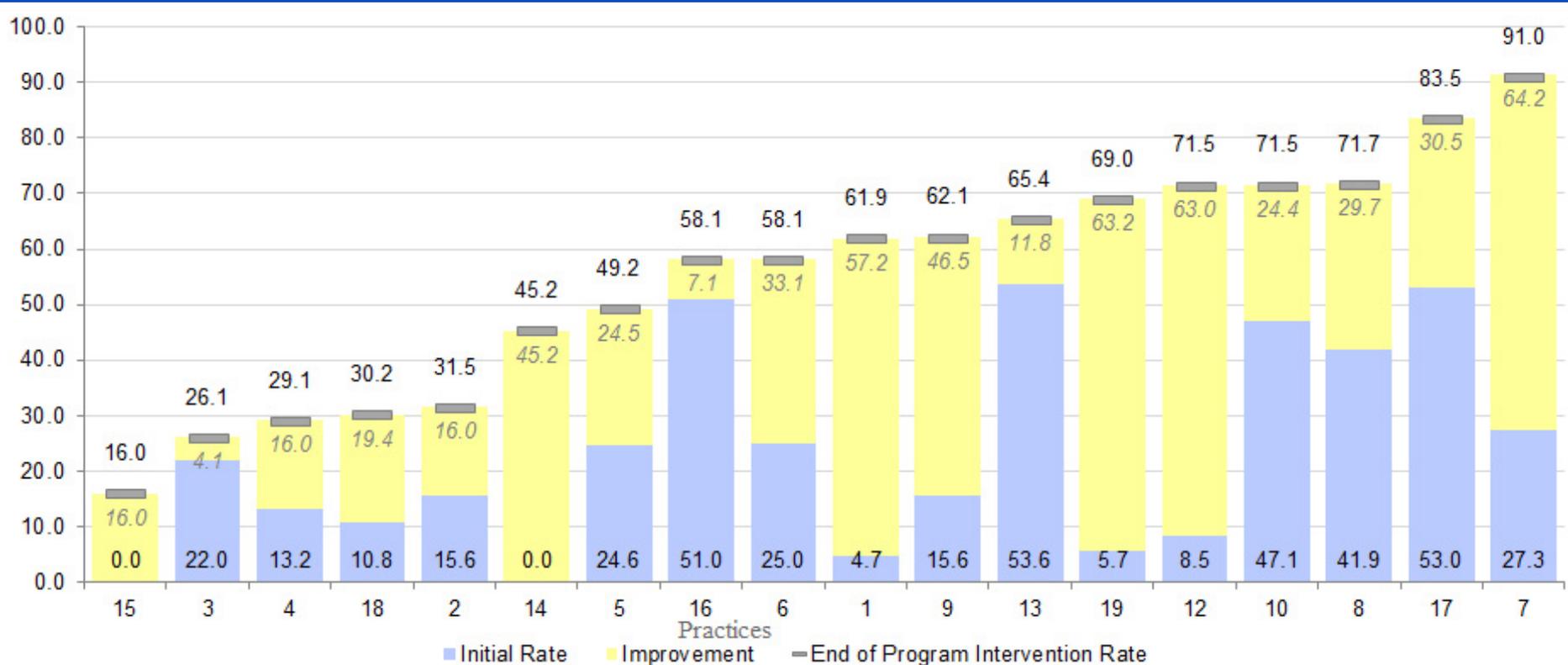


***Interventions include: counseling by provider, prescription for cessation medication, or referral to NY State Fax-to-Quit**
 Note: Unlike Health eHearts, all practices had the opportunity to earn incentives by demonstrating improvement over baseline rate of cessation interventions.



Health eQuits: End of Program Intervention and Improvement Rates

Initial rates of smoking intervention and the improvement for 19 NYC large practices



Does Patient Centered Medical Home (PCMH) certification mean higher quality of care?

**Yes, though practices who get PCMH
certification tend to be higher
performers anyway.**

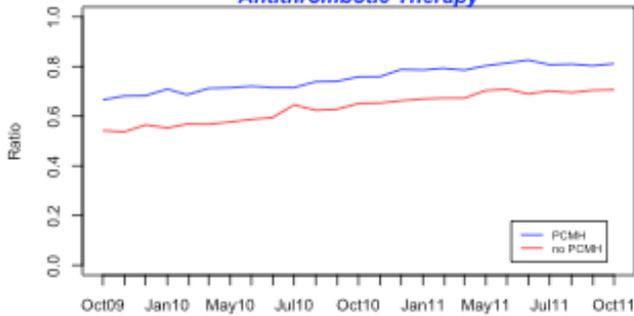


PCMH vs. No PCMH Recognition

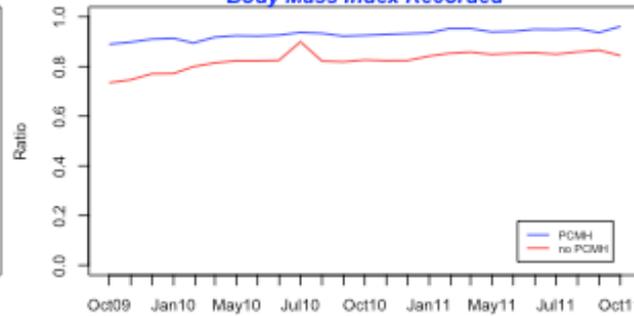
- Over 2 years, all practices had some improvement on quality measures.
- Out of seven measures, practices with PCMH recognition generally had higher performance.
- PCMH practices continued to have higher performance on quality measures.
- Practices with PCMH had more QI visits.
- PCIP has assisted 332 practices (small practices and community health centers), representing 888 providers, to achieve PCMH recognition to date. Of the 332 practices, 168 have achieved the more intensive level 2 or 3 recognition, representing 619 providers.

Patient Centered Medical Home

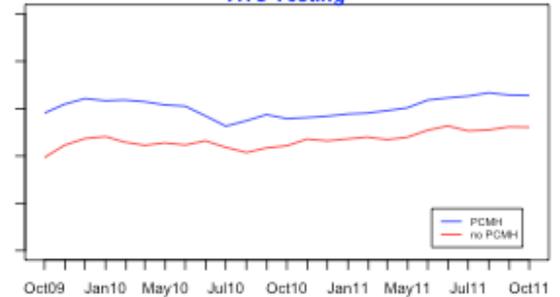
Antithrombotic Therapy



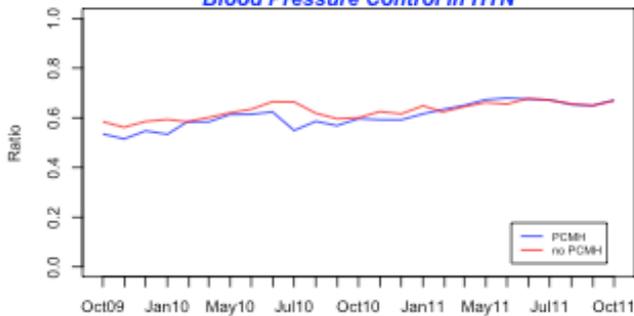
Body Mass Index Recorded



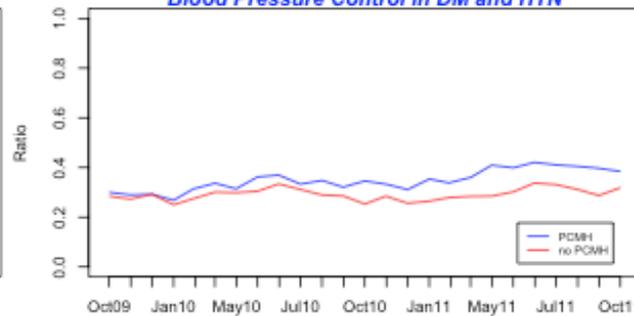
A1C Testing



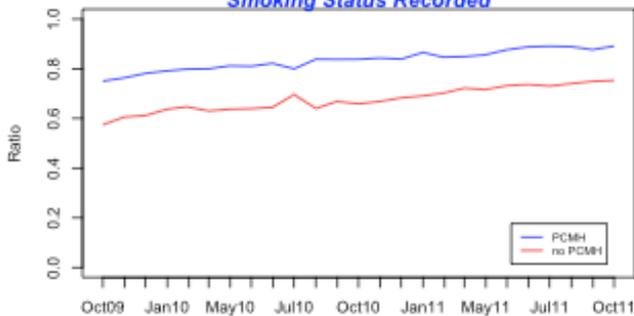
Blood Pressure Control in HTN



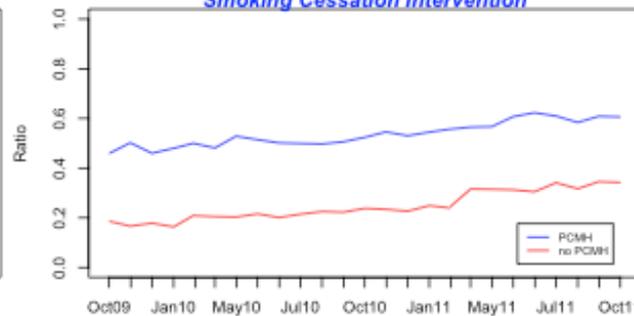
Blood Pressure Control in DM and HTN



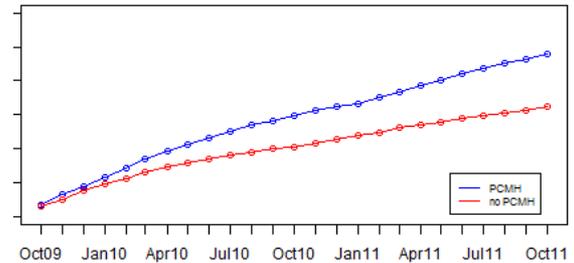
Smoking Status Recorded



Smoking Cessation Intervention



Average of Cumulative QI visits for PCMH vs. non PCMH



Do providers respond well to performance feedback?

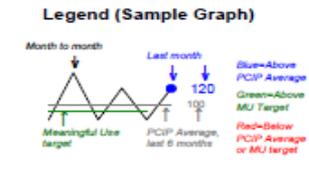
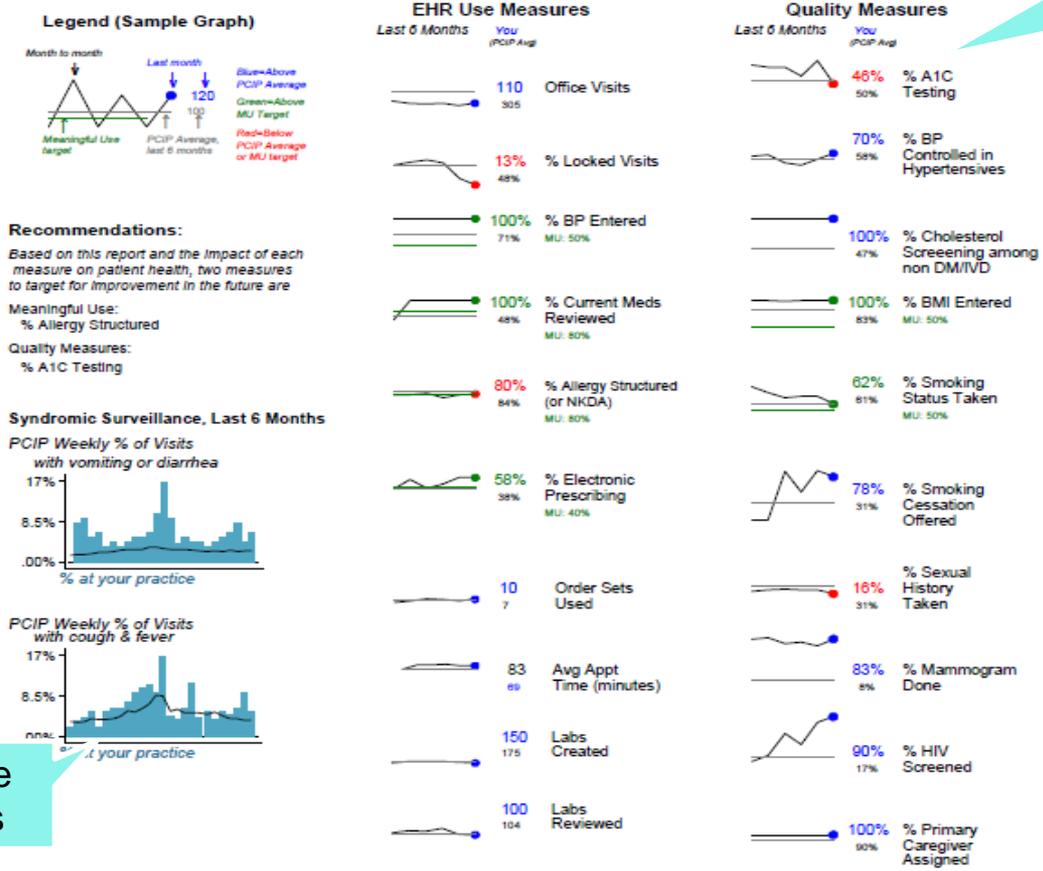
Yes, although it's important to be nonjudgmental.



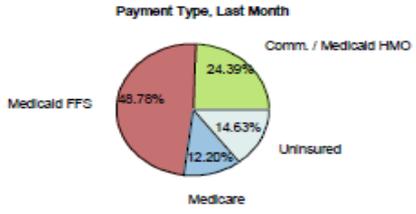
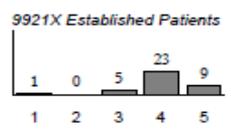
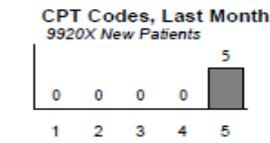
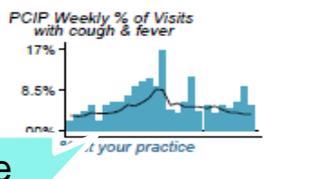
Feedback to Providers on Their Data Improves Their Documentation and Performance

Quality-of-care measurement

John Doe Dashboard October - March 2011
Practice: John Doe M.D., P.C. (ID: 11111) Live Since: 05/18/09



Recommendations:
Based on this report and the impact of each measure on patient health, two measures to target for improvement in the future are
Meaningful Use:
% Allergy Structured
Quality Measures:
% A1C Testing



Monthly dashboards sent to PCIP providers

- 10 EHR Use Measures
 - ePrescribing
 - Reviewing current meds
- 10 quality-of-care measures
 - Diabetes control
 - Blood pressure control
 - Smoking status
 - Mammography
- Recommendations
- Flu-like illness

*PCIP does not receive patient identifiable information from your practice.
*This report will not be shared with other organizations.
For questions, contact: Claudia Pulgarin at cpulgarin@health.nyc.gov

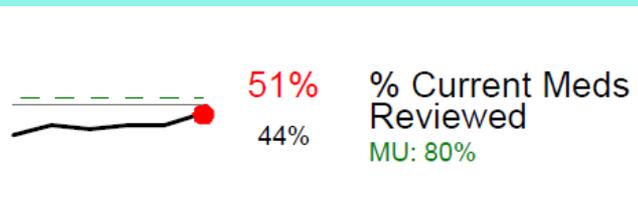




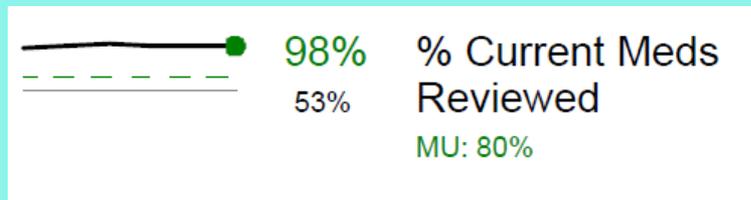
Providers Use Dashboards to Improve Their Quality of Care

"When we saw the current medications reviewed in red, I went to Dr. X to make sure that we review all meds."
October 2010

October 2010 Dashboard



March 2012 Dashboard

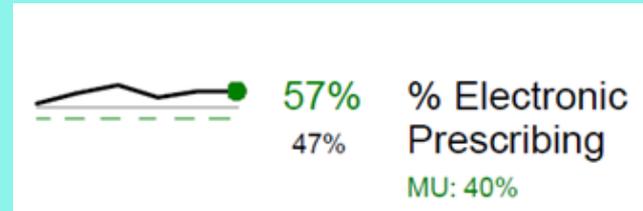


"I saw that Dr. Y is not doing e-prescribing. If you look and see what you need to improve on, you'll be more cognizant when patients come in and improve on that." October 2010

October 2010 Dashboard



March 2012 Dashboard



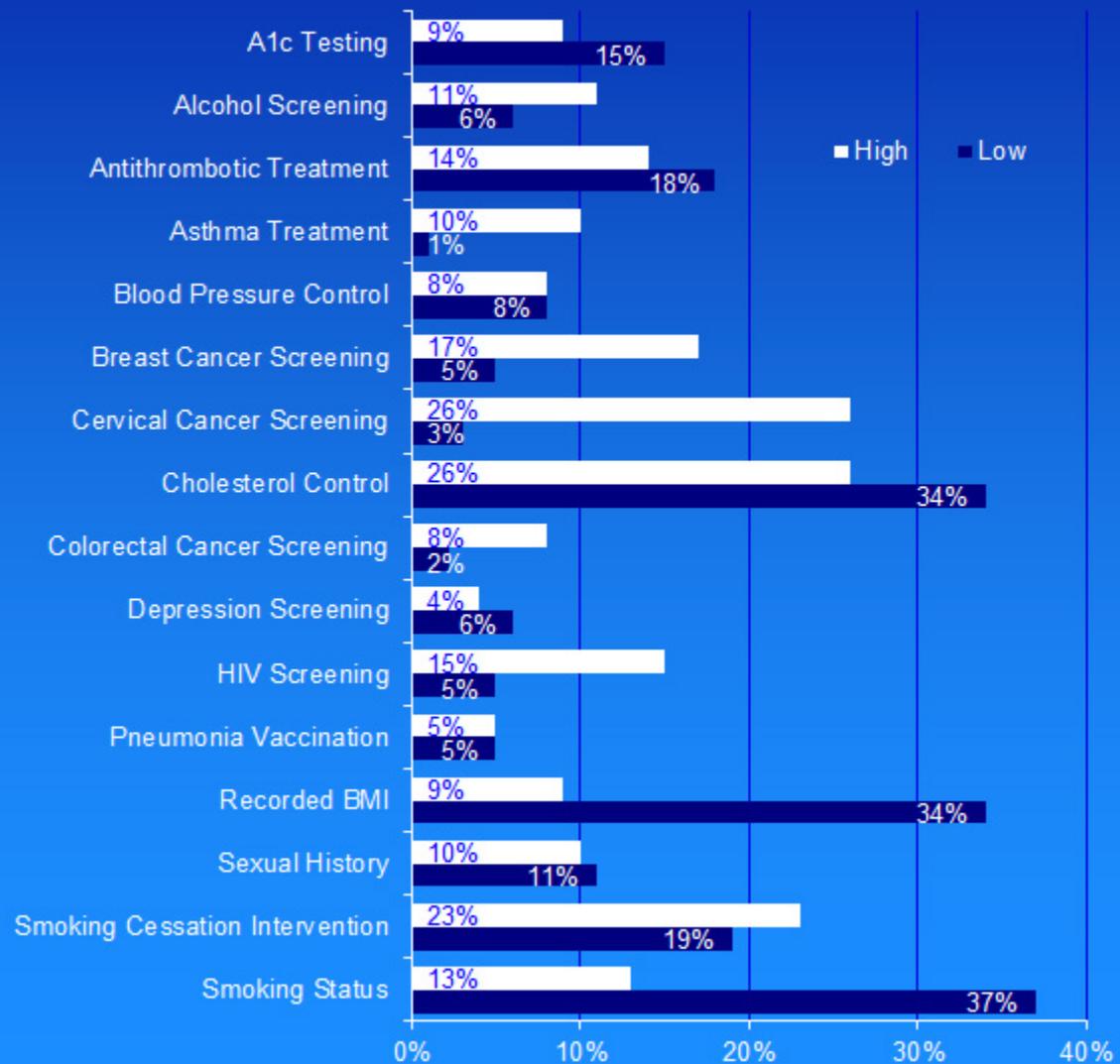


Dashboards Easily Highlight Areas for Improvement, Leading to Improvements Across All Measures

Average Performance Before Dashboards

	High	Low
A1c Testing	65%	27%
Alcohol Screening	64%	30%
Antithrombotic Treatment	71%	44%
Asthma Treatment	35%	8%
Blood Pressure Control	61%	45%
Breast Cancer Screening	16%	2%
Cervical Cancer Screening	19%	2%
Cholesterol Control	53%	9%
Colorectal Cancer Screening	15%	1%
Depression Screening	56%	13%
HIV Screening	46%	2%
Pneumonia Vaccination	34%	5%
Recorded BMI	85%	21%
Sexual History	48%	10%
Smoking Cessation Intervention	42%	13%
Smoking Status	72%	26%

Change In Performance After Dashboard Availability

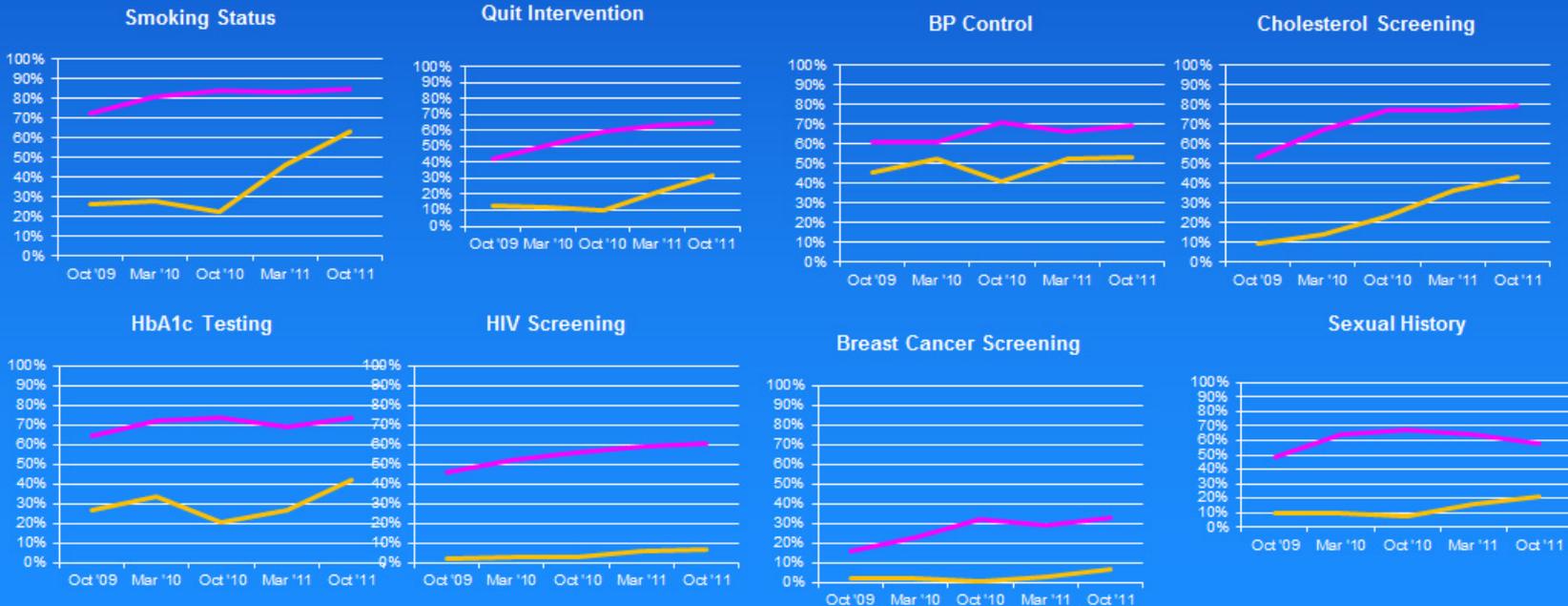




Impact of Provider Dashboards Led to Scalable Overall Improvement Across Measures

- Introduction of dashboards led to overall improvement across measures displayed on the dashboard.
- Improvement across all quality measures was observed for low- and higher-performing practices.
- Low performers improved BP control rates from 41 to 53%, 1 year post-dashboard receipt.

On the Dashboard



— = at/above benchmark/average at time of first DB



Future Direction

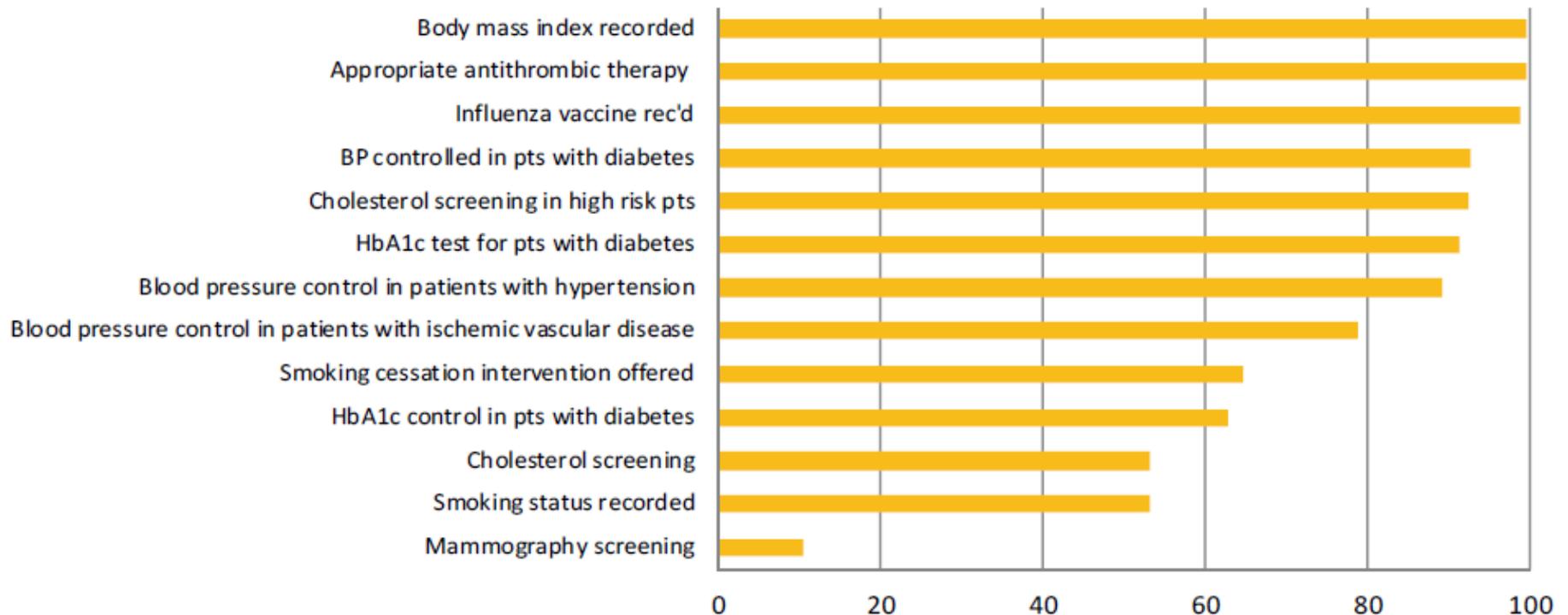
- Public health and primary care integration
- Continue to gain access to additional data sources to drive QI programs
 - EHR data
 - NYC Medicaid claims data
 - Diabetes A1C registry
 - HIE/RHIO data via Query Health
- PCIPs proven model for QI applied to variety of conditions and organizations
 - CVD: blood pressure, cholesterol
 - Mental health
 - ACOs, payers
- Disseminate findings around PCIP priority areas
 - Use of data to drive QI
 - How to drive public health focused data-driven QI in primary care practices
 - Explore cost impact



The Presence of Data Recognized for Automated Quality Measurement Varied from 10% to ~100%

The Amount of Data Captured in Electronic Quality Measures Varies Widely*

% of Information Recognized for Quality Measurement



* These findings are from a study of 57 practices using eClinicalWorks software. Practices using other software may or may not encounter similar issues.



Contact Information

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Hygiene



PECARN Registry

*Improving the Quality of Pediatric
Emergency Care Using an EHR
Registry and Clinician Feedback*

Elizabeth R Alpern, M.D., M.S.C.E.



PECARN Registry

Project work supported by:
AHRQ R01HS020270

PECARN infrastructure support by:

Health Resources and Services Administration (HRSA),
Maternal and Child Health Bureau (MCHB), Emergency
Medical Services for Children (EMSC) through the
following grants: U03MC00008, U03MC00003,
U03MC22684, U03MC00007, U03MC00001,
U03MC22685, U03MC00006



Rationale

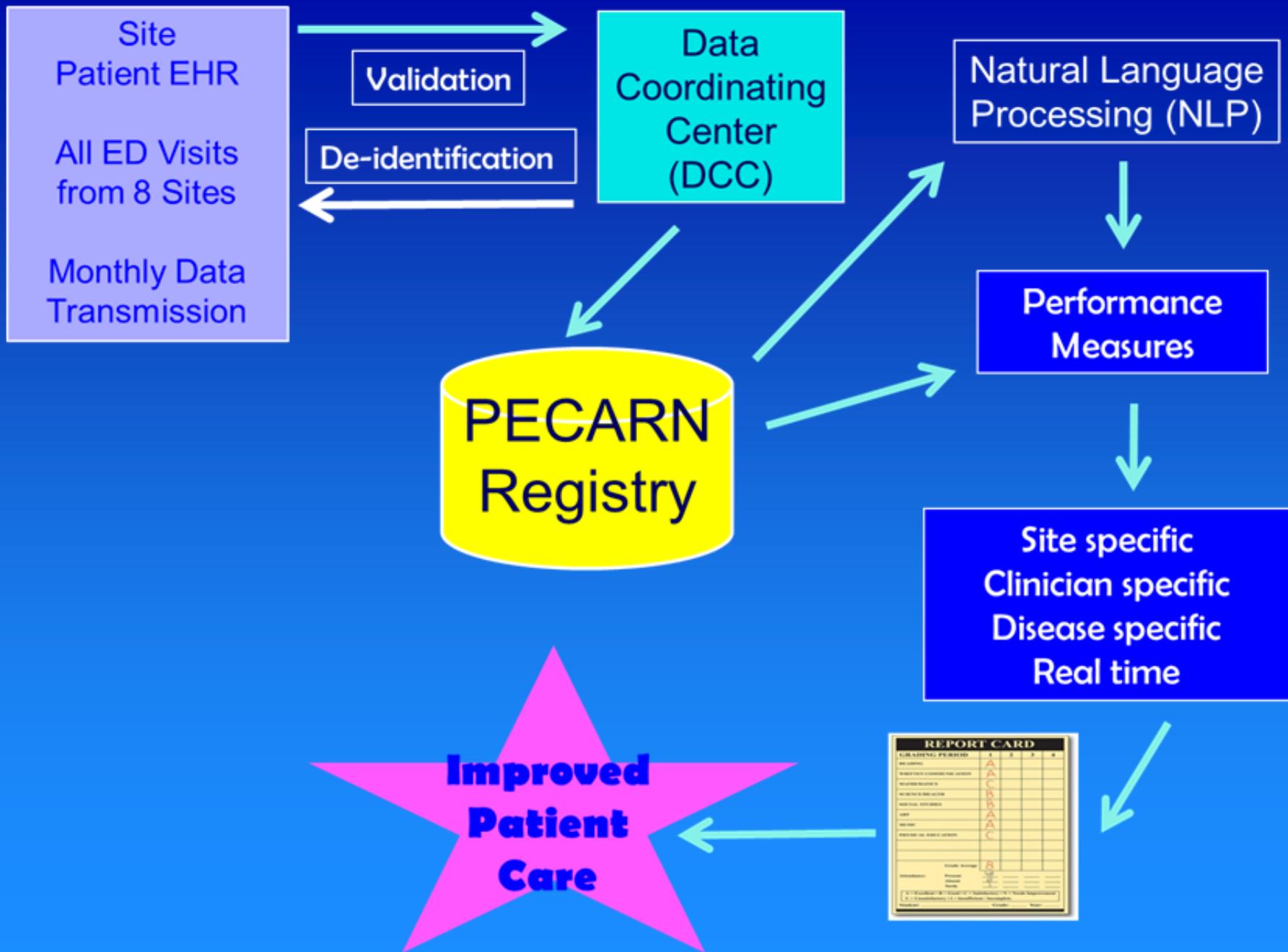
- Emergency care for children is variable with significant opportunities for improvement
 - IOM Report: *Emergency Care for Children: Growing Pains*
- Basic administrative data are not adequate for reporting and improving quality of care
 - Minority of quality measures available
- Advances in health information technology to access patient-centric clinical data (NLP & penetrance of EHR) provides opportunity



PECARN Registry

Aims:

- Serve as emergency care visit registry for pediatric patients from EHR
- Collect and determine benchmarks for stakeholder-prioritized emergency care performance at emergency department (ED) and clinician level
- Report performance to individual ED clinicians and sites while evaluating change using a staggered time-series study



Site Patient EHR
All ED Visits from 8 Sites
Monthly Data Transmission

Validation

De-identification

Data Coordinating Center (DCC)

Natural Language Processing (NLP)

Performance Measures

PECARN Registry

Site specific
Clinician specific
Disease specific
Real time

Improved Patient Care

REPORT CARD				
GRADING PERIOD	A	B	C	D
ALL PATIENTS	A			
ALL PATIENTS UNDER THE AGE OF 18	A			
ALL PATIENTS 18 AND OLDER	C			
ALL PATIENTS WITH A HISTORY OF PE	B			
ALL PATIENTS WITH A HISTORY OF CP	A			
ALL PATIENTS WITH A HISTORY OF DD	A			
ALL PATIENTS WITH A HISTORY OF DD AND CP	A			
ALL PATIENTS WITH A HISTORY OF DD AND CP AND PE	B			
ALL PATIENTS WITH A HISTORY OF DD AND CP AND PE AND DD	B			



PECARN Registry

- Children's Hospital of Philadelphia
 - EPIC
 - IBEX
- Children's Hospital Colorado
 - EPIC
- Cincinnati Children's Hospital Medical Ctr
 - EPIC
- Children's National Medical Center
 - Cerner



Background

- **PECARN Core Data Project (PCDP)**
 - Extant limited administrative data from all sites
 - 2002-2012
 - More than 1.2 M annual visits
 - Annual transmission of encrypted data
 - Database cleaning and maintenance at DCC
 - Describe/explore population, health services studies, hypothesis generation, derivation of diagnosis grouping, and severity classification
 - Scaffold to build EHR work

Background

- Quality performance measures
 - HRSA/EMSC Targeted Issues Grant
 - <http://www.childrensnational.org/EMSC/PubRes/toolbox.aspx>

Measure	IOM Quality domain(s)	Donabedian category
Weight in kilograms	Effective, Safe	Process
Measuring vital signs	Effective, Safe	Process
ED Door to Clinician Time	Timeliness, Pt Centered	Outcome
Length of Stay	Effective, Timeliness, Efficient, Pt centered	Outcome
Left Without Being Seen rate	Effective, Safe, Pt Centered	Outcome
ED return visits	Safe	Outcome
Plain film imaging turnaround time	Timeliness	Outcome
Reducing pain in children with acute fractures	Effective, Timeliness, Pt Centered	Process
Timeliness of insulin administration for DKA	Effective, Timeliness	Process
Timeliness of anti-epileptic drugs for status epilepticus	Effective, Timeliness	Process
Systemic corticosteroids in asthma	Effective	Process
Timeliness of inhaled B-agonist in asthma	Effective, Timeliness	Process
Improving asthma severity score	Effective, Pt Centered	Outcome
Reducing rates of antibiotic use in viral illnesses	Effective, Efficient	Process



Natural Language Processing

- Discrete recorded data elements & free text
- Free text parsing and Natural Language Processing
 - Recurring use of stereotyped phrases
 - “alert and oriented”
 - Unpredictable use of negation terms
 - No, none, lacking, without, absence, absent, ...
 - Punctuation used to separate phrases unpredictably
 - “No vomiting, fever.” “No vomiting. Fever.”

NLP: Pilot

- Identify Status Epilepticus

Ability to correctly identify seizures on arrival using two automated algorithms: (1) using administrative data, vs. (2) using both administrative data and NLP.

Expert Manual Review		Administrative Data		NLP	
		Present	Absent	Present	Absent
Site 1 (N=27)					
Present	11	5	6	11	0
Absent	16	1	15	2	14
	Kappa	0.42		0.85	
Site 2 (N=20)					
Present	3	2	1	3	0
Absent	17	1	16	1	16
	Kappa	0.61		0.83	
Site 3 (N=20)					
Present	5			4	1
Absent	15			1	14
	Kappa	Not available		0.73	



Data Transfer: Pilot

PCDP data in PECARN Registry format

- XML data transfer / XSD verification
- Comparison with “old” data transfer
- Linkage of all but 32 visits out of 89,000 at site 1
- Linkage of all but 4 visits out of 60,000 at site 2
- Share the programming burden
 - SQL statements contributed by each Epic site
 - Added burden for sole vendor sites
 - Use of an open-source tool
(<http://dataexpress.research.chop.edu/>)

Building the Registry



- 2012 data *en masse*
- 2013–2016 monthly



Study Procedures

Database construction

- Extract 1 day of data at each site and transmit 1-day data to DCC
- Establish de-id procedure at each site in concert with CBMi / DCC
- Extract and de-id 1 month of CY2012
- Transmit 1 month of CY2012 to DCC
- Test and assess import procedures and de-id
- Extract, de-id, transmit entire CY2012



Extensive Data Variables

Generated with oXygen XML Editor

Take care of the environment, print only if necessary!

Schema documentation for pecarnregistry_main.xsd

march 5, 2013

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Resource hierarchy:	5
Schema(s)	5
Main schema pecarnregistry_main.xsd	5
Included schema globalelements.xsd	5
Included schema microbiology.xsd	5
Included schema labs.xsd	5



Variables

- Site
- Patient identifiers:
MRN, Encounter Number
- Demographics
DOB, Sex, Race, Ethnicity,
ZIP, Payer
- Visit information
Triage Category, Chief
Complaint, Arrival Mode
Date/time: Notification, ED
Door, Sort/Triage,
Discharge
- Providers
Provider ID, Provider Role,
Provider D/T
- Vitals
Vitals D/T, HR, RR, SBP,
DBP, O2 sat, Temp,
Weight
- Medications
Current, ED, Discharge

Variables

- Clinical assessments

Asthma Score, Pain Score, GCS

- Narrative

Narrative D/T, Author type, Narrative

- Radiology

Order D/T, Start D/T, Avail D/T, Report D/T Report

- Labs (including micro)

Lab D/T Result

- Procedures

CPT, ICD9, ICD10

- Diagnosis

ICD9, e-codes, ICD10

- Disposition

ED Disposition

Hospital Discharge D/T

Vital Status



Performance Measures

- Weight in kg
- Measuring vital signs
- Door to provider
- Total length of stay
- Left without being seen
- ED return visits within 48 hrs. with admission
- Diagnostic imaging test turnaround time: available for viewing, radiologist reading



Performance Measures

- Reducing pain in fractures*
- Timely insulin administration for DKA*
- Timely anti-epileptic for status epilepticus*
- Asthma*
 - Systemic corticosteroids
 - Improvement in asthma severity score
 - Timeliness of inhaled B-agonist
- Reducing antibiotic use in children with viral illnesses*

* NLP and locus of control of provider



Successes (and Barriers)

Human subjects protections

- Successes: Institutional Review Board (IRB) approval at all sites
 - Early and ongoing discussion with IRB chairs / HIPAA officers at each site
 - Single overall protocol
 - Existing relationships (Business Associate Agreement)
- Barrier: large amount of protected health information (PHI)
 - Need to keep risk to minimum
 - Amendments needed to allow for flexibility in submissions but retain security
 - PHI in unusual places
 - Quality assessments time consuming and iterative



Successes (and Barriers)

Technology

- Successes: Leverage previous / existing collaborations and studies
 - PECARN studies
 - PCDP: harnesses large database strengths and data transmission
 - Knowledge translation: harnesses technology and EHRs
 - Working relationships: amazing, dedicated people at sites and Data Coordinating Center
 - Shared responsibilities across sites with same EHR vendor



Successes (and Barriers)

Technology

- Barriers:
 - EHR highly customizable to work flow of individual site regardless of shared vendor
 - Changes in EHR at site change Registry output
 - Site without shared vendor with concentrated workload
 - Site without academic technology support with additional barriers



Successes (and Barriers)

Data transmission

■ Successes:

- Scale up: 1 day of data to allow for derivation of techniques
- Rigorous quality improvement
- Iterative process: planned within grant timeline

■ Barriers

- Immense personnel and computing time and energies
- Site EHR changes may limit generalizability from single day data
- Iterative process: needs oversight to keep on track

Validation Reports

PECARN Registry - Summary of One-Day Submission

Data Standardization Mappings

Section 6:

Description: Reflects the categorized data values and raw site values for elements that get mapped to enumeration values

				CHOP	CINC	CINL	CNMC	CNMU	DECH	
				144	146	128	140	141	134	
Element Header	Element Name	Value ID	Value Raw							
EDDisposition	EDDispositionID	-2	No Data	0	0	0	0	1	0	
		-1	Data Not Mapped	0	1	0	0	0	0	
		1	Observation/RTU	admit	1	0	0	0	0	0
				discharge	6	0	0	0	0	0
				edecu	1	0	0	0	0	0
				HOME/SELF CARE OP	0	0	0	5	0	0
		2	Admitted	admit	43	23	4	0	0	13
				ambulatory surgery	0	0	0	0	0	2
				PARENT HOME/SELF CARE IP	0	0	0	20	1	0
		3	Left Against Medical Advice	LEFT AGAINST MED ADVICE OP	0	0	0	1	0	0
		5	Discharged	dc home	0	0	0	0	0	171
				discharge	202	0	0	0	0	0
				discharge home	0	202	72	0	0	0
				discharge to clinic	0	1	0	0	0	0
				HOME/SELF CARE OP	0	0	0	182	63	0
		6	Left Without Being Seen (includes Left	left before triage	0	0	0	0	0	1
				lwbs after triage	1	0	0	0	0	0
				lwbs before triage	2	1	0	0	0	0
		9	TRANS TO OTHER FACILITY OP	dc to another chco facility	0	0	0	0	0	0
				dc to osh facility (non-chco)	0	0	0	0	0	1
transfer from triage (other)	0			0	0	2	0	0		

Validation Reports

PECARN Registry - Summary of One-Day Submission

Data Standardization Mappings

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				discharge	6	0	0	0	0	0
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				PARENT HOME/SELF CARE IP	0	0	0	20	1	0
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				discharge home	0	202	72	0	0	0
				discharge to clinic	0	1	0	0	0	0
				HOME/SELF CARE OP	0	0	0	182	63	0
		6	Left Without Being Seen (includes Left	left before formal eval	0	0	0	0	0	1
				left before triage	0	0	0	0	0	1
				lwbs after triage	1	0	0	0	0	0
		9	TRANS TO OTHER FACILITY OP	lwbs before triage	2	1	0	0	0	0
				dc to another chco facility	0	0	0	0	0	0
dc to osh facility (non-chco)	0			0	0	0	0	1		
transfer from triage (other)	0	0	0	2	0	0				



Successes (and Barriers)

De – Identification

■ Successes

- Centralized and decentralized process
- Leveraging of prior experiences
- Able to de-identify PHI and shift dates

■ Barriers

- Need to balance rigorous de-identification versus “over” de-identification
- Mr. White vs. white matter
- Quality assessment is labor-intensive and needed with EHR changes



Benchmarks: Upcoming

Determine benchmarks for report card

- Achievable Benchmarks of Care (ABC™)
 - CY2012 data: discrete data sources and NLP
- Expert panel
 - Ideal benchmarks

Report card

- Clinician specific
 - De-identified to site and administration
- Site specific
- Input and experience from AHRQ clinical decision support/feedback grant

Your Performance (December 2009 – February 2010)		Top Performers (December 2009 – February 2010)	
60%		100%	

Time Period	Appropriate Analgesic Use			
	You		Your Practice	Network
	# of Visits with Pain Score ≥ 4	Analgesic Appropriately Recommended when Pain ≥ 4 (N, %)	Analgesic Appropriately Recommended when Pain ≥ 4 (N, %)	Analgesic Appropriately Recommended when Pain ≥ 4 (%)
September 2009 through November 2009	3	2 (67%)	74%	43%
December 2009 through February 2010	5	3 (60%)	78%	43%

Study Procedures: Upcoming

- Monthly data transmission for 24 months
- Distribution of report cards
- Assessment of effects of providing feedback
 - Staggered time series
 - Statistical process control charts





Goals

- Evaluate systems of care
- Improvement in quality of care
- Future:
 - EHR-based research
 - Comparative effectiveness research



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Q & A

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