Achieving Large-Scale Improvement: Lessons Learned from Quality/Transformation Journey in Cincinnati

Keith Mandel, M.D. Vice President of Medical Affairs, Physician-Hospital Organization Cincinnati Children's Hospital Medical Center keith.mandel@cchmc.org 513-636-4957

Kansas City Quality Improvement Consortium Board Meeting

July 13, 2011



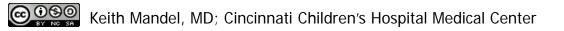
# Objectives

- Review conceptual framework and key drivers for achieving large-scale improvement goals.
- Describe how key drivers/interventions have been applied in the context of a large-scale asthma improvement initiative.
- Review impact to date on population-based asthma process and outcome measures ("big dots").
- Review key challenges to achieving large-scale improvement goals.
- Disucss lessons learned from quality/transformation efforts in Cincinnati that may be helpful to K.C. AF4Q journey.



# Challenging Healthcare Providers to Achieve Large-Scale Improvement





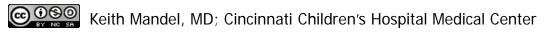
# Growing Focus on Large-Scale Improvement at National Level

- Beacon (CMS/Office of National Coordinator for Health Information Technology).
- Accountable Care Organizations (CMS, Brookings Institution, Dartmouth).
- CMS Innovation Center.
- Aligning Forces for Quality (RWJ Foundation).
- Improving Performance in Practice (RWJ Foundation).
- Triple Aim (Institute for Healthcare Improvement).



# Perspectives from National Thought Leaders





# Large-Scale Change: Key Messages

"The Triple Aim: Care, Health, and Cost" (Berwick, Nolan, Whittington; *Health Affairs*, 2008):

"The great task in policy is not to claim that stakeholders are acting irrationally, but rather to change what's rational for them to do."

"Encourage integrated behavior, without needing to change organizational structures."





# Large-Scale Change: Key Messages

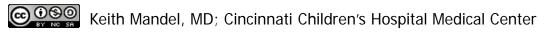
"Redefining Health Care: Creating Value-Based Competition on Results" (Porter, Teisberg; 2006):

"The dysfunctional competition in health care results from **misaligned incentives** and a series of understandable but unfortunate strategic, organizational, and regulatory choices by each participant in the system that feed on and exacerbate each other. All the actors in the system share responsibility for the problem...The only way to truly reform health care is to **reform the nature of competition itself**."

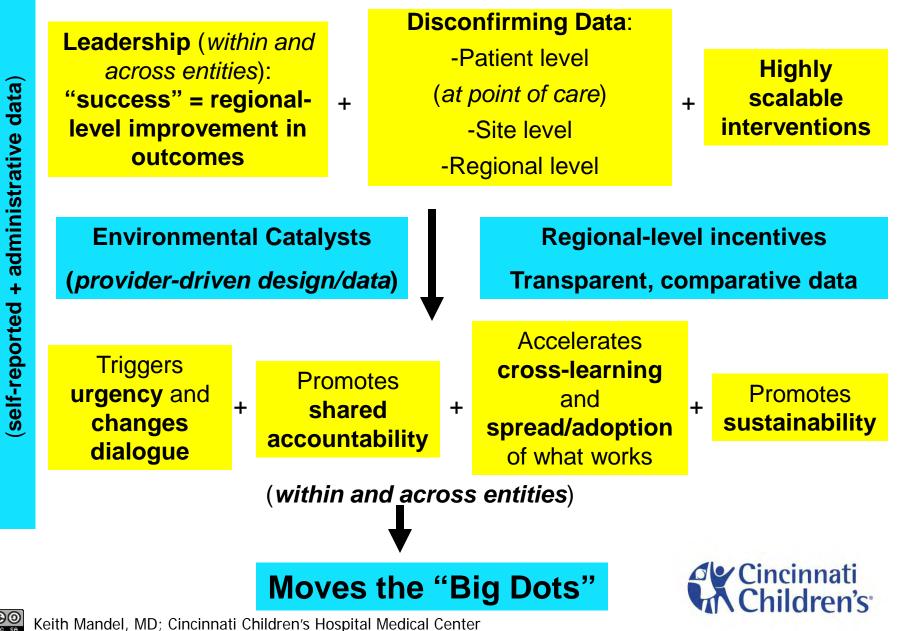


# Design Framework for Tackling the Challenge



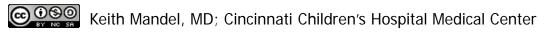


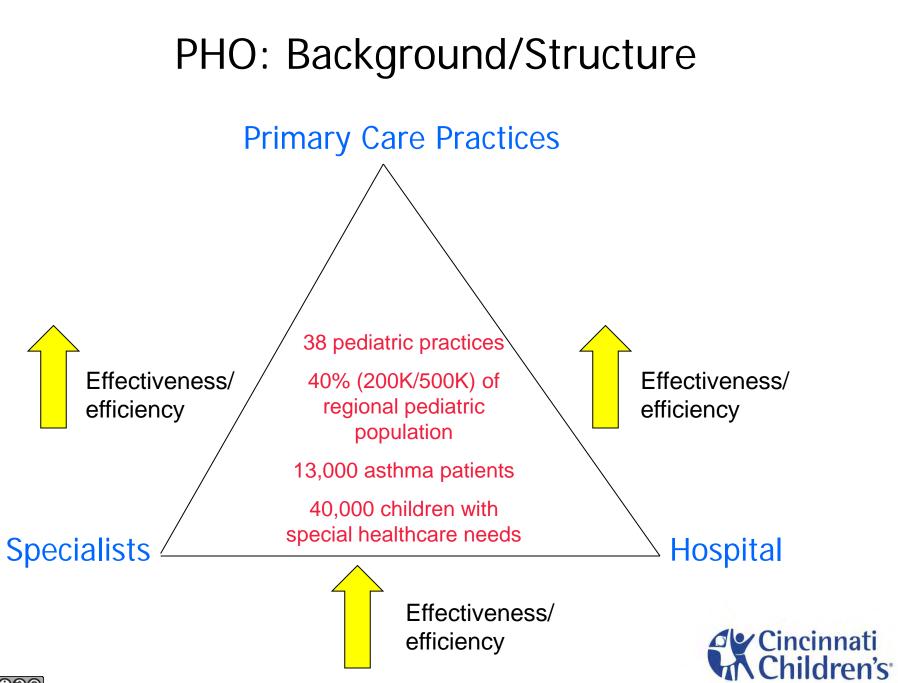
### Cincinnati Children's Physician-Hospital Organization: Conceptual Model for Large-Scale Improvement



# Applying Framework at Cincinnati Children's







Keith Mandel, MD; Cincinnati Children's Hospital Medical Center

### PHO Asthma Initiative: Network-Level Key Driver Diagram

#### AIM

To improve evidence-based care for 13,000 children with asthma across 38 primary care practices (40% of regional pediatric population), with over 90% of all-payor asthma population receiving "perfect care" (composite measure), thus reducing asthma-related ED/urgent care visits, admissions, acute office visits, missed school days, missed work days, and activity limitation; and, improving parent/patient confidence and degree of asthma control

#### AIM

To strengthen improvement knowledge/capability within primary care practices, thus enhancing sustainability of current and future improvement efforts

#### Cincinnati Children's

#### KEY DRIVERS/INTERVENTIONS (high scalability focus)

Physician leadership at Board and practice level

Network-level **goal setting** by Board (network-level performance defines success)

Measurable practice participation **expectations/requirements** (linked to **ABP-MOC** approval, **reward programs**)

Multidisciplinary practice quality improvement teams

Web-based **registry**, with all-payor population identification/reconfirmation

Real-time patient, practice, and network-level data/reporting

Transparent, comparative practice data on process and outcome measures

**Concurrent data collection/use of decision support tool** through high **reliability** principles/workflow changes (**disconfirming data**)

Aligning P4P/incentive design with improvement objectives

Evidence-based care ("perfect care" composite measure)

Population segmentation, with significant focus on "high-risk" cohort

Cross-practice **communication/shared learning** to spread successful interventions

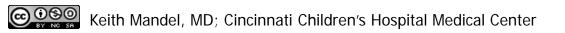
Integration of multiple administrative/electronic **data sources** (hospital, practice, payor)

Network and practice-level sustainability plans

Keith Mandel, MD; Cincinnati Children's Hospital Medical Center

"Success" = PHO Network-Level Improvement of Population-Based Outcome Measures ("Big Dots")





### Key Drivers that Accelerate/Sustain Large-Scale Improvement and Physician Engagement

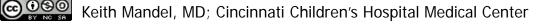
- Moving the "big dots."
- Highly engaged collective leadership group across sites.
- Reward models aligned with large-scale improvement aims/goals.
- Highly scalable, sustainable interventions.
- Reliable, accurate, trusted data collection and reporting systems.
- Creatively leverage "environmental trends."
- Coaching/supporting formal and informal physician leaders.



### **Key Driver**

### MOVING THE "BIG DOTS"!!





Key Driver	Interventions that Accelerate/Sustain Large-Scale Improvement and Physician Engagement
Highly engaged collective leadership group across sites	All aspects of QI design/execution informed by key physician leaders/front-line and through testing with pilot sites.
	Monthly, data-driven leadership group reviews of project status.
	Leadership group decisions to scale-up/spread interventions across sites predicated on high degree of belief/confidence that interventions have positively impacted care/outcomes.
	"Success" = aggregate + site level improvement in process and outcome measures.
	"Success"/improvement goals embedded in design of reward and MOC programs (environmental trends leveraged).
	Robust, measurable QI participation goals/expectations to which they hold themselves accountable.



Key Driver	Interventions that Accelerate/Sustain Large-Scale Improvement and Physician Engagement
Reward models aligned with large-scale improvement aims/goals	Provider-driven/payor partnership model with design characteristics directly aligned with those of large-scale improvement initiatives (QI design = reward design).
	QI initiative measures/data = reward measures/data (all-payor denominator focus)
(disruptive innovation)	Leadership group/providers highly confident in QI design, QI/IT infrastructure, and execution.
	Portion of site-level rewards linked to aggregate measures/goals (to accelerate diffusion of interventions and drive shared accountability for improving outcomes).
	Rewards also linked to "foundational" QI efforts that promote improvement capability and sustainability (e.g., registries, highly reliable use of decision support/data collection tools).



### Archives of Pediatrics and Adolescent Medicine (July 2007)

#### Pay for Performance Alone Cannot Drive Quality

Keith E. Mandel, MD; Uma R. Kotagal, MSc, MBBS

Objective: To determine whether aligning design characteristics of a pay-for-performance program with objectives of an asthma improvement collaborative builds improvement capability and accelerates imurovement.

Designe Interrupted time series analysis of the impact of pay for performance on results of an asthma improvement collaborative.

Soffing: Forty-four pediatric practices within greater Cincinnati.

Participanis: Forty-four pediatric practices with 13 380 children with asthma.

Interventions: The pay-for-performance program rewarded practices for participating in the collaborative, achieving network- and practice-level performance thresholds, and building improvement capability. Pay for performance was coupled with additional improvement interventions related to the collaborative. Outcome Measures: Flu shot percentage, controller medication percentage for children with persistent asihma, and written self-management plan percentage.

Results: The pay-for-performance program provided each practice with the potential to earna 7% feeschedule increase. Three practices earned a 2% increase, 13 earned a 4% increase, 2 earneda 5% increase, 14 earned a6% increase, and 11 earneda 7% increase. Between October 1, 2003, and November 30, 2005, the percentage of the network asthma population receiving "perfect care" increased from 4% to 88%. The percentage of the network asthma population receiving the influenza vaccine increased from 22% to 41%, and then to 62% during the prior 3 flu seasons.

Condusion: Linking design characteristics of a pay-forperformance program to a collaborative focused on improving care for a defined population, building improvement capability, and driving system changes at the provider level resulted in substantive and sustainable improvement.

Arch Pediatr Adolesc Med. 2007;161(7):650-655

Destrict the RAFIG ORWATH of pay-for-performance programs across the United States,<sup>1-3</sup> evidence regarding their effect on quality of care is limited.<sup>4-15</sup> Even in instances in which pay-for-performance programs have been linked to measurable improvement, aitribution is problematic.<sup>40-14</sup> Although "guiding principles" exist,<sup>4,8,10-26</sup> the lock of evidence regarding effective design characteristics for payfor-performance programs remains a sigmficant concern.

For editorial comment see pages 713 and 715

Although ideal aspects of pay-forperformance programs remain elusive, we hypothesized that aligning pay-forperformance program design characteristics with the primary objectives of a largescale asthma improvement collaborative and coupling pay for performance with other interventions would enhance improvement, and a locose primary care practices. This approach was based on the contention that pay for performance should be viewed as a catalyst to accelerate sustainable transformation at the provider level and that an overdependence on pay for performance alone to drive quality should be avoided. Based on results achieved, key pay-for-performance program design principles will be reviewed to inform the national dualog among providers, payers, and employers.



The Physician-Hospital Organization (PHO) affiliated with Cincinnati Children's Hospital Medical Center launched an asthma improvement collaborative in October 2003, impacting more than 13 000 children with asthma across 44 primary care practices (165 physicians) within preater Cincinnati, representing approximately 35% of the region's pediatric asthma population. The primary care practices are organized as an independent practice association. The PHO elected to focus on asthma because the prevalence is high, care is usually managed by primary care practices, and extensive literature exists regarding the positive impact of improvement interventions on process and outcome measures. The aim of the asthma initiative is to improve evidence-



Asthor Affiliationat Physician-Hospital Organization (Dr Mandel), Division of Health Policy and Christal Effectiveness (Dn Mandel and Kotagal), Cincinnati Children's Hospital Medical Center, and Departments of Pediatrics (Dn Mandel and Kotagal) and Obstatrice/Gynecology (Dr Kotagal), University of Cincinnati College of Meckeine, Cincinnati College of Meckeine, COMMENTARY

JAMA—February 17, 2010

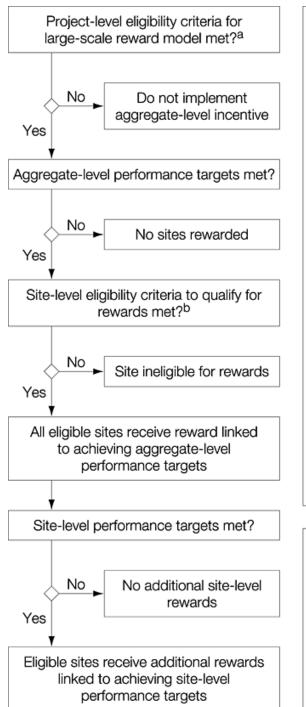
### Aligning Rewards With Large-Scale Improvement

#### Keith Evan Mandel, MD

NTENSIFIED HEALTH CARE REFORM EFFORTS INCREASE THE urgency to achieve significant improvements in quality and substantial cost savings at the national level. Yet the pace of executing and spreading effective improvement interventions makes it unlikely these outcomes will be achieved in the foreseeable future. Although frameworks for large-scale improvement have been described by the Institute of Medicine, Commonwealth Fund, and others, there is limited evidence about how to design and implement system changes that improve population-based quality measures while also overcoming challenges inherent to large-scale change. Even though there is increasing evidence from innovation networks, improvement collaboratives, and national improvement campaigns about what works, the likelihood of achieving regional, state, or nationallevel improvement goals is limited without disruptive strategies that accelerate large-scale diffusion of effective interventions 13 Shifting the forms to rewarding sites (eq. primary

practices committed to defining overall success as achieving improvement goals for network-level process and outcome measures. Board discussions of the aggregate-level incentive triggered an intense focus on overall design of the improvement initiative, because committing to networklevel improvement required successful execution of strategies for developing, testing, and spreading interventions. An example of this effect was board approval of sharing transparent comparative practice data on process and outcome measures within 6 months of project inception. The aggregate-level incentive also promoted learning across practices that accelerated the spread of successful interventions; pushed early adopter practices to even higher performance levels to increase the likelihood of achieving aggregate-level performance thresholds; accelerated engagement of practices in the improvement initiative; and helped sustain focus on improvement relative to the all-payer population denominator within and across practices.

Based on the Cincinnati experience, aggregate-level incentives could have significant implications for achiev-



<sup>a</sup>Project-level eligibility criteria

- Leadership commits (within and across sites) to defining success as improving aggregate-level performance
- 2. Centralized infrastructure exists to promote shared learning and interaction between sites
- Transparent comparative site data exists on process and outcome measures
- 4. Purchasers and payors represent significant proportion of population of focus and support linking rewards to aggregate-level performance
- 5. Measure specifications standardized across sites
- Reliable and accurate data collection and reporting systems implemented across sites
- 7. Centralized database or registry used to generate aggregate-level performance measures at regional, state, and/or national level
- 8. Evidence exists linking interventions to improvement in outcome measures
- Evidence exists that spread and adoption of defined interventions improves population-based measures

<sup>b</sup>Site-level eligibility criteria

- 1. Commitment to public transparency of process and outcome measures
- Improvement intervention details and tools posted to shared Web site for other sites to access
- 3. Monthly reporting of highly reliable and accurate data
- 4. Participation in multisite, shared learning forums



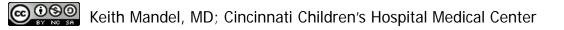
Mandel, K. E. "Aligning Rewards with Large-Scale Improvement"

#### February 17, 2010

# Key Points from JAMA Article

- "Likelihood of achieving regional, state, or national-level improvement goals is limited without disruptive strategies that accelerate large-scale diffusion of effective interventions."
- "If success is truly defined as achieving population-based improvement, why not align at least a portion of rewards with achieving this overall aim? Isn't this a more rational approach?"





Key Driver	Interventions that Accelerate/Sustain Large-Scale Improvement and Physician Engagement
Highly scalable, sustainable interventions	Combined decision support/data collection tools implemented at point of care at high reliability level (avoids data collection being un-linked from improvement efforts).
	Decision support/data collection tools generate "disconfirming data" from patients/families at point of care that significantly impacts clinical decision-making.
	High degree of belief/confidence established among opinion leaders/peers that interventions have positively impacted care/outcomes (combined with strong evidence/data).
	Diffusion of innovation principles (Everett Rogers' work) used to achieve "tipping point" and diffuse interventions across adoption curve/adopter categories (not about shifting individuals/sites position on adoption curve).
	Interventions not totally dependent on IT infrastructure/interfaces.
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# Reliability ("How")

System designed to reduce "missed opportunities" at point of care to generate "disconfirming data" and drive improvement

Prior to visit:

 Asthma sticker placed on chart and data collection form inserted.

On arrival:

- Registration staff asks parent if child has asthma at check-in.
- Parent/patient completes data collection form while in waiting area.
- "Standing orders."

Exam room:

- Nurse/medical assistant reviews medication list and collects data when patient taken to exam room.
- Parent/patient completes form while in exam room.
- Physician completes form while in exam room.
- "Reminder" built into EMR.

Before departure:

 Nurse/medical assistant assures data collected and issues addressed/collects missing data prior to patient departure.

Beyond traditional visits:

- Data captured at time of parent phone call to refill asthma medications.
- Data captured at flu shot-only visits.
- Data captured via regular mailings.



### Where we started in October 2003...

Asthma Patient Data Collection Form How severe is patient's asthma? (circle appropriate level)			
SEVERE PERSISTENT	MODERATE PERSISTENT	MILD PERSISTENT	MILD INTERMITTENT
<u>Days</u> Continual (more than 1 episode/day)	<u>Days</u> Daily (1 episode/day)	<u>Days</u> 3-6 days/week but, not every day	<u>Days</u> 0-2 days/week
<u>OR</u>	<u>OR</u>	<u>OR</u>	<u>OR</u>
<u>Nights</u> Frequent	<u>Nights</u> 5 or more nights/month	<u>Nights</u> 3-4 nights/month	<u>Nights</u> 0-2 nights/month
Typical asthma symptoms: cough, shortness of breath, wheezing, chest tightness, waking at night, decreased ability to perform usual activities			

Is patient on controller medication? (circle yes or no; if yes, circle one or more medications listed below, as applicable)		
Yes		
inhaled steroid	long-acting bronchodilator	oral steroid
leukotriene modifier	cromolyn or nedocromil	theophylline
other (please specify)		
Νο		

Was a written asthma management plan provided to family? (circle one) Yes No

Parents should answer the following two questions . .

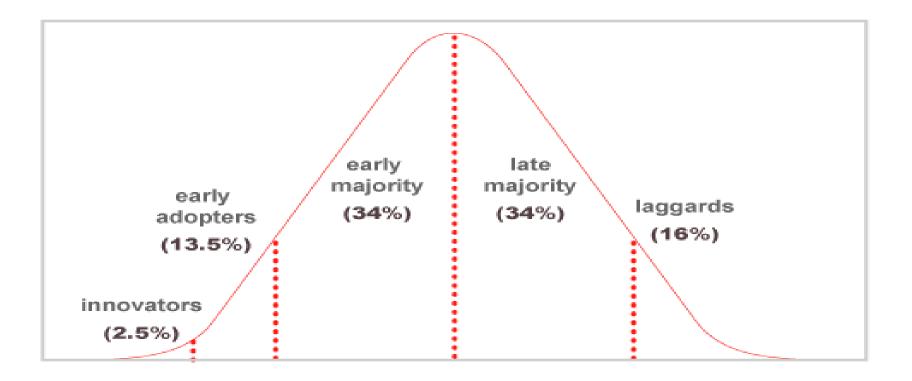
Has patient had a flu shot during the 2003-2004 season?			
(circle one)	Yes	No	If "No", please indicate action taken:



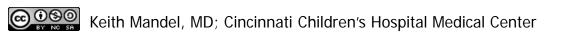
# What the asthma data collection/decision support tool looks like today...

(posted at www.tristatepho.org)

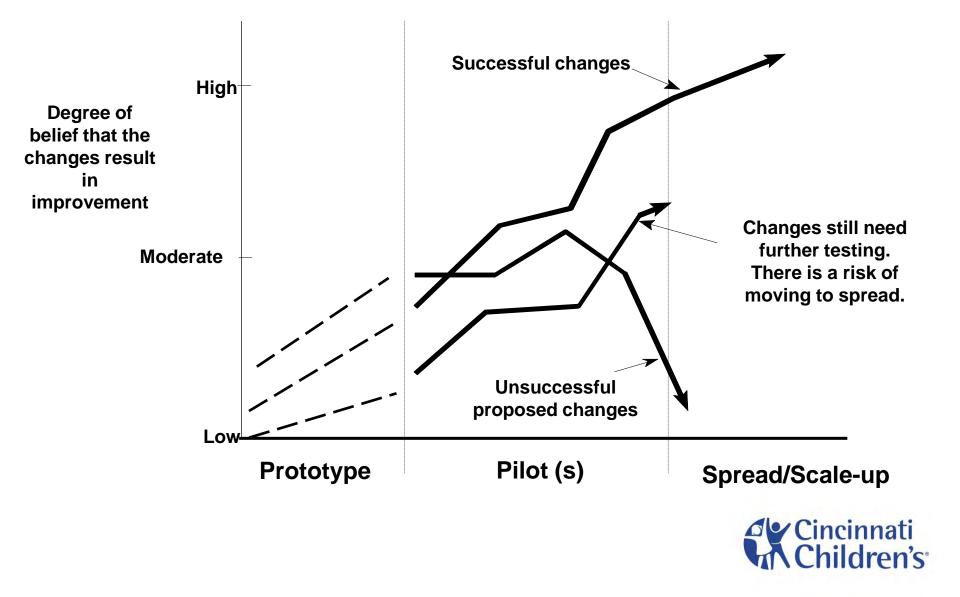








# Spread/Scale-Up Trajectory



Key Driver	Interventions that Accelerate/Sustain Physician Engagement in Large-Scale Improvement
Reliable, accurate, trusted registry/data collection and reporting systems	Centralized, web-based registry that supports aggregate, site, comparative site, and patient level measurement/improvement (avoid dependency on executing all IT interfaces).
	Measures/reports updated real-time and accessible 24/7.
	Transparency of comparative site data for process and outcome measures.
	Registry/measures populated with combination of self- reported and administrative data.
	Systematic, reliable processes for maintaining accurate data/measures (e.g., reconfirming population denominators, site-level attribution).
	Comparison group data tracked to more accurately discern improvement and to more powerfully communicate impact.



Agency for Healthcare Research and Quality: *Registries for Evaluating Patient Outcomes: A User's Guide, 2<sup>nd</sup> Edition* (December 2009)

Case Example 30: Managing Care and Quality Improvement for Chronic Diseases

Description	The Tri State Child Health Services web-based asthma registry is part of an asthma improvement collaborative aimed at to increasing the use of evidence-based medicine and strengthening the improvement capacity of primary care practices
Sponsor	Physician-Hospital Organization (PHO) affiliated with Cincinnati Children's Hospital Medical Center
Year Started	2003
Year Ended	Ongoing
No. of Sites	39 community-based pediatric practices
No. of Patients	12,000 children with asthma

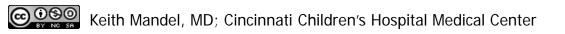


### **Key Driver**

Creatively leverage "environmental trends"

(quality improvement requirements linked to maintenance of board certification)





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Embed video and audio in Adobe PDF

#### Integrating Maintenance of Certification into Daily Practice

Search

Paul V. Miles, MD Vice-President



Rave a Copy

Pediatricians are committed to delivering quality cars. They work long hours filled with seeing patients, teaching, or doing research, sconstinues all three. They have little free time as they balance professional and parootal lives. Maintaning beaut certification is a committee to quality that most pediatricians choose to make. The ABP is committed to creating a maintenance of certification program that is relevant

(helps improve care), flexible, and integrated into the daily work of pediatricians. The Program for Maintenance of Cartification in Pediatrics<sup>9</sup> (PMCP<sup>9</sup>) is being designed to reduce redundancy in the multiple domands pediatricians face from health plans, hospital credentialing, and state licensure. Part 4 of PMCP, Performance in Practice, is designed to seable pediatricians to demonstrate that they can assess and systematically improve the quality of care they deliver. This involves demonstrating competency in quality improvement (QI) science and understanding competency in quality improvement better not only for patients, but also for pediatricians and their care teams. Currently deliventies can fulfil the requirements of Part 4 by completing Web-based modules, such as the AAP's eQIPP program. Additional Web-based activities are being developed for both pediatric generalistics and subspecialist.

#### A New Pathway

-

In addition to Web-based modules, the ABP is developing a second pathway for meeting the requirements for Part 4 of PMCP that involves giving credit for meeningful participation by a diplomate in an established local QI effort. A recent study showed that almost 30% of physicians are already involved in some way in quality improvement efforts. Hospitals, societies (eg. AAP state chapters), health plans, subspecially programs (eg. neonatology, gastroestrology, cardiology, instantive care, and pulmonology), and others have robust, ongoing QI activities that activally engage physicians. Involvement in QI activities that affect direct patient care of practice-based learning and improvement and system-based practice. The Established Quality Improvement more pathway permits physicians to receive Part 4 credit for their participation in valid local efforts as an alternative to completion of ABP approved Web-based modules. The ABP is working with several established QI programs for generalists and subspecialists to develop the guidelines for this pathway. The guidelines will include:

Select

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 Standards for meaningful physician participation in a QI project that will meet the requirements for Part 4.

 Standards that projects must meet to be approved to qualify as valid programs that diplomates can participate in for Part 4 credit.

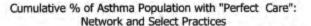
Established programs will be required to demonstrate a formal structure and an ongoing commitment to QI in order to receive approval. As example of a neccessful quality improvement program that would be considered by the ABP is an arthma improvement initiative being coordinated by the Physician-Hospital Organization (PHO) affiliated with Cuncineari Children's Hospital Medical Center. Over 160 community pediatricians across 44 practices have significantly improved care for 13,000 children with asthma (see figure on page 5).

The dark blue line reflects network performance as to the percentage of children with safama receiving "perfect care," a composite measure of three key processes. The multicolor lines reflect the variability in rate of improvement among select practices. Of nois, the safama initiative included a pay for performance program with the region's largest commarcial pays. If the PHO applied for approval and provided evidence of meaningful participation by individual pediatricians, the ABP would consider granting credit for Part 4 of the Maintenance of Certification program. Further details Mandel, MD, PHO Vice-President of Medical Affairs at Cincinnati Children's Hospital Medical Center, at <u>keith mandel/Geclum.org.</u> or 513-635-4977.

#### Reducing Redundancy

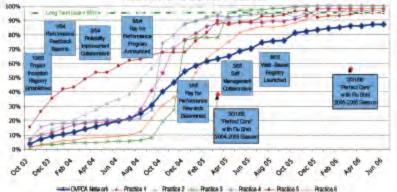
The ABP is working with other ABMS boards, payeer, hospitals, and the Federation of State Medical Boards to integrate PMCP with credentialing, state licensure, and physician reimbursement programs.

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"Perfect Care": composite measure of seventy classification, written management plan, and controller medications (if patient has "persistent" asthma)

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### ABP-MOC: **Practice-Level** Criteria\*

(Note: if not met, physicians cannot receive MOC credit)

- **Reliability**: achieve annual goal of 80% of all-payor asthma registry population with data collection/decision support tool completed at point of care and data entered into web-based registry.
- **Composite Measure**: achieve goal of 90% of all-payor asthma registry population receiving "**perfect care**."
- **Denominator**: reconfirm asthma registry population denominator at least once per year by reviewing CCHMC administrative data and practice billing data.
- **Improvement Team**: sustain multidisciplinary quality improvement team (physician, nurse/medical assistant, office manager).
- **Shared Learning**: quality improvement team representation at network meetings.

\*Physician-level criteria also exist.

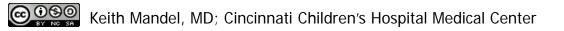


Keith Mandel, MD; Cincinnati Children's Hospital Medical Center

### **Key Driver**

# Coaching/supporting formal and informal physician leaders!!





### Achieving Large-Scale Improvement: Lessons Learned from PHO Journey

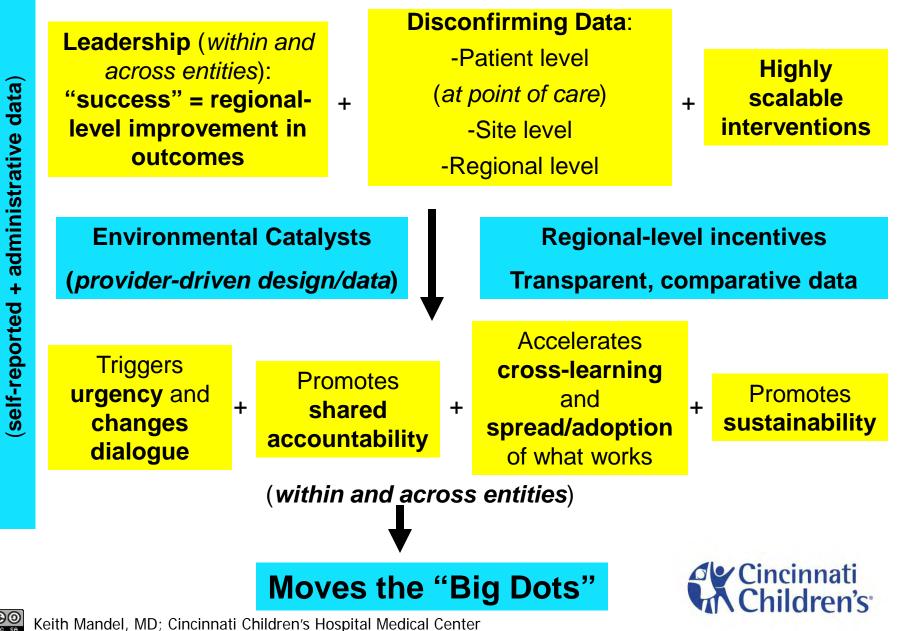
- Leadership group engagement (site, system, regional levels).
- Defining "**success**" as populationlevel improvement in outcomes.
- Shared accountability for improving population-level outcomes and spreading what works. (*compete on execution*)
- Meaningful/measurable QI participation expectations.
- **Reward models** aligned with how "success" is defined.
- Additional environmental catalysts to accelerate/sustain improvement (e.g., board recertification, data transparency).

- Centralized QI and IT infrastructure to manage largescale improvement.
- **Registry/data systems** to drive patient, site-level, and regional measurement/improvement.
- High reliability workflow redesign that generates
  "disconfirming" data at point of care. (concurrent use of decision support/data collection tools)
- "Front line" at table with management/operations team.
- Highly scalable/sustainable interventions.





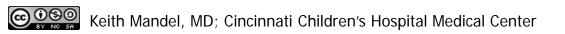
### Cincinnati Children's Physician-Hospital Organization: Conceptual Model for Large-Scale Improvement



### "Be the Best at Getting Better"

### Lee Carter, Former Board Chair, Cincinnati Children's





# Thanks!

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