

Medical Home Evaluations: Why They Can Fail, How to Structure Them

Debbie Peikes, Ph.D.

May 26, 2010

Webinar for the Medical Home Audioconference Series

*The Leading Forum on the Development and Implementation of the
Patient-Centered Medical Home*

MATHEMATICA
Policy Research, Inc.

I. The Business Case for Sound Evaluations

Various Groups Have an Interest in Good Evaluations

- **Physicians:** Transformation requires staffing and IT changes, time, and \$. Will these translate into more satisfaction and \$?
- **Insurers/payers:** Will reduced costs cover the payments to providers and in-kind supports?
- **Patients:** Will patient-centeredness and outcomes improve? Will premiums fall?
- **Various vendors:** Will this movement exist 5 years from now?

The PCMH Model Carries Great Risks

- **Model isn't actually implemented fully**
- **Model is implemented, but does not work**
 - Increases costs
 - Decreases satisfaction of patients
 - Decreases provider satisfaction
 - Decreases quality
- **Simply proceeding without evidence may divert resources from other primary care transformations that would work**

One Risk



II. Case Studies: First, the Promise of Disease Management

- **1998–2000: Claims emerge that DM generates large ROIs (2:1 was conservative)**
- **Based on weak study designs, auto-evaluations**
- **This created a \$2.5 billion industry serving commercial and public patients**
- **Vendors sought government \$ to serve Medicare beneficiaries**

But Most DM Programs Actually Increase Costs

- Since 2002: CMS evaluated disease management using multiple demonstrations
 - Random assignment
 - Objective evaluators
- Results: In almost all cases, DM bent the cost curve, but in the wrong direction
- Effects on quality were trivial

Evaluations Saved a Large Insurer Billions in Future Investments, and Point a Way Forward

- Medicare did not make DM a covered benefit
- Although most DM models don't work, there is evidence suggesting needed refinements:
 - The right services to the right people can work
 - We have identified 4 of 11 scalable programs that were cost neutral for a high-risk subgroup among the chronically ill enrollees
 - Next step is to develop protocols and test the next generation of DM
- This learning could occur only with a solid research foundation

Back to PCMH. . . What Can an Evaluation Deliver?

- Document whether the PCMH model was implemented
- Identify barriers and facilitators to being a medical home
- Assess effectiveness to justify investment
- Measure performance to reward providers differentially

Right Now, Many PCMH Demonstrations Lack Evaluations

R. Malouin (10/22/09) reports

- 19/29 (65%) demonstrations responded to survey
- 12/19 (63% of respondents) have formal evaluation plans in place
- 2/19 (10%) had not yet begun
- 8/19 (42%) are using an external evaluator

And Some Are Misleading

Another Case Study: North Carolina's Medicaid Access Program

MEASURING OUTCOMES IN PCMH: IT'S MATH, NOT A BELIEF SYSTEM

Data courtesy of Al Lewis, DMPC,
www.dismgmt.com 781 856 3962

DMPC
Disease Management
Purchasing Consortium Advisory Council

**Attachment 6
SFY06 Savings
Using Statewide Benchmark
(by Rate Cell)**

AFDC - Specified Categories of Service

Age and Sex Description	Member Months ¹	SFY06 Projected Benchmark PMPM ²	Actual SFY06 PMPM ³	Estimated Savings from Benchmark ⁴
< 1 year M & F	670,070	\$ 411.38	\$ 186.80	\$ 150,479,255
1 - 13 years M & F	4,672,745	\$ 102.70	\$ 100.37	\$ 10,901,303
14 - 18 years F	596,909	\$ 224.57	\$ 166.58	\$ 34,614,787
14 - 18 years M	547,434	\$ 112.82	\$ 109.84	\$ 1,632,831
19 - 44 years F	1,167,464	\$ 413.69	\$ 359.99	\$ 62,695,031
19 - 44 years M	174,219	\$ 452.90	\$ 310.30	\$ 24,844,077
45 years & up M & F	133,840	\$ 665.60	\$ 563.62	\$ 13,649,997
Totals	7,962,681	\$ 201.23	\$ 163.70	\$ 298,817,281

1 - CCNC/ACCESS only member months for SFY06.

2 - The Statewide Benchmark SFY06 PMPM was calculated using the historical 36 months of data from SFY00, SFY01, and SFY02. The PMPM shown here is calculated by weighting each rate cell's SFY06 base PMPM with the actual CCNC/ACCESS member months distribution by rate cell for SFY06.

3 - Calculated using the date of service data for SFY06; represents all CCNC/ACCESS program (I, II, and III) costs for dates of service from July 2005 through June 2006.

4 - Projected savings calculated using the SFY06 actuals; the benchmark minus the actual, multiplied by the actual SFY06 CCNC/ACCESS member months, equals the projected savings.

How come nobody checked the <1-y.o. figure of 50% total savings? The savings...

- ...Couldn't have come from pediatricians – their costs go up in a patient-centered medical home (higher pay)
- ...Couldn't have come from drugs – compliance should increase in medical homes
- ...Couldn't be from normal deliveries declining – they rose (see next slides)
- ...Couldn't have come from things that also happen to older kids – Age 1- 13 cost numbers stayed the same
- ...There is only one major category left: It MUST have been all from neonates – the hospitalization reduction in neonates must have been huge (>90%?), to support a 50% overall savings if it's the only savings source and other things went up or stayed the same
- So let's check the neonatal discharge rates for North Carolina

Let's see if the **RATIO** of neonates to normal newborns declined

Study
Period in

Baseline in Red

	2000	2001	2002	2004	2005	2006	2007
DRG							
Non-normal discharges	33,631	30,227	27,776	29,192	30,594	32,390	33,045
LOS (length of stay), days							
386-390 (mean)	6.4	6.9	7.1	7.1	7.2	7.1	7.3
Discharge days	216,257	207,897	196,181	207,906	219,630	229,969	240,339

Diagnosis Related Group 391, Normal newborn

Total number of 391 discharges	79,875	80,419	81,090	85,441	87,356	89,643	93,280
LOS (length of stay), days (mean)	2	2	2	2.1	2.1	2.1	2.1
Discharge days	159,750	160,838	162,180	179,426	183,448	188,250	195,888

Non-Normal as a % of all Births

Total newborns	113,506	110,646	108,866	114,633	117,950	122,033	126,325
% Non-normal discharges	29.6%	27.3%	25.5%	25.5%	25.9%	26.5%	26.2%
% Normal discharges	70.4%	72.7%	74.5%	74.5%	74.1%	73.5%	73.8%

North Carolina saw a one percentage point decline in the rates of non-normal births. But maybe the rate would have gone up higher absent the medical home? Let's use South Carolina's neonatal rate as a "control" for North Carolina's.

	% Non-normal Births (Of total births)		
	Baseline (2000-02)	Study period (2006)	Change
North Carolina	27.5%	26.5%	-1.0%
South Carolina	26.0%	25.5%	-0.5%

This shows the decline in NC was only slightly better than in SC, not enough to generate those savings!

III. Designing a Solid Evaluation: What Research Questions Should Be Answered?

How Do Practices Evolve into Medical Homes?

- Efforts needed to reach MH criteria (time, internal and external resources, \$)
- Limits, potential of health IT
- Ease of changing staffing and workflows
- Resources required from outside the practice
- Best practices and models
 - For patient outreach, recruitment, and engagement
 - For coordination
 - For chronic care, etc.

What Is the Impact of the PCMH?

- **Disease-specific and population-based quality of care measures**
 - Process: Evidence-based care (e.g., foot exams for patients with diabetes)
 - Outcomes: Ambulatory-care sensitive complications
 - Coordination of care (harder to measure)
 - Patient satisfaction
- **Provider experience**
 - If providers are worse off, they won't want to do this
- **Service use and cost**
 - If this isn't cost neutral or cheaper, payers won't play

IV. Why Is Evaluation Tricky?

Threats to Credible Evidence

- 1. Hard to define and measure the medical home**
- 2. Inadequate follow-up**
 - Need time to allow transformation to happen
 - Most evaluations are using only 1.5–2 years
- 3. Small sample sizes**
 - We may erroneously find no effect because practices don't have enough time to change or there isn't enough sample to detect change
- 4. Difficulty obtaining and cross-walking all payer claims data**

Threats to Credible Evidence

- 5. Statistical techniques do not account for clustering at the practice level**
 - Not doing so will give false positives
- 6. The comparison group is not fair**
 - At the practice level
 - At the patient level
- 7. Patients are not correctly attributed to their practices**
- 8. Outcomes are not well defined and comparable across studies**

V. How to Proceed?

Suggestions to Improve the Quality of Evidence

- **Do conduct an evaluation**
- **Use an external evaluator**
- **Study implementation, not just impacts**
- **Estimate (clustered) power in advance, using real data**
- **Analyze data accounting for clustering**
- **Use random assignment or a well-designed nonexperimental comparison group**
- **Consider variants of random assignment**

Suggestions to Improve the Quality of Evidence

- **Ensure patient attribution is accurate**
- **Budget resources to define outcomes and crosswalk different payers' claims**
- **Show baseline equivalence of practices and patients**
- **Show zero effect in the baseline period**
- **Run longer pilots**
- **Follow the CMWF Evaluation Group for updates about definitions for outcomes**

Contact information:

Debbie Peikes
dpeikes@mathematica-mpr.com