
A Qualitative Study of Fidelity: Understanding Variation in Patient- Centered Medical Home Implementation

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MATHEMATICA
Policy Research

Overview

- **Patient-Centered Medical Home**
- **Motivation to Study Fidelity**
- **Research Objective**
- **Conceptualization of Fidelity**
- **Methods**
- **Example of Findings**
- **Conclusions**

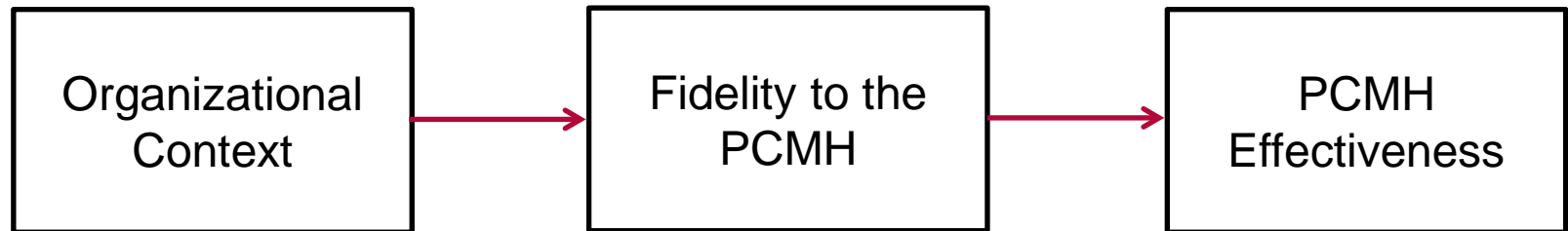
Patient-Centered Medical Home (PCMH)

A complex, multi-faceted model of care delivery

Joint Principles	Operational Indicators
Personal Physician	Patient-Provider Partnership
Physician-Directed Practice	Individualized Patient Care
Whole-Person Orientation	Individualized Patient Care Preventive Services
Quality & Safety <ul style="list-style-type: none">• Evidence-Based Medicine• Information Technology• Performance Feedback• Patient Education	Test Result Tracking Patient Registry Performance Reporting Preventive Services
Coordinated Care	Transition Care Specialist Referral
Enhanced Access	Access

Need for internal validity

- **Organizational factors associated with PCMH transformation**
 - Failure to distinguish adoption vs. implementation
- **Inconsistent operationalization of the PCMH**
 - Evidence of PCMH effectiveness is mixed



Research Objective

- **Systematically evaluate fidelity to the PCMH in order to understand how and why PCMH implementation varies across organizations**
- **Conceptualization of Fidelity:**
 - **Organizational members' knowledge of the principles supporting the PCMH (Rogers 2003)**
 - **Organizational members' use of the distinct components of an intervention (Keith et al. 2010)**

Comparative Case Analysis

- **Case = primary care clinic**
 - General Internal Medicine & Family Medicine Clinics
- **Purposeful sample of 6 cases (out of 25)**

Patient Focus & Innovation	Small <13,000 patient visits in 6 months	Large >13,000 patient visits in 6 months
High	1	2
Low	1	2

- **Investigator blinded to clinic ranking**

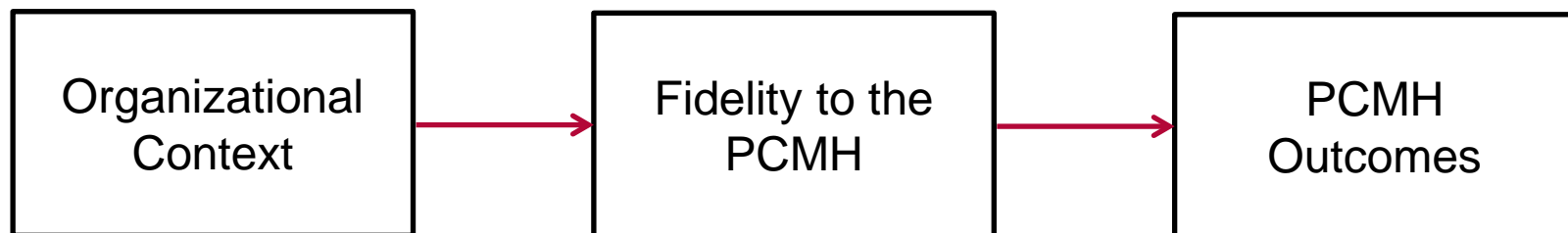
Organizational Context

■ Large academic integrated health system

- Physicians are full-time employees
- Primary care clinics have access to similar resources (e.g. health information system, learning collaboratives)
- Innovation & quality are centralized within system

■ PCMH Incentive Program

- Mandated by senior leadership
- Standardized guidelines for implementation
- Similar incentive structure
- Components designed at system level



Full range of perspectives on PCMH

- 8-10 study informants recruited in each clinic

Primary Care Providers (PCP):
Physicians & Nurse Practitioners

Non-PCP Clinicians:
Clinical Pharmacists, Licensed Practical Nurses,
Medical Assistants, Registered Nurses

Office Management:
Call Center, Check Out Staff and Reception staff
Office Manager

Data Collection Instrumentation

- **Observations**

Absence of conversation with patients about the role of the PCP in the patient's care.

-Physician Observation

- **Surveys**

Lack of awareness of Medical Home Form when handing paperwork to new patients during check-in.

-Receptionist Observation

- 100 interviews
- 46 interviews
- 44 hours of interviews
- 1000 pages of transcript

- **Data Collection started 1 year after PCMH adoption at system level.**

Data Analysis

- 1. Code Data into Analyzable Units**
 - PCMH Principles & Operational Indicators
- 2. Assign Individual-Level Adoption Ratings**
 - Knowledge of Principles & Use of Indicators
- 3. Assign Clinic-Level Fidelity Ratings**
 - Knowledge of Principles & Use of Indicators
- 4. Assign Clinic-Level Fidelity Ratings**
 - PCMH Components
- 5. Thematic Analysis**
 - Understand varying levels of fidelity

Rate Informant Knowledge of Principles

I'm not sure what you mean by performance reporting...?

-Registered Nurse

try to Committed

that's

what are we looking at that process of why are we missing this. What's the problem? ...I think it works really well.

2. clinic goals -Registered Nurse

3. Committed – Understanding and appreciation of connection between principle, operational component, and clinic goals.

Rate Informant Use Components

...we talked about it, what we're going to do, and I don't think that whatever we had

...at the level of the clinic, I think it is useful in how the clinic is doing in terms of various diabetes indicators... We definitely get those reports on a regular basis and they tell us when we're not doing well in a certain area, what to shoot for. ...especially the medical assistants to improve those areas where we're falling behind. Those are used a lot...

-Physician

1. **Minimal Use** – Used only when necessary
2. **Low Use** – Used occasionally
3. **High Use** – Used frequently
4. **High Use** – Used frequently and perceived positively, without qualifications
5. **Committed Use** – Used according to protocol and is perceived only positively, without qualifications

From Individual to Clinic-Level Fidelity

Principle & Operational Indicators	Clinic Informants					Clinic Fidelity Rating
	Office Staff & LPN	PharmD & MA	RN	Clinic Manager	PCP	
Quality and Safety	1	5	1	5	5	5
PCP-Level Report	n/a	n/a	n/a	4	3	3
Clinic-Level Report	2	5	3	5	5	4

Decision Rules for Clinic Fidelity Rating:

- Agreement between multiple clinic informants
- Disagreement between informants, consider context of clinic as a whole
- Direct users were given more weight (exception of clinic manager)

From Principles & Operational Indicators

to PCMH Components

Principle & Operational Indicators	Clinics in Sample					
	Clinic C	Clinic D	Clinic B	Clinic E	Clinic F	Clinic A
Quality and Safety	1	3	3	3	3	5
PCP-Level Reports	2	3	3	3	3	3
Clinic-Level Reports	2	2	3	3	3	4
Average Fidelity Rating	1.5	2.8	3	3	3	4.3

Average Fidelity Rating = Average the principle rating with the average of the operational indicator ratings

Why does fidelity vary?

Comparison of Low Fidelity to High Fidelity Clinics

Low Fidelity Clinic

- Focus on delegation vs. planning
- Absence of performance reports used for process improvements

High Fidelity Clinic

- Collective commitment to quality improvement
- Performance reports generally perceived as mechanisms to plan process improvements throughout clinic

Systematic Evaluation of Fidelity

- **Provides a measure of intra-organizational context**
 - How and why PCMH implementation occurs differently on front lines
- **Identifies factors that impede or promote PCMH implementation**
 - Implications for informing facilitation of practice transformation

Next Steps

- **Fidelity is a potentially important mediating variable between implementation context and intervention outcomes**
- **Correlate fidelity scores with outcomes**