Patient-Centered Medical Home: Evaluation of Outcomes

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Problem Overview

- **Research Question:** Does a standardized transition of care/care coordination improve patient outcomes associated with care delivery across healthcare facilities?
- Patient Centered Medical Home (PCMH) vs. Traditional Primary Care Manager (PCM)
- **Relevance/Significance of the Problem to the Military:** PCMH MTF-wide implementation in September 2009

Evidence Based Question PICOT Elements

- **Evidence Based Question:** In **patients with chronic conditions** how does the **PCMH** model, compared to the **PCM** model, effect **adherence to a prescribed treatment regimen**.
- P: Patients with chronic conditions
- I: Patient Centered Medical Home model
- C: Traditional Primary Care Manager model
- O: Adherence to prescribed treatment regimen
- T: Not applicable

PCMH 5 Core Functions

1. **Comprehensive Care**: MD,NP, PA, Nurses, DM Educator, Nutritionist, Psych
2. **Patient-Centered**: partnering w/patient & family (cultures, values, preferences)
3. **Coordinated Care**: hospital, home health, specialty care, community support
4. **Accessible Services**: ATC, T-Cons, Relay Health
5. **Quality & Safety**: EBP, shared decision, HEDIS, APLSS (*Army Provider Level Satisfaction Survey)*

Measures of Adherence to Treatment

- Specialty Encounter / Appt. Keeping / Access to Care
- Decreased Hospital Admission / ED Visits
- Clinical Quality Indicators (HEDIS & Labs)
- Patient Satisfaction

Approach for Gathering and Appraising Evidence

- **Databases:** CINAHL, Google Scholar, PubMed
- PICOT Question – Population Evolution:
  - Initially Adults w/ Type II Diabetes – too narrow
  - Expanded to Adults w/ Diabetes – still too narrow
  - Evolved to Patients w/ Chronic Disease
- **Search Strategy:**
  - Outcomes related to PCMH, particularly before/after data or comparison of PCMH to traditional PCM practices
  - "Adherence to treatment regimen" – quality measures, access to care, resource utilization, patient satisfaction

Approach for Gathering and Appraising Evidence

- **MeSH Terms and Key Terms**
  - Patient Centered Medical Home and Diabetes
  - Patient Centered Medical Home and Chronic Disease
  - Patient Centered Medical Home and Chronic Illness
  - Patient Centered Medical Home and National Demonstration Project
  - Patient Centered Medical Home and Disease

Approach for Gathering and Appraising Evidence

- **Appraisal of the Evidence**
  - Relevance to PICOT?
  - Level of evidence, study design and quality
  - Adequate sample?
  - Validity and Reliability?
  - Generalizability?
  - Strengths/Limitations?
  - Critical Appraisal Questions - Melnyk
  - Centre for Evidence Based Medicine Critical Appraisal Sheets
  - Reviewed each study individually, then group consensus

Appraisal of Evidence

Savage, Lauby, and Burkard (2013)

- **Purpose:** To compare outcomes (access to care, ED utilization, HEDIS quality measures) 2 years before and 2 years after PCMH implementation at an MTF
- **Sample:** Clinic database for 13,000 MTF beneficiaries
- **Results:** HEDIS measures improved for annual A1C (3.5%), A1C less than 9 (4.8%), LDL less than 100 (9.5%); ED use decreased by 75%, access to care increased by 7%. (Asthma measure decreased 1.8%)
- **Level of Evidence and Quality:** Level VI /Moderate

Appraisal of Evidence

Werner, Duggan, Duey, Zhu, & Stuart (2013)

- **Purpose:** To evaluate the effects of a PCMH demonstration project on health care utilization and quality of care
- **Sample:** Claims and outcome data from 35,059 New Jersey health plan members enrolled in 8 PCMH demo practices and 24 comparison practices
- **Results:** No significant difference in healthcare utilization; Nephropathy screening improved (6.6%), no significant differences in any other quality (HEDIS) measures
- **Level of Evidence and Quality:** Level IV /Moderate

Appraisal of Evidence

Edwards, Webb, Scheid, Britton and Armor (2012)

- **Purpose:** To compare rates of completion of American Diabetes Association standards of care among patients seen by the Diabetes Assessment Service with Family medicine center patients receiving usual care
- **Sample:** Adults with Diabetes
- **Results:** Improved rates of completion of ADA standards of care
- **Level of Evidence and Quality:** Level IV/Moderate

Appraisal of Evidence

Vanderboom, Holland, Lohse, Targonski, and Madigan (2013)

- **Purpose:** To evaluate the Community Connections Program with a sample of older adults with chronic complex illness receiving primary care in a health care home model and their support persons identified by an older adult
- **Sample:** Chronically ill older adult patients and their support person
- **Results:** Significant improvements in patient-centered chronic illness care
- **Level of Evidence and Quality:** Level II/Low

Appraisal of Evidence

Christensen et al. (2013)

- **Purpose:** To exam the prolonged impact of WRNMMC PCMH on health care access and quality metrics for patients with and without chronic conditions
- **Sample:** Adult patients in the military population
- **Results:** Better patient outcomes, tighter control of diabetes with PCMH, decreased specialty care encounters for patients with chronic diseases
- **Level of Evidence and Quality:** Level IV/Moderate

Appraisal of Evidence

Calman et al. (2013)

- **Purpose:** To describe PCMH implementation, examine services used, & assess change in HbA1C for adult patients with diabetes
- **Sample:** Adults with diabetes
- **Results:** Increased visits with outreach, diabetic educators, and psychosocial services. Number of visits with primary care clinicians decreased
- **Level of Evidence and Quality:** Level VI/Moderate

Appraisal of Evidence

Solberg et al. (2013)

- **Purpose**: To study the diabetes and vascular disease outcomes of transformed Health care homes (HCHs) from primary care practice
- **Sample:** Patients in 120 health care homes (HCH) and 518 non-HCH clinics
- **Results**: Diabetes measures: improved 2.1%, cardiovascular disease measures by 4.4%.
- **Level of Evidence and Quality**: IV/Low

Appraisal of Evidence

Rosenthal et al. (2014)

- **Purpose**: To evaluate the effects of the pilot program of Patient Centered Medical Home (PCMH) on health care utilization and quality assurance compare to traditional primary care
- **Sample**: Patients in 5 pilot PCMH and 34 primary care practice
- **Results**: Significant reduction in emergency department visits and inpatient admissions
- **Level of Evidence and Quality**: Level IV/Low

Appraisal of Evidence

Toomey, Chan, Ratner and Schuster (2011)

- **Purpose:** To determine whether children with attention deficit/hyperactivity disorder (ADHD) receive care in a patient-centered medical home (PCMH) and how that relates to their ADHD treatment and functional outcomes
- **Sample:** Children with patient-reported ADHD
- **Results:** Positive results with meds, activity participation, success in school and making friends for those who receive care at a PCMH
- **Level of Evidence and Quality:** Level IV/Moderate

Appraisal of Evidence

Moran, Burson, Critchett and Olia (2011)

- **Purpose:** To implement and evaluate a care delivery model integrating the registered nurse-certified diabetes educator into the PCMH
- **Sample:** Adults with DM type 1 or 2
- **Results:** Improvements in A1c, fasting blood glucose and LDL. Patient and provider satisfaction. Improvement in HEDIS measures
- **Level of Evidence and Quality:** Level III/Low

Overall Evaluation

Citation	LOE / OQ	PICO	Spec Enc / Appt Keep / ATC	Less Hosp / ED Admit	CQI (HEDIS / Labs)	Pt Sat
Vanderboom et al. (2013)	II L	+++	+		+	+
Moran et al. (2011)	III L	+++		0	+	+
Werner et al. (2013)	IV M	+++	0	0	+/-	
Calman et al. (2013)	IV M	+++	+		+/-	
Toomey et al. (2011)	IV M	+++	+		+	
Solberg et al. (2013)	IV L	++++			+/0	
Rosenthal et al. (2014)	IV L	+++		+		
Christensen et al. (2013)	VI M	++++	+	+	+	+
Savage et al. (2013)	VI M	++++	+	+	+	
Edwards et al. (2012)	VI M	+++	+		+	

Future Research

- **Clinical Question:** How does **clinic** implementation of **standardized** compared to **unstandardized** core elements **impact access, continuity, and management to improve patient care and patient outcomes**?

- P: Patient Centered Medical Home model clinics
- I: Implementation of standardized core elements
- C: Implementation of unstandardized core elements
- O: Impact access, continuity, and management to improve patient care and patient outcomes
- T: Not applicable

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