

Assessing the Impact of the Patient-Centered Medical Home

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Organization:	University of Minnesota
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Target Population: General

Summary: The Patient-Centered Medical Home (PCMH) model is a vehicle for addressing operational characteristics of health care practices to maximize accessible, comprehensive, family-centered, coordinated, compassionate, and culturally effective care. However, many unanswered questions about potential benefits, drawbacks, and requirements for transforming and maintaining practices point to the need to evaluate the model. Some of the challenges to evaluating the PCMH model include the constantly changing environment of health care, the varying definitions for the term “medical home”, and the lack of valid measures for many of the features included in those varying definitions.

HealthPartners Research Foundation is striving to inform policy by evaluating the economic and quality outcomes of mature PCMH clinics in the HealthPartners Medical Group (HPMG) system. HPMG is a multispecialty group in the metropolitan region of Minneapolis and St. Paul, Minnesota, that includes approximately 700 physicians, 40 percent of whom practice primary care in 21 clinics throughout the region. HPMG has been implementing elements of the PCMH concept since 2000, and in 2009 they were all recognized as functioning at PCMH level III, which is the highest level granted to those practices that are meeting the required elements and factors that compose the standard as defined by the National Committee for Quality Assurance (NCQA). The central hypothesis of the study was that a clinic’s level of PCMH is significantly associated with higher quality, increased patient satisfaction, and reduced resource use.

The data that supported this analysis came from HealthPartners’ administrative and clinical databases. These databases provide quality and resource-use data corresponding to HealthPartners members receiving care at any contracted Minnesota-based medical group. As such, they comprised a retrospective cross-section. All patients treated in HPMG clinics were eligible for the analysis; however, the quality outcome variable determined the data used in support of each model. For instance, childhood immunizations were limited to a pediatric population, while diabetes quality indicators were limited to a diabetes population.

This study has the potential to impact the current understanding of the potential benefits of the PCMH, aid in identifying the PCMH domains most strongly related to those benefits, provide policymakers with valuable information regarding what to expect from widespread PCMH adoption, and provide medical leaders with insights into the PCMH aspects of most importance.

Project Objectives:

- Determine the associations between PCMH measures and the quality and patient satisfaction with care provided by HPMG clinics. **(Achieved)**

- Determine medical resource use within HPMG clinics. **(Achieved)**
- Identify trends in quality, satisfaction, and resource use occurring within HPMG clinics. **(Achieved)**
- Determine whether any identified trends differ significantly from the general secular trend occurring across Minnesota-based medical groups. **(Achieved)**

2010 Activities: This project was conducted in two phases; phase 1 was from July through December 2009. Phase 2 ran from January through December 2010 and comprised a longitudinal analysis of quality, patient satisfaction, and cost trends over time. Trends were examined within the 21 HPMG clinics and then expanded to the larger context of medical groups, by examining trends within non-HPMG as well as HPMG clinics.

Impact and Findings: During the first phase of the study, an analysis of the first and second aims was completed with the following findings:

- Although there was substantial variation among these clinics in scores on a variety of satisfaction and quality measures as well as on the overall and component scores from the Physician Practice Connections-Readiness Survey (PPC-RS) measure of medical home-ness, there was no relation between PPC-RS scores and either quality or satisfaction. This suggests that any association may have been obscured by the lack of sufficient heterogeneity among these clinics or, possibly, by a relation that would only appear over time.
- While the same lack of association was found for utilization and cost for all patients, there were some significant associations for the subgroup of patients with multiple prescriptions, suggesting that complex patients with more co-morbidities would have cost benefit from care in a PCMH.
- Patients receiving more than 50 percent of all primary care from within one of these certified PCMH clinics did have a reduction in the number of visits per year to both primary care and specialist providers, which was also associated with lower costs for those services.

During the second phase of the study, analysis of the third and fourth aims was completed with the following findings:

- Over a 3 to 5 year time period, these NCQA level III clinics achieved a 1 to 3 percent annual increase in patient satisfaction and a 1 to 4 percent annual increase in adherence to quality measures for diabetes, coronary artery disease, preventive services, and generic medication use.
- When compared to the average for other medical groups in the region, these increases were greater for only some of the measures, and in several instances they only allowed these clinics to catch up to the community average.
- There was again no relationship between PPC-RS scores for clinics in 2009 or medical groups in 2005 and the quality and patient satisfaction trends over time.
- For cost and utilization, higher PPC-RS scores for medical home-ness were associated with lower emergency room use in all years. However, overall resource use was lower only among complex patients receiving multiple prescriptions within those clinics with higher PPC scores.

Findings from the first phase of the study were published in the [Journal of Ambulatory Care Management](#) in January 2011. In addition, two additional manuscripts have been submitted, one to *Health Services Research* and the other to the *Annals of Family Medicine*, covering the findings in Phase 2. Two other manuscripts on cost and utilization will be submitted in May 2011.

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Knowledge Creation