

The Patient-Centered Medical Home (PCMH) and Associations with Health Care Quality and Utilization: A 5-Year Cohort Study

Take Away Points

- The Patient-Centered Medical Home (PCMH) is a promising model for transforming health care delivery of primary care.
- In this study, the PCMH was associated with modest changes in most utilization measures and provided similar quality, compared with the primary care groups using either electronic health records (EHRs) or paper records.
- In particular, this study found that PCMH was associated with an increase in primary care visits, a decrease in specialist visits, and fewer tests (laboratory and radiologic) performed.

The Issue

PCMH is a complex intervention that alters the medical paradigm of care delivery by shifting focus from:

- Care for individual patients to population health
- Care by physicians to care provision by a team
- Acute illness to emphasis on chronic disease management
- Care at a single site to coordinated care across providers and settings
- Reimbursement for volume to paying for value

Despite wide dissemination of PCMHs, the effects of their various components are unclear. PCMH includes: implementation of electronic health records (EHRs) as well as organizational changes (e.g., a care team with clear roles and responsibilities, use of case managers to coordinate care). Prior systematic reviews do not provide clear evidence of PCMH effectiveness, and other studies have shown no improvements in quality nor decrease in utilization. However, studies showing lack of effectiveness of PCMH may have been limited by their short duration of follow-up after PCMH implementation, typically 1.5 to 2 years which does not adequately allow enough time to demonstrate the full impact of improving health care quality and reducing inappropriate utilization. This study assessed the effect of PCMH implementation on changing health care quality and utilization, with extended follow-up (3 years post-PCMH implementation).

Source

Kern LM, Edwards A, and Kaushal R. (2016). The Patient-Centered Medical Home and Associations with Health Care Quality and Utilization: A 5-Year Cohort Study. *Annals of Internal Medicine*.

<http://annals.org/article.aspx?articleid=2491915>

Study Methods and Design

Researchers conducted a longitudinal cohort study of primary care physicians over a 5-year period (2008 to 2012) that included a 3 year period of assessment after PCMH implementation (2010 to 2012).

The study took place in the Hudson Valley, a 7-county, multi-payor, multi-provider region north of New York City. Three groups were compared: 1) PCMHs, 2) practices that implemented EHRs without PCMH, and 3) practices still using paper records. The Taconic Health Information Network and Community

(THINC), a coalition-building organization, convened 6 health plans which covered 70% of the community's commercially insured patients. These plans provided monthly incentives to physician practices that achieved level III PCMH (the highest level), as defined by the 2008 standards of the National Committee for Quality Assurance (NCQA). Primary care physicians (general internists and family medicine physicians) who cared for adults and worked with THINC or who volunteered were included in the study. Adult patients (aged ≥ 18 years) attributed to the PCPs and eligible for at least 1 quality measure were included in the study.

Key Findings and Limitations

- Implementation of the PCMH model was associated with either “outperformed” or “modest” changes in 4 of 8 quality measures, but no difference on the remaining quality measures.
- Utilization patterns were similar across groups from 2008 to 2011, but showed “modest” changes in the rate of change for the PCMH group compared with the control groups on 6 of 7 utilization measures in 2012.
 - 10% fewer specialist visits compared with both control groups
 - Fewer laboratory radiologic tests (4% compared with paper group, 8% compared with EHR group)
 - 1 fewer hospitalization and 1 fewer rehospitalization per 100 patients compared with both control groups
- PCMH was associated with a relative increase in primary care visits, a central goal of the PCMH model.
- The rate of Emergency Department (ED) visits change did not differ among study groups, though were lowest in the paper group (from 14.3 to 12.2 per 100 patients) and highest in the PCMH group (from 16.7 to 15.4 per 100 patients)
- Surprisingly, few differences were found between EHR group versus paper group, although this is consistent with previous studies.
- The cohort of PCMH practices saw the PCMH model as a starting point for additional transformation, with the majority going on to enter into accountable care organizations (ACOs) or other payment models, viewing their experience with PCMH as a source of readiness for change.
- **Limitations:** Confounding by unmeasured covariates cannot be ruled out. It was also difficult to delineate the exact effects of PCMH intervention. It is not possible to determine if 2012 results were an outlier or a result of cumulative effects of PCMH. In addition, it should be noted that the NCQA standards since 2008 have changed and become more stringent.

Final Thoughts

- It may take several years for the effects of PCMH implementation to be detected. If the NCQA standards are used as a road map for practice infrastructure, evaluators should recognize that it takes time to implement necessary infrastructure for PCMH, learn how to use it, and then deliver care consistently to enough patients to detect a clinical and statistical difference in the outcomes.