

Patient-Centered Medical Homes and Parkinson's Disease: Impact on Costs and Outcomes

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Abstract

Parkinson's disease (PD) is a chronic, progressive disorder associated with high costs of care and morbidity. The disease affects patients' motor skills, but also is associated non-motor effects such as depression. The complexity of PD requires a multidisciplinary, coordinated, patient-centered model of care. The objective of this study is to estimate the effects of patient-centered medical homes (PCMH) on healthcare costs and outcomes for medical beneficiaries with PD and those with PD and depression in the US.

Using instrumental variable techniques to address for PCMH selection bias and generalized estimating equations models to account for repeated observations, we estimated the effect of PCMH on outpatient research utilization, hospitalizations, and costs in two cohorts of Medicare beneficiaries: those with PD, and those with PD and comorbid depression. The key explanatory variable was receipt of care from a PCMH provider. We considered Medicare claims for individuals with PD from 2007-2013 merged with National Committee for Quality Assurance (NCQA) provider recognition status. Finally, we explored the heterogeneity of PCMH treatment effect on resource use and outcomes via person-centered treatment effects.

We found that PCMH participation significantly increased the utilization outpatient services among beneficiaries with PD (neurologist visits, physical/occupational therapy, and speech therapy). PCMH also led to a significant reduction in hospitalizations for falls and for pneumonia/aspiration pneumonia. No significant differences in total Medicare costs were observed. In beneficiaries with PD and depression, we found that PCMH participation led to an increase in psychotherapy use and a decrease in receipt of contraindicated medications. No significant differences were found in antidepressant use or hospitalizations for depression or suicidal behavior. Again, we found no significant differences in total Medicare costs. Finally, we observed heterogeneity of treatment effect, most notably that the treatment effect of PCMH was greater for those who did not receive treatment than for those who did.

Our findings suggest that the PCMH model provides significant benefits in terms of quality of care. However, the PCMH model may not be identifying the patients who would benefit most from treatment. Decision-makers should consider this heterogeneity in treatment effect explicitly when developing and implementing PCMH programs.

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