

Trends and Predictors of Primary Care Physician Referral to Physical Therapy in the United States, 2003-2014

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I. Introduction/Background

- New healthcare delivery and payment models demand that primary care physicians (PCPs) deliver coordinated, integrated, team-based care to promote population health.
- Referral to physician and non-physician specialists is integral to team-based care and commonly practiced by primary care providers.
- Physical therapists (PTs) are acknowledged and utilized as part of team-based care for the treatment of musculoskeletal, neurological, and other conditions seen in primary care.
- Limited evidence exists on the extent to which PCPs engage physical therapists in patient care.

Objectives: 1) To examine temporal trends in PCP referral to physical therapy (PT); 2) To compare these trends to trends in PCP referral to other physicians; and 3) To identify factors associated with PT referral.

II. Methods

- Cross-sectional analysis of 12 years of data (2003-14) from the National Ambulatory Medical Care Survey which surveys a representative sample of office-based physicians in U.S. ambulatory care practices.
- Limited analysis to office-based visits to PCPs.
- Calculated adjusted prevalence rates and examined linear trends over time for PCP referral to PTs and other physicians.
- Used multivariate logistic regression to identify clinical, demographic, physician-level and practice-level predictors of PT referral for musculoskeletal- and neurological-related visits.

III. Findings

A. Referral Rates

- 72 percent of visits referred to PT were for musculoskeletal-related diagnoses, 6 percent were for neurological-related diagnoses, and the remainder were for other diagnoses.
- PT referral for all visits significantly declined from 2003-04 to 2013-14, (Figure 1) while referral to other physicians significantly increased from 2003-04 to 2013-14. (Figure 2). Referral rates to PT and other physicians for musculoskeletal-related visits showed similar trends.
- Referral rates to PT for neurological-related visits showed no difference over time.

Conclusions and Policy Implications

- 1) The rate of PCP referral to PT has declined over time while the rate of PCP referral to other physicians has increased.
- 2) Clinical factors such as age and visit reason as well as non-clinical factors such as insurance, physician characteristics, and practice characteristics were associated with PCP referral to PT.
- 3) The association of non-clinical factors with PCP referral to PT suggests possible under or over-referral to PT.
- 4) Further work is needed to understand the role of PT in primary care and its impact on quality of care.
- 5) New healthcare models should investigate ways to integrate and improve access to PT when indicated.

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Figure 1. PCP Referral Rates to Physical Therapy

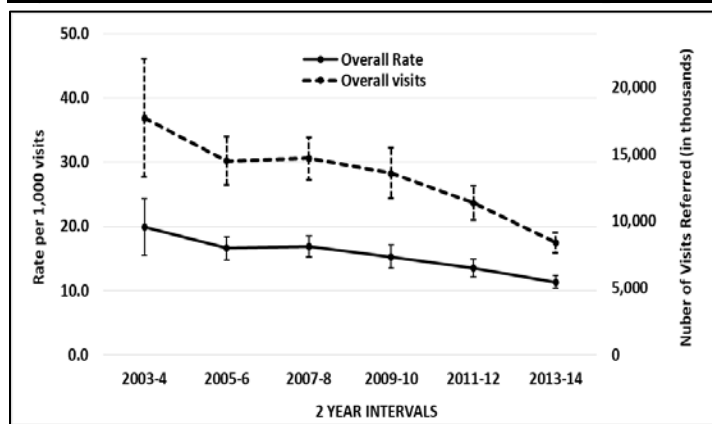
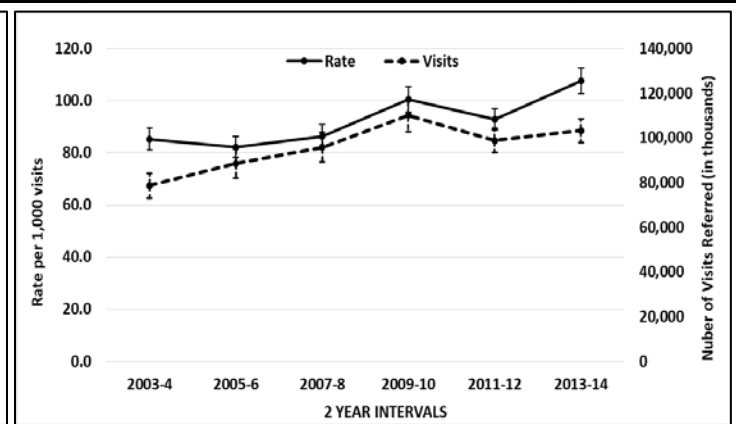


Figure 2. PCP Referral Rates to Other Physicians



B. Factors Associated with PCP Referral to PT for Musculoskeletal Diagnoses

Increased Likelihood of PT Referral

- Visits for spine diagnoses or extremity sprains/strains
- Patient having no comorbidities
- Patient on fewer medications
- Patient having private insurance or worker’s compensation
- Physician prescribed NSAIDs and/or muscle relaxants
- Physician ordered imaging
- Physician was a Doctor of Osteopathy
- Practice owned by an HMO/insurance company
- Practice located in the Northeast
- Practice had a higher percentage of revenue from private insurance

Decreased Likelihood of PT Referral

- Patient being younger or older
- Prevention visits
- Patient having Medicare or Medicaid insurance
- Patient being self-pay
- Physician prescribed narcotics
- Patient seen by their primary care provider
- Patient seen by a contract physician
- Patient seen by an obstetrician/gynecologist
- Patient seen by a nurse practitioner or physician assistant
- Practice located in Midwest, South, or West
- Practice had a higher percentage of revenue from Medicare or managed care contracts

C. Factors Associated with PCP Referral to PT for Neurological Diagnoses

- Few clinical or non-clinical factors were associated with PT referral.
- Visits by patients with arthritis or ischemic heart disease were more likely to be referred.
- Visits to practices owned by an HMO/insurance company were more likely to be referred.

IV. Conclusion

- PCP referral to PT declined over time and varies by clinical and non-clinical factors such as insurance, and physician and practice characteristics.
- Further research is needed to understand the appropriate rate of PT referral in primary care and to explore new healthcare models to optimize the use of PT when indicated during patient care.

References:

1. Ellner AL, Phillips RS. The Coming Primary Care Revolution. *J Gen Intern Med.* 2017;32(4):380-386.
2. Mehrotra A, Forrest CB, Lin CY. Dropping the baton: specialty referrals in the United States. *Milbank Q.* 2011 Mar;89(1):39-68.
3. Barnett ML, Song Z, Landon BE. Trends in physician referrals in the United States, 1999-2009. *Arch Intern Med.* 2012;172(2):163-170.