

Family Physician Geographic Density is Associated with Lower Hospital Readmission Rates and Costs

Readmission to a hospital after discharge is often a costly failing of the US health care system to adequately manage sick patients. Increasing numbers of family physicians is associated with significant reductions in hospital readmissions and substantial cost savings.

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The Patient Protection and Affordable Care Act (ACA) seeks to improve healthcare quality and reduce costs. One provision targets a decrease in hospital readmissions to save \$710 million annually.¹ Timely management of fragile patients in primary care after discharge may reduce readmission.

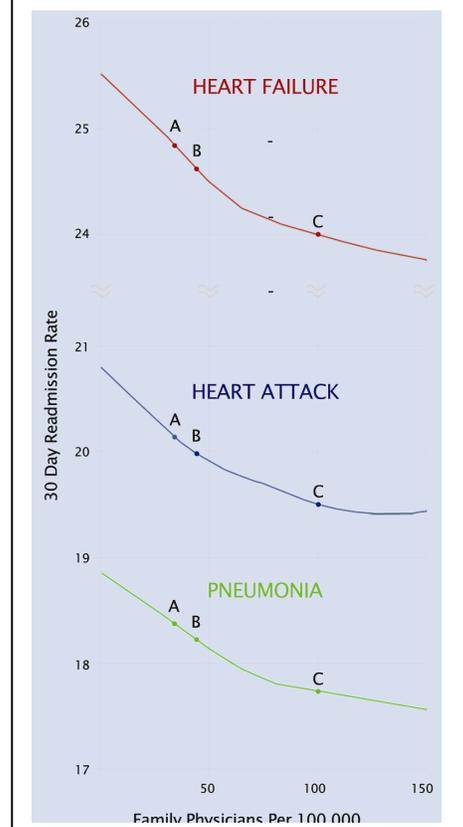
The Hospital Compare database² includes readmission rates for pneumonia, heart attack and heart failure for 4,459 hospitals. The Area Resource File³ contains data for physicians per population at the county level. Using these data, we find that 30 day readmission rates for all 3 diagnoses decrease as the number of family physicians increases. Conversely, increased numbers of physicians in all other major specialties including general internal medicine is associated with increased risk of readmission.

Combined, readmissions for pneumonia, heart attack and heart failure in 2005 accounted for 15.7 % of all readmissions and numbered 74,419, 20,866 and 90,273, respectively (**A in the graphs**); corresponding Medicare expenditures were \$533, \$136 and \$590 million, respectively.⁴

Adding 1 family physician per 1000 population, or 100 per 100,000, (adjusted for mortality, sociodemographics, and hospital characteristics) reduces the odds of readmission for these 3 conditions by 7%, 5%, and 8%, respectively. We estimate that 46 family physicians per 100,000 people, as recommended by one workforce study⁵ (**B in the graphs**), could reduce readmission costs by \$81 million each year; and, 100 family physicians per 100,000 people (**C in the graphs**) by \$579 million per year, or 83% of the ACA target.

Wider experience of the associated effects of family medicine on readmission rates could help realize much of the savings sought by the ACA. Production of family physicians fell over the last decade due to payment disparities and other strong incentives for subspecialization, and lack of accountability of teaching hospitals for producing the physicians the country needs.

Figure. 30 day hospital readmission rates per family medicine county density



¹ <http://www.aamc.org/reform/summary/040210.pdf>

² Compiled by the US Centers for Medicare & Medicaid Services: <http://www.hospitalcompare.hhs.gov/>

³ Area Resource File dataset 2008: <http://arf.hrsa.gov/>

⁴ Medicare Payment Advisory Commission. Report to Congress: Promoting Greater Efficiency in Medicare. http://www.medpac.gov/documents/Jun07_entirereport.pdf. Published June 2007. Accessed on July 3, 2010

⁵ Family Physician Workforce Reform: Recommendations of the AAFP (AAFP Reprint No. 305b)