



Rural Physician Grant Program

Executive Summary

Missouri counties with the greatest healthcare needs (i.e., areas with the highest prevalence of health conditions and a relatively low abundance of providers) are predominantly rural and located south of the Missouri River. Recruitment and retention of physicians in these areas can be difficult; in response to ongoing and projected physician shortages, several programs, including student training grants and loan repayment, have been enacted to promote healthcare workforce development. [HB 1630](#) would establish a rural primary care physician grant program, which would pay \$10,000/year to primary care physicians who agree to practice in underserved rural areas for five years.

Highlights

- Over the past decade, the number of physicians in rural areas of Missouri has declined by 7%, and is estimated to further decrease 20% by 2030.
- Physicians in areas with smaller populations, fewer physicians, and fewer hospitals are more likely to migrate away from rural areas than their non-rural counterparts.
- Several types of physician incentive programs help recruit and retain rural physicians (medical student scholarships, service-option loans, student loan repayment, direct payments to physicians, and medical resident support). Over 90% of physicians receiving direct payments, loan repayment, and resident support complete the term of service required by the incentive program.
- Other program designs may be slightly less effective, as 66% of scholarship recipients and 45% of service-option loan recipients complete their terms, respectively.

Limitations

- There is a lack of comparative studies analyzing how the size of incentive payments offered to physicians affects recruitment and retention.
- The number of physicians and healthcare facilities in a county may not be perfect indicators of health needs, as telehealth options may provide additional healthcare resources.
- Financial incentive programs are successful at short-term recruitment of rural physicians, but long-term retention and effectiveness studies are still needed.

*MOST Policy Initiative, Inc. is a nonprofit organization that provides nonpartisan information to Missouri's decisionmakers. All legislative Science Notes are written only upon request by members of the General Assembly. **This Science Note was published on 4/29/21 by Dr. Joshua Mueller, and updated on 2/9/22 by Dr. Ramon Martinez III, Health & Mental Health Policy Fellow – ramon@mostpolicyinitiative.org.***

Research Background

Physician shortages in rural communities

The number of healthcare professionals and facilities varies between rural and non-rural areas of Missouri. Nationwide, there is expected to be a slight drop in demand for primary care physicians in rural areas by 2034 due to declining population levels. Over the past decade, the number of physicians per capita in rural areas of the state has decreased by about 7%, and 10 rural hospitals have closed since 2014.^{1,2} Nationally, the number of rural physicians is projected to decrease by about 20% by 2030, as the number of retiring physicians in these areas is expected to exceed the number of physicians recruited to replace them.^{3,4}

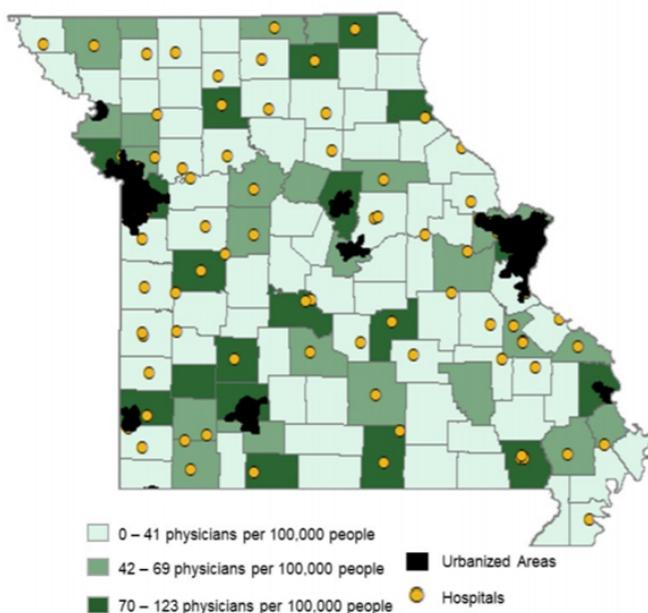


Figure 1. Map of Rural Missouri Physicians and Hospital Locations. Shown is a map of physicians per 100,000 people by county as of April 2021. The color code indicates the number of physicians in each county. Yellow circles show the locations of rural hospitals. As demonstrated by this map, many counties in the southern half of the state have few physicians residing there, and no hospitals, indicating a healthcare shortage. Map reproduced from Missouri Economy Indicators: Missouri Rural Health Care Access.¹

The U.S. Health Resources and Services Administration (HRSA), a federal agency under the U.S. Department of Health and Senior Services, compiles healthcare workforce data and identifies areas experiencing shortages. Health Professional Shortage Areas (HPSAs) are geographic areas, demographic populations, or healthcare facilities designated by HRSA as having an insufficient number of healthcare personnel. A 2018 report from HRSA estimates that approximately 65% of primary care and mental health HPSAs were located in rural or partially rural areas of the United States.³ As of January 2022, there are 329 primary care HPSAs and 252 mental health HPSAs in rural or partially rural areas of Missouri.⁵

These shortages present a risk of exacerbating health disparities in rural areas, where residents are more likely to be older, poorer, and uninsured than non-rural residents.³ A 2020 report by the Missouri Department of Health and Senior Services found that 22 of the 23 Missouri counties with the greatest need for primary care (as determined by the health status of residents and their current access to care) are predominantly rural and south of the Missouri river.⁶ Other research has found that physicians in areas with smaller populations, fewer physicians, and fewer hospitals are more likely to migrate elsewhere than their non-rural counterparts

indicating rural physician retention may also be a problem.⁷ Several programs have been proposed to increase the supply of primary care physicians in rural areas.

Strategies for rural physician recruitment and retention

Across the country, five common types of rural physician recruitment and retention programs have been implemented: medical student scholarships, service-option loans (student loans that can be repaid by service as a physician), student loan repayment, direct payments to physicians, and resident support (additional payments or loan forgiveness for medical residents).⁸ In many cases, these financial incentives come with obligations of medical practice for a term of several years in an underserved area.

Generally, physicians with service obligations practice in areas with worse overall health status, more Medicaid enrollees, and more uninsured residents than areas served by non-obligated physicians. Medicaid expansion has also been shown as an important factor in improving operating margins and lowering the risk of closure for rural hospitals.⁹ A combined 93% of physicians receiving loan repayments, direct payments, and resident support complete the term of service required by their incentive program. One national study indicates that 65% of physicians receiving direct incentive payments remain in their service area for over five years.⁴

Other program designs are slightly less effective, as 66% of scholarship recipients and 45% of service-option loan recipients complete their terms, respectively. In addition, about 70% of physicians with service obligations are family physicians, which are particularly important to rural communities for general care, as specialists are more likely to be located in non-rural areas. One study in Minnesota found that a university Rural Physician Associate Program (RPAP) was 28% more likely to retain students in rural practice than non-participants. Only 21% of hospitals nationwide offered these rural clinical practice programs at the time of the study.^{10,11} Further, one review has found that, while all health workers may not necessarily stay in an area once their obligations are complete, rural practice programs may improve retention rates overall.¹² The University of Missouri found that more than 57% of students that participated in the [Rural Track Pipeline Program](#) chose to practice in a rural location, more than twice as likely as non-participants.¹³

Across 69 state programs surveyed in 1996, physicians received an average of \$14,000/year in financial incentives for their obligated service.⁴ More recently, South Dakota launched a [recruitment assistance program](#) (RAP) that supplements new rural physicians' incomes by \$82,000/year for three years of service. To date, there is not a comparative study of how the size of the incentive payments offered to physicians affects recruitment and retention. Further, several reviews have reported that while financial incentive programs are successful in short-term recruitment of rural physicians, long-term retention success is low and further studies on long-term cost-effectiveness of these programs are needed.^{14,15}

Recruitment and Retention Strategies

Missouri currently operates several programs to place physicians in rural areas. The [Health](#)

[Professional Student Loan Repayment Program](#) (SLRP) provides federal funds to repay student loans of physicians, psychiatrists, and dentists who practice in areas with healthcare worker shortages. The [Primary Care Resource Initiative for Missouri](#) (PRIMO) program provides state scholarship funds to Missouri medical students who go on to practice as a primary care physician, dentist, dental hygienist, or psychiatrist in a designated underserved area in Missouri.

The federal Provider Relief Fund was established to compensate hospitals for financial losses during the COVID-19 pandemic, and was shown to slow hospital closures in 2020-2021 compared to 2019. The 2021 federal American Rescue Plan has further apportioned \$7.5 billion for disbursement to rural hospitals and providers.¹⁶ The U.S. House of Representatives has proposed a bill (HR 2418) entitled the [Student Loan Forgiveness for Frontline Health Workers Act](#), which establishes temporary programs to provide federal and private student loan forgiveness to certain frontline health care workers as a result of attrition during the COVID-19 pandemic. For more information on health care worker losses during the COVID-19 pandemic, see our note [COVID-19 and the Missouri Workforce](#).

[HB 1630](#), introduced in the 2022 legislative session, would establish a rural primary care physician grant program. The bill provides a \$10,000/year incentive (pending available state funds) to primary care physicians who agree to practice in an underserved rural county (defined as 35,000 persons or less living in a county) for a continuous five-year period. The bill also authorizes the state to reclaim any grant payments to physicians who do not complete the five-year term, and does not define how the funds are to be spent.

References

1. Kuhns, M. (2021). Missouri Rural Health Care Access. *Missouri Economy Indicators*, 2(7). <https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/ExCEED/Docs/MissouriEconomyRuralHealthcarev2i712Apr21.pdf>
2. *The Complexities of Physician Supply and Demand: Projections From 2019 to 2034* (2021). Association of American Medical Colleges. <https://www.aamc.org/media/54681/download>
3. Skinner, L., Staiger, D. O., Auerbach, D. I. & Buerhaus, P. I. (2019). Implications of an Aging Rural Physician Workforce. *New England Journal of Medicine* **381**, 299-301, doi:10.1056/NEJMp1900808
4. Pathman, D. E., Konrad, T. R., Dann, R. & Koch, G. (2004). Retention of primary care physicians in rural health professional shortage areas. *American journal of public health* **94**, 1723-1729.
5. *First Quarter of Fiscal Year 2022 Designated HPSA Quarterly Summary*, (2022). <https://data.hrsa.gov/Default/GenerateHPSAQuarterlyReport>
6. Missouri Department of Health and Senior Services, Office of Primary Care and Rural Health (2020). *Missouri Primary Care Needs Assessment*.
7. McGrail, M. R., Wingrove, P. M., Petterson, S. M. & Bazemore, A. W. (2017). Mobility of US rural primary care physicians during 2000–2014. *The Annals of Family Medicine* **15**, 322-328.
8. Pathman, D. E. *et al.* (2000). State scholarship, loan forgiveness, and related programs: the unheralded safety net. *JAMA* **284**, 2084-2092.
9. Zhang, P. & Zhu, L. (2022). Does the ACA Medicaid Expansion Affect Hospitals' Financial Performance? *Public Finance Review*, 10911421211064676, doi:10.1177/10911421211064676

10. Butler, L. *et al.* (2021). Impact of the Rural Physician Associate Program on Workforce Outcomes. *Fam. Med.* **53**(10), 864-870.
11. Longenecker, R. L. *et al.* (2021). Pipelines to Pathways: Medical School Commitment to Producing a Rural Workforce. *The Journal of Rural Health* **37**, 723-733, doi:<https://doi.org/10.1111/jrh.12542>
12. Esu, E. B. *et al.* (2021). Interventions for improving attraction and retention of health workers in rural and underserved areas: a systematic review of systematic reviews. *J Public Health (Oxf)* **43**, i54-i66, doi:10.1093/pubmed/fdaa235
13. Quinn, K. J. *et al.* (2011). Influencing Residency Choice and Practice Location Through a Longitudinal Rural Pipeline Program. *Academic Medicine* **86**(11), 1397-406.
14. Sempowski, I. P. (2004). Effectiveness of financial incentives in exchange for rural and underserved area return-of-service commitments: systematic review of the literature. *Can J Rural Med* **9**, 82-88.
15. Bärnighausen, T. & Bloom, D. E. (2009). Financial incentives for return of service in underserved areas: a systematic review. *BMC Health Services Research* **9**, 86, doi:10.1186/1472-6963-9-86
16. Ochieng, N., Biniek, J.F., Musumeci, M.B., Neuman, T. (2022). *Funding for Health Care Providers During the Pandemic: An Update*, <https://www.kff.org/coronavirus-covid-19/issue-brief/funding-for-health-care-providers-during-the-pandemic-an-update/>