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Charles Courtemanche and Joseph Garuccio

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University of Kentucky
244 Gatton College of Business and Economics
Lexington, KY 40506-0034
http://isfe.uky.edu/

Gatton College of Business and Economics

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Charles Courtemanche, Department of Economics, Institute for the Study of Free Enterprise, Gatton College of Business and Economics, University of Kentucky; National Bureau of Economic Research; Institute of Labor Economics (IZA); Email: courtemanche@uky.edu

Joseph Garuccio, Institute for the Study of Free Enterprise, Gatton College of Business and Economics, University of Kentucky, Email: jgaruccio@uky.edu

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Executive Summary

Kentucky faces significant health care professional shortages, particularly in its rural and Appalachian areas. In 2023, metropolitan counties in Kentucky had approximately 37 physicians per 10,000 population, while Nonmetropolitan counties had only 12. Trends among Kentucky's rural physicians have been to move away from independent practice, as independent physicians and independent rural practices in Kentucky have dropped by 42 and 39 percent, respectively, since 2019. Shortages of health care professionals in Kentucky extend beyond physicians to dentists, audiologists, mental health professionals, and more.

The literature on health care professional location decisions indicates that location of upbringing and of training have outsized impacts on where a professional elects to practice. Additional influences include scholarship provision, student loan repayment, and expanded practice authority. Internationally trained professionals can assist in providing care in shortage areas, but their recruitment in Kentucky is limited by federal immigration policy.

Currently, Kentucky has two loan repayment programs, a health care professional scholarship program, and a health care careers educational outreach program. Each of these provides elements the literature suggests are beneficial to at least modestly increasing the supply of health care professionals, but with limitations. A theme among them tends to be a lack of support for those who would like to enter independent practice. Kentucky should coordinate and expand its collective programs to increase early interest in health care professional education and the scholarship and loan repayment opportunities that exist to make such education more affordable. Reorienting state programs to encourage independent and solo practice would likely also be beneficial to health care access in rural areas of Kentucky.

Keywords: Kentucky, workforce, health care, shortage, Appalachia

JEL Codes: I11, J21, J23, J63

I. Introduction

Health care professional shortages are a prominent challenge to health care access in rural Kentucky and Appalachia. In 2025, for primary care, 63 percent of designated health care professional shortage areas (HPSAs) across the US were in rural areas, and 7 percent of US counties in 2023 did not have a primary care physician at all (Health Resources Service Administration (HRSA), 2025). Such shortages are a meaningful concern for Kentucky policymakers, as nearly 41 percent of the state's population lives in rural areas, with about half of the rural population living in Appalachian counties (Blueprint Kentucky, 2025).[1]

Historically, Kentucky has seen a growing shortfall of physicians. Johnson and Cooper (1982) find that from 1930 to 1980, the number of Kentucky counties considered to have a physician shortage increased from 3 percent to 20 percent, with Appalachian counties facing steeper shortages of physicians relative to their resident populations. Using more recent data, in 2023, metropolitan counties in Kentucky had approximately 37 physicians per 10,000 population (Rural Health Information Hub, n.d.). Nonmetropolitan counties, however, had only 12. After replicating these population-weighted averages, we observed that Kentucky's nonmetropolitan Appalachian counties were similar in total physicians per 10,000 population to other nonmetropolitan counties in the state. However, the Appalachian metropolitan counties in Kentucky had noticeably fewer physicians per 10,000 population – around 20 – than their metropolitan counterparts in other parts of the state.

Vacancy and recruitment data also illustrate the persistent relative rural shortfall. In 2004, rural community health centers (CHCs) had more vacancies and more persistent vacancies (≥7 months) for family physicians, pediatricians, dentists, and pharmacists compared to their urban

[1] Based on county-level population estimates from the US Census Bureau from 2023, just over 21 percent of Kentuckians live in nonmetropolitan Appalachian counties.

counterparts. They also reported greater recruiting difficulty for all examined positions except for nurse practitioners, physician assistants, and pharmacists (Rosenblatt et al., 2004).

Increasingly, independent physicians in rural areas have either left for urban areas or joined a health care system. From 2019 to 2024, the national supply of rural physicians declined by 4.8 percent, the share of rural physicians in independent practice fell from 42 to 25 percent, and the share of independent practices in rural areas fell from 58 to 38 percent (Physicians Advocacy Institute (PAI), 2024). According to the PAI, among states in the South Census Region, Kentucky is second in the percentage of physicians practicing in rural areas (26 percent). This share has been fairly constant in recent years, changing little since 2019 when it was 27 percent, but it is indicative of how damaging rising rural exit would be for health care access. Currently, Kentucky is experiencing considerable physician integration with health systems. The shares of independent physicians and independent rural practices in Kentucky have dropped by 42 and 39 percent, respectively, since 2019. The Kaiser Family Foundation has indicated that there is a parallel pattern among rural hospitals. From 2010 to 2023, the share of rural hospitals that were part of a health system rose from 43 to 52 percent, and more rural hospitals closed than opened in that time period (Levinson et al. 2025). In other words, like rural physicians, fewer hospitals serve rural areas, and among those that do, a higher share have joined a health system to survive financially.

Without recognizing both elements of this pattern, one could potentially observe higher salaries for rural physicians and mistakenly perceive it as financial viability, failing to recognize that this is the result of absorption and exit, causing market concentration and a shrinking supply. Both of those increase the market power of an expanding health system, allowing it to bargain more aggressively with insurers for services it increasingly provides exclusively. Such power

incentivizes it to restrict services and professional positions to profitable ones and eliminate unprofitable services in a local market. O'Hanlon et al. (2019) find that rural hospitals that affiliated with health systems from 2008 to 2017 saw significant reductions in diagnostic imaging technologies, primary care and obstetric services, and non-emergency outpatient visits, along with a significant increase in operating margins. This is consistent with fewer physicians being employed but additional funds being available for physicians providing profitable services.

The disparate distribution of healthcare professionals in Kentucky is not unique to physicians. There were roughly twice as many dentists and physician assistants per 10,000 residents in metropolitan areas compared to nonmetropolitan areas in 2023. Saman et al. (2010) noted such differences in distribution in Kentucky for 2006. Feng et al. (2017) suggest that lower utilization of dental services in Appalachia is associated with a lack of dental professionals. They find that 85 percent of Appalachian counties had fewer than the recommended 1 dentist per 2,000 residents, and that Appalachian counties in Kentucky also had too few dental hygienists. Hendryx (2008) suggests that 70 percent of non-metropolitan Appalachian counties were mental health professional shortage areas in the early 2000s. The Rural Health Information Hub indicates that in 2023, there were 31 percent more nurse practitioners (NPs) per 10,000 residents in metropolitan areas in Kentucky than in nonmetropolitan areas (Rural Health Information Hub, n.d.). Access to hearing-related health care professionals is also lacking. Using the methods and data appearing in Garuccio et al. (2025), we find that while many rural counties in Kentucky had shortages of hearing health care providers in 2019, Appalachian Kentucky shows a particularly large cluster of shortage counties for these professionals (Figures 1 and 2).[2]

[2] Specifically, the number of audiologists and hearing instrument specialists relative to each county's estimated prevalence of hearing loss in at least one ear was used to assign counties to a given category. These professionals provide hearing evaluations and help prescribe and provide hearing aids and other devices to assist those with hearing loss. Garuccio et al. (2025) assign counties to the shortage category if the number of audiologists and

The disparate distributions of health care professionals between urban and rural areas represent significant potential barriers to health care access. According to the National Cancer Institute, in 2022, Kentucky had the highest incidence rate of cancer per 100,000 residents in the US (National Cancer Institute, 2026). It was the third highest for rural cancer incidence as well as incidence among populations 65 and older, a major concern as about 44 percent of Kentucky's elderly population lives in rural areas of the state (Blueprint Kentucky, 2025). Yao et al. (2013) use data from 2000 to 2007 and find that Appalachian counties had significantly fewer radiation oncologists, surgeons, and hospitals with radiation technologies per 100,000 residents than non-Appalachian counties. Cornelius et al. (2024) suggest that only about 3 percent of oncologists treating Medicare patients practice in rural areas. Beyond just cancer, using 2016 data, Gong et al. (2019) found Kentucky to have the highest all-cause rural mortality rate and suggested that, across all states, higher counts of primary care physicians were associated with lower all-cause mortality. Together, these indicate that rural Kentuckians face significant challenges in finding providers of care for anything from life-improving hearing care to life-saving cancer care.

II. Factors Influencing whether Health Care Professionals Practice in Rural Areas

Home Region and Place of Training

Where a professional is trained or grew up are strongly associated with where he or she begins and continues practice. Generally, over half of newly trained physicians elect to remain in the state of their medical residency (Falcettoni, 2018; American Academy of Medical Colleges, 2024). This was more pronounced among female physicians (61.5%) from 2014 to 2023 than male physicians (56.2%) (American Academy of Medical Colleges, 2024). Fagan et al. (2015)

hearing instrument specialists is less than 1 per estimated 3,500 residents with hearing loss. The potential shortage category is used if the combined number of audiologists and hearing instrument specialists is at least 1 per 3,500, but the number of audiologists alone does not reach this threshold.

find that, of those who completed their Family Medicine residency in Kentucky between 2000 and 2006, 71 percent remained in Kentucky in 2012. For those who had graduated in the 1970s, 57 percent still practiced in the state. Walker et al. (2020) find rural upbringing to be associated with rural employment. Osborne and Haubenreich (2003) noted a decline in University of Kentucky dental student recruiting from Appalachian areas of Kentucky and subsequent declines in graduates practicing in those areas from the 1970s to 1999.

Falcettoni (2018) observes that those in primary care are more likely than those in other specialties to prefer to remain in their state of training and the hospital referral region (HRR) in which they received their residency training. Of note, in her physician data, Falcettoni (2018) observes that only 1 percent of primary care and specialist physicians completed residency in rural areas, which means few physicians could remain in their training HRR and in a rural area simultaneously. Anderson et al. (2009) find that the scarcity of rural applicants to Kentucky's allopathic medical schools from 2002 to 2006 was associated with relative rurality of county of residence, lower physician to population ratios, and lower county-level higher-education attainment, and that a key driver of increased applicants was the influence of teachers encouraging medical education by age 15. Other concerns about retaining rural professionals in eastern Kentucky and elsewhere relate to challenges with socio-cultural integration in the community (Cutchin et al., 1994; MacDowell et al., 2010).

Financial Factors

Urban areas have higher population densities, more privately insured patients, more employment opportunities outside of sole proprietorship, and wider health care networks with access to complementary services and professionals. Rural areas often need to compete for physicians financially via higher salary offers, signing bonuses, student loan forgiveness,

performance incentives, and higher relocation stipends (Darves, 2019; Falcettoni, 2018). Darves (2019) indicates that the difference in rural salary offers aimed at recruiting newly trained physicians is typically around 5-10%. An exception appears to be surgery, where rural areas cannot necessarily compete on salary offer but may offer more generous performance incentives. Signing bonuses, when used as a recruiting mechanism, are often tied to remaining in practice in the area for a set period of time.

The option to accept a higher-paying rural salary, however, is limited by whether a health system or established provider with an opening already exists and is profitable enough to compete for candidates based on salary. Watanabe-Galloway et al. (2015) indicate that higher salary offers elsewhere make hiring psychiatrists in rural Nebraska very difficult, suggesting practices in rural areas may already struggle financially and cannot lure in new practitioners with higher salary offers. Rosenblatt et al. (2006) report that low salaries, cultural isolation, poor-quality schools and housing, and lack of spousal job opportunities make it difficult to recruit physicians to rural CHCs.

Practitioners considering sole proprietorship in independent practice cannot offer themselves a signing bonus, relocation stipend, or guarantee of a higher salary. The means of incentivizing them to locate in rural areas would be programs that provide loan forgiveness or reimbursement advantages based on their location choice. However, the current structure of loan repayment in Kentucky does not seem overly supportive of solo practitioners. Kentucky has a loan repayment program that offers varying amounts of loan repayment depending on the type of health care professional. Though those seeking to be solo practitioners can be approved for this benefit, the requirement of a sponsor to provide a one-to-one match of the funds provided is

likely more challenging for those wanting to start their own independent practice (University of Kentucky College of Medicine, n.d.).[3]

In 2025, graduates' medical school debt averaged over $216,000, up from $180,000 in 2015 (Hanson, 2025). If undergraduate debt is also included, the average increases to over $246,000. Empirical and modeling evidence suggest that scholarship incentives and student loan forgiveness do increase the number of physicians in rural areas and health professional shortage areas, but these effects are fairly modest, especially among primary care physicians, and effects are concentrated among new/younger physicians likely still facing considerable student debt or post-training scholarship obligations (Falcettoni, 2018; Kulk and McWeeny, 2019; Ghoush, 2024; Khoury et al., 2025). Falcettoni further indicates with her structural model that redirecting funds used for loan forgiveness to increase salaries would have a considerably larger effect among primary care physicians. Taken collectively, this evidence suggests there is little financial incentive for physicians to enter solo practice in rural Kentucky if they have substantial debt, as debt repayment funds are more difficult to obtain and, in their absence, higher earnings are likely needed to address medical training debt.

In Kentucky, anecdotal evidence suggests that the cost of medical schooling is not only a burden for graduates but also a dissuading factor for middle and high school students when determining their future educational and professional interests. A small survey of young health camp participants at the University of Kentucky indicated the chief concern with attending medical school was the cost/indebtedness involved (Anderson et al., 2009). This could represent

[3] "Sponsors can include employers at the practice site; private foundations, corporations, community organizations, and/or philanthropies; and, rurally-oriented organizations requesting that their funds be used to support the placement of practitioners in rural areas." -University of Kentucky College of Medicine, n.d.

a bottleneck in Kentucky's recruiting pipeline if it dissuades applicants who would otherwise wish to practice in the state.

Poor reimbursement from public insurers is another challenge for rural health care providers. Fraze et al. (2022) observed that primary care practices in rural areas have two to four times the amount of attributed Medicare beneficiaries than urban practices, with fewer clinicians per practice. Alker et al. (2025) note that 28.5 percent of non-elderly Kentuckians living in small towns or rural areas are covered by Medicaid, compared to 22.6 percent in urban areas. Typically, private insurers reimburse health care providers at higher rates for their services than Medicare or Medicaid, with Medicaid frequently providing the lowest reimbursements.

This presents a financial obstacle for independent practitioners who bear the burden of their own billing and administrative work, and likely points to a key reason why many physicians either decline to enter practice in rural areas, leave rural areas, or elect to join a health system that can offer them a guaranteed salary and other benefits while eliminating many of their administrative duties. In mental and behavioral health, only 45.5 percent of psychiatrists accepted Medicaid in 2017, and only about 42.7 percent accepted Affordable Care Act Marketplace insurance in 2016 (Medicaid and CHIP Payment and Access Commission, 2021; Zhu et al., 2017). Among non-physician mental health care workers, 19.3 percent participated in any marketplace insurance (Zhu et al., 2017). This suggests that rural areas, where incomes tend to be lower, are less able to afford mental health and other services and, therefore, are less appealing locations for mental and other health professionals.

As mentioned previously, the trend among physicians in rural areas is exit and absorption into health systems. Neither tends to result in improved accessibility, as the latter is typically accompanied by reduced services. Some evidence suggests that stagnant/diminishing

reimbursement is a key driver in physicians integrating with health systems. The increase in Medicare reimbursements for independent physicians in "frontier" states under the ACA reduced integration between hospitals and physicians participating in Medicare (Devlin and McCormack, 2023). The amount of services provided by recipient physicians may also have increased. Such a finding is supported by claims from the American Medical Association, which suggests inflation-adjusted Medicare reimbursements to physicians via the Physician Fee Schedule have fallen by nearly a third since 2001 (American Medical Association, 2025). This would suggest shrinking margins for independent practices over time, which increases the pressure to either exit rural areas for better prospects in urban areas or quit private practice and join a larger system.

The shift away from independent practices could result in reduced access via higher-cost care. Rooke-Ley et al. (2025) point to small, independent practices as sources of higher-quality, lower-cost care, but indicate that there is a challenge beyond reimbursement rates to independent practice. They suggest that increases in administrative knowledge/management and technological understanding/requirements have reduced the feasibility of independent practice as reimbursement systems move away from simpler fee-for-service systems to value-based ones. Value-based reimbursement systems are more feasible for providers that can handle the data collection, evaluation, reporting, and patient outreach required to comply with such reimbursement contracts. This pushes independent practices toward integration to alleviate this burden. This, in turn, could result in rural residents facing higher costs for care if an independent provider integrates and must begin charging their new employer's higher rate.

III. Current Policies and Programs

Kentucky State Loan Repayment Program

Kentucky's state loan repayment program (KSLRP) is a federally funded program that offers varying amounts of loan repayment depending on the type of health care professional. Physicians, dentists, and pharmacists can qualify for up to $100,000; nurse practitioners, physician assistants, certified nurse midwives, behavioral and mental health specialists for up to $60,000; and registered nurses, registered dental hygienists, and alcohol and substance use disorder counselors for up to $40,000. Qualification has a couple of stipulations, however. An applicant must work at or be contracted to subsequently work at an approved site of practice (University of Kentucky College of Medicine, n.d.).[4] Funding is conditional on finding a sponsor to provide a one-to-one match of these federal funds. Funds can only be used for loan repayment and require a two-year, full-time employment commitment to the eligible site. Other applicant-based restrictions also apply, such as employment in a health professional shortage area and the ability to participate in Medicaid and Medicare.

Healthcare Worker Loan Relief Program of the Commonwealth

The Healthcare Worker Loan Relief Program of the Commonwealth (HWLRPC) is aimed at recruitment and retention program of health care professionals in HPSAs in Kentucky (University of Kentucky College of Medicine, 2026).[5] The program provides participants with tax-free student loan repayment assistance in return for a commitment to a 24-40-hour work week and 4160 hours over two to three years. Initial award contracts require two years, but a one-year extension is possible for re-applicants. Applicants must serve at practice sites that are

[4] These include federally qualified health centers and their look-a-likes, the Centers for Mecicare and Medicaid certified rural health clinics, some other facilities such as community mental health and state and county health department facilities, free clinics, mobile units, critical access hospitals affiliated with qualified outpatient clinics, long-term care facilities, correctional or detention facilities, or private practices (solo or group).
[5] Eligible professionals include, though not exclusively, Primary Care Clinicians,
Dental Care Clinicians, Behavioral/Mental Health Clinicians, Alcohol/Substance Use Clinicians,
Counselors, Pharmacy Clinicians, Optometrists, Ophthalmologists, and Audiologists

public or non-profit private entities located in federally designated HPSAs. Locations designated by the state as medically underserved or shortage areas do not qualify in and of themselves. Further, to be eligible, sites have to provide comprehensive outpatient, ambulatory, and primary health care. The HWLRPC does not require a funding match, though practice sites may provide non-federal funds toward loan repayment which are then are applied to the award amount. The annual funding provided by the program is tiered by professional credentials. Physicians, dentists, and pharmacists can receive $25,000; APRNs, PAs, and social/mental health professionals $15,000; and alcohol & substance use disorder counselors $10,000 from the state per year (University of Kentucky College of Medicine, 2026).

Kentucky Healthcare Workforce Investment Fund

The Kentucky Healthcare Workforce Investment Fund (KHWIF) seeks to use public and private partnerships to provide healthcare training scholarships to reduce the financial barriers of Kentucky students pursuing high-demand, program-eligible healthcare credentials through the 2030 fiscal year (H.B. 200, 2023). Sixty-five percent of the Funds' proceeds are to be used for training scholarships, while the remaining 35 percent may go toward performance incentives for healthcare education programs. The overseeing council prioritizes partnerships 1) in historically underserved counties or that improve racial/ethnic diversity within a healthcare credential targeted by the partnership; 2) that reduce workforce demand for specific credentials determined to be in high demand in Kentucky; or 3) are from healthcare partners with fewer than 50 employees. For scholarships, any funds granted by the KHWIF must be matched one-to-one by the partner and used to issue healthcare scholarships to Kentucky students enrolled in a given healthcare program. A healthcare program that is a partner has the responsibility to solicit, accept and review applications submitted by enrolled students. Of note, the program does not focus on

physician, dentist, or pharmacist as eligible credentials, though a 2026 amendment made speech-language pathologist and audiologist eligible credentials (H.B. 266, 2026).[6] Scholarship amounts vary by program and professional credential, without set amounts appearing in the establishing legislation.

Recipients of a scholarship must agree to practice as a licensed or certified medical professional in Kentucky for at least one academic year funded by the scholarship, up to two total years (H.B. 200, 2023). Funds used to provide healthcare program incentives include considerations of demands and capacity for specific eligible healthcare credentials, specific credentials in historically underserved areas, the percentage increase over the baseline of students completing the healthcare program, the passage rate and first-time passage rate of graduates passing credentialing exams, and anything else the overseeing council deems relevant. All funds provided as an incentive must be invested in the continued performance of the awarded program, such as for education, recruitment, and training of faculty and staff, or maintenance and acquisition of medical equipment used by the program.

Nurse Practitioners' Scope of Practice

Currently, Kentucky limits nurse practitioner prescriptive authority by requiring a collaborative agreement with a physician to prescribe both scheduled and non-scheduled drugs. This agreement requires quarterly meetings in the first year of the agreement, which become at least biannual for the subsequent three years (Kentucky Administrative Regulation 201 § 3).

[6] Eligible credentials/professions include alcohol and drug counselors, clinical alcohol and drug counselor licenses/associates, professional art therapists, community health workers, emergency services personnel, medical imaging/radiation, dental hygienists, dental assistants, nursing licenses/certificates, state registered nursing aides, respiratory care practitioners, psychology professions, occupational therapy professions, behavior analysts, physical therapy professions, social workers, marriage and family therapists, professional counselors, physician assistants, dietitians, and nutritionists.

Reductions or eliminations of this agreement for rural practitioners could be an additive perk alongside student debt repayment to incentivize rural practice among advanced practice registered nurses. Some empirical evidence suggests that full practice authority for nurse practitioners has positive supply effects, and NPs are willing to work independently of physicians, indicating expanded primary availability in physician shortage areas (Kuo et al., 2013; Norris et al., 2024; Plemmons et al., 2023; Reagen and Salisbury 2013; Slade et al., 2024; Stange, 2014; Yang et al. 2020).

Physician Assistant Licensure and Scope of Practice

Outside physician assistants (PAs) seeking to practice in Kentucky may obtain licensure by endorsement from another state in which they are licensed and in good standing, provided that the other state has substantially similar licensing requirements (Ky. Rev. Stat. § 311.844(2), 2024). Recently, PAs received a relaxation of the scope of practice limitations in April of 2026, with the signing of Senate Bill 116 into law. The bill removed language holding a supervising physician responsible for the medical services rendered by a PA and changed the nature of the relationship between physician and PA from stricter oversight to collaborative. The bill now requires that the physician and PA ensure the tasks the PA performs are appropriate to the PAs level of training, but explicitly states the physician is not required to be present when the PA is rendering medical services.

The bill reduces some of the previously exacting detail required for applications to establish a supervising physician and supervised PA status with the state, and it establishes more flexibility in establishing and altering such relationships. It also expanded PAs prescriptive authority by setting conditions for PAs to be able to prescribe Schedule II narcotics. Unchanged elements of the law still restrict physicians to supervisory agreements with a maximum of four

PAs, with board approval required to enter into a supervisory agreement with each PA. On the whole, this is an incremental change toward expanded scope of practice and ease of forming physician and PA agreements; however, as an incremental change, it may only have fairly marginal effects on PA supply.

Licensure Compacts

Kentucky is a member of both the Interstate Medical Licensing Compact (IMLC) and the Nurse Licensure Compact (NLC). For physicians, the IMLC provides a centralized application process for those who intend to practice in multiple member states. The applicant physician will still be issued a license per state in which he or she is seeking to practice, but the application process is streamlined. The NLC allows nurses to practice with one multistate license in all member states (Kentucky Board of Nursing, n.d.). This is useful for nurses living near Kentucky's border, as Illinois is Kentucky's only neighbor not in the compact. With the NLC, those near the border do not have to pursue individual licenses in each state in which they need to care for patients, which allows Kentucky health care providers easier access to nurses in Louisville (near Indiana) and Florence (near Cincinnati), for example. The flexibility of a multistate license also allows for the importation of travel nurses to fill temporary needs in nursing. Kentucky is not, however, a member of the Advanced Practice Registered Nurse Compact, which is a similar agreement for APRNs.

Theoretically, the topic of licensing compacts has parallels with whether or not to open an economy up to international trade when a country is concerned about the domestic supply of a key good. If the price for that good is higher in foreign countries than it is domestically, opening up the market for that good to international trade will cause the country to become a net exporter, and the amount retained domestically would fall. The opposite is true if the domestic price is

higher than the foreign price. However, for either to be the case for health care workers across state borders, licensure compacts have to be sufficiently friction-reducing and the appeal/price in another compact state different enough to warrant migration. Empirical evidence thus far suggests there is little indication of an effect of licensure compacts on migration (Cook et al., 2022; DePasquale and Stange, 2016; Fannin, 2021; Johnson and Kleiner, 2020). However, if out-migration is unaffected, being part of a licensing compact may offer a marginal recruiting benefit, as it presents as an aid to mobility that applicants may find appealing but ultimately will not utilize.

Educational Outreach

The goal of the HRSA-funded Area Health Education Centers (AHEC) program is to "develop and enhance education and training networks within communities, academic institutions, and community-based organizations. In turn, these networks seek to increase diversity among health professionals, broaden the distribution of the health workforce, enhance health care quality, and improve health care delivery to rural and underserved areas and populations" (HRSA, 2022). The Kentucky-based AHEC program is comprised of 8 regional centers that operate territorially within a given set of counties, and annually reaches 30,000 students from elementary to high school (Center for Interprofessional and Community Health Education, n.d.). It provides "experiences and activities for students interested in pursuing a health career. They are designed to promote health careers at each stage of the education experience, from Kindergarten through 12th grade. Programming includes one or two day showcases, summer camps, clubs, workshops, and more coordinated, longitudinal experiences" (Center for Interprofessional and Community Health Education, n.d.). In the Northwest AHEC, which covers the Louisville area, the Health Careers Adventure Program (HCAP) provides a

health career program for middle and high-school students that is year-round, where students experience various health professions and relevant health promotion education (Northwest Kentucky AHEC, n.d.). The majority of AHEC events are open to any student interested in a health career, but it is not clear if resources are specifically dedicated to increasing awareness and expanding interest in healthcare professions.

International Medical Graduates

While international medical graduates (IMGs) tend to enter primary care specialties more frequently than their US graduate counterparts, they also tend to be less inclined to practice in rural areas (Fink et al., 2003; Hailat et al., 2025; Hart et al., 2007; Thompson et al., 2009). A focus on IMGs appears unlikely to meaningfully address rural shortages unless either they are strongly incentivized to work in rural areas or their occupation of an urban position redirects US graduates to HPSAs in rural areas.

The primary pathway for IMGs into the state is through the Kentucky State 30 J-1 Visa Waiver Program run by the Kentucky Cabinet for Health and Family Services. This program allows IMGs to obtain a waiver of the two-year home residency requirement by serving a health professional shortage area or medically underserved population for three years (Kentucky Cabinet for Health and Family Services, n.d.). The Cabinet can recommend up to 30 IMGs for this waiver, which is a constraint on its impact.

Some additional J-1 waiver pathways exist, but they are limited to specific parts of Kentucky. The Appalachian Regional Commission (ARC) considers recommending IMGs for waivers if they intend to practice in HPSAs in Appalachia. However, such waivers are conditional on there being prolonged, unfilled positions. Efforts must first be made “to recruit an American doctor for the job opportunity in the same salary range without success during the six

months immediately preceding the request for a waiver" (Appalachian Regional Commission, n.d.). The Delta Region Authority, which includes 21 counties in Western Kentucky, is another potential pathway to a J-1 visa waiver if a foreign physician was trained in the US and agrees to work in an HPSA for 3 years (Delta Region Authority, n.d.).

Recent Federal Grant

In December, the Kentucky secured a $219.9 million federal grant to be doled out over 5 years as part of the federal government's Rural Health Transformation Program (RHTP) (Office of the Governor, 2025). The RHTP, instituted under the One Big Beautiful Bill Act of 2025, aims to "strengthen rural communities across America by improving healthcare access, quality, and outcomes by transforming the healthcare delivery ecosystem" (Centers for Medicare and Medicaid Services, 2026). Several of the ways Kentucky intends to use its grant money relate to addressing workforce shortages. These include expanding dental hygiene training, establishing portable or telehealth dental clinics, funding telehealth-enabled maternal care teams to expand services in "maternity care deserts", and developing "mobile crisis response, telepsychiatry and stabilization services connecting individuals to community-based behavioral health and recovery supports" (Office of the Governor, 2025).

IV. Possible Future Policies

Location-Based Strategies

The literature suggests that the strongest tool Kentucky can leverage is native health care professionals' desire to work in their own state. Encouraging medical education before high school, recruiting potential applicants within Kentucky and especially in its rural areas, and providing more residency training in rural areas are all potential avenues to expand Kentucky's health care workforce. The expansion of dental hygiene training in rural areas via the RHTP

could help increase dental care provision with training-site-based retention, and could serve as a test of how well similar strategies could work for other types of healthcare professionals. The KHWIF provides scholarships and rewards healthcare program performance, though it is not aimed at physicians, dentists, or pharmacists. One of its core strengths is that funds can be directed specifically toward Kentucky residents, who, evidence indicates, will have a higher probability of remaining in the state even after their practice obligation required by the scholarship expires. Ensuring informational coordination between Kentucky's various scholarship and loan repayment programs for healthcare students and its AHEC programs would ensure that Kentucky's AHEC events could inform students of ways to make financial costs less of a barrier.

While licensing compacts do not appear to have significant migration effects, they may still be a useful recruiting tool to attract new training candidates. Beyond the medical and nursing compacts, in recent years, several states have begun considering and passing legislation to form a dentist and dental hygienist compact (American Dental Association 2024). House Bill 880 was introduced in Kentucky in March of 2026 to consider the state's participation in this compact (H.B. 880, 2026). Such compacts may allow Kentucky's health care training programs to attract more students and leverage their preference for practicing where they trained to expand the health care workforce.

Granting full practice authority to APRNs may be beneficial, as some evidence suggests APRNs prefer to work in states with full practice authority and are willing to work independently without an on-site physician, which could help alleviate some primary care shortfalls. ARPNs have served as sources of primary care and other services in areas where health care

professionals are scarce. Scope of practice expansions and joining the APRN nursing compact are potential considerations to attract more APRNs.

Financial Strategies

At present, the student loan repayment programs in Kentucky appear weighted toward health care professionals accepting a position with an established provider. Under the KSLRP, the need for a sponsor to match any federal funds suggests a greater difficulty for those considering solo practice. In rural areas of Kentucky, there are likely to be fewer such providers, and the trend in physicians leaving private practice in rural areas is a standout concern alongside the net physician exit from rural areas. Under the HWLRPC, matching funds are not required, but the position must be with a non-profit or public provider. Programs and strategies that support independent practice in rural areas would help combat this trend and preserve health care access in rural areas of Kentucky, but current limitations on both provider type and fund matching seem to push applicants away from independent practice. Funding opportunities more directly supportive of independent practice may prove beneficial to expanding the supply of providers in rural areas. As the KSLRP is a federally funded program, altering its conditions is an unlikely solution, but current or new state-funded programs without federal ties could be more realistic targets for alteration.

International Medical Graduates

There are pathways for IMGs to practice medicine in Kentucky, but these are constrained by the small number of available J-1 visa waivers. Each of the potential pathways requires practice in HPSAs, with the ARC specifically requiring practice in Appalachia. At present, the limited means to bring in IMG physicians seem to preclude it from being a meaningful way to address health care professional shortages. Further, pathways through ARC require prolonged

unfilled positions, preventing proactive applications to avoid shortages. As immigration policy is a federal matter, there does not seem to be a clear means for Kentucky to create alternative programs that expand access to IMGs. Expanded employment of IMGs would likely require federal changes to immigration policy and would have to be pursued through federal lobbying efforts.

V. Conclusion

Kentucky's health care professional shortages range from dental, hearing, and primary care to mental health care. Rural areas of Kentucky face particular health care shortages, presenting serious concerns for the wellbeing of the 41 percent of the population living in these areas. Based on the current literature, Kentucky's greatest possibility for increasing rural and Appalachian health care providers is a focus on educational, recruitment, and training programs in the areas in which providers are most needed. Residents of Kentucky and its rural and Appalachian regions are the most willing to provide health care in those locations. They should be of particular focus for education through Kentucky's AHEC programs and for recruitment by the state's health care education and training programs. KHWIF scholarships could play a key role alongside student loan repayments via the KSLRP and HWLRPC programs. However, the loan repayment programs may also further shift rural providers away from independent practice toward more costly forms of health care provision. Trends in rural health care point to diminishing numbers of independent physicians and greater consolidation within health systems. Programs repaying debt either exclusively or more easily for employees of health systems rather than in support of independent practice may serve to exacerbate and perpetuate this trend. Other forms of financial support for solo practitioners, particularly, may be needed to promote rural practice.

Broader scopes of practice for APRNs could help alleviate some of the rural physician shortages and promote more independent medical practices as supervisory or collaborative agreements become unnecessary. Licensing compacts may serve as a recruitment mechanism for training programs to increase inflows of new providers who may elect to practice in Kentucky without increasing provider exit. The state recruits IMGs to HPSAs, but the number that can be recruited appears limited by federal immigration policy, and Kentucky cannot circumvent federal policy nor alter it. If the state wishes to pursue increased IMG recruitment, it will have to pursue federal lobbying efforts to expand such programs.

On the whole, Kentucky seems best served by expanding its educational and recruitment pipelines within the state, as geographic practice preferences supported by scholarship and debt relief seem the most likely means to increase the health care workforce. Scope of practice expansion may provide benefits in some cases. Recruiting foreign physicians is limited by federal immigration policy.

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Figure 1. Hearing Health Care Shortage Counties in Kentucky in 2019

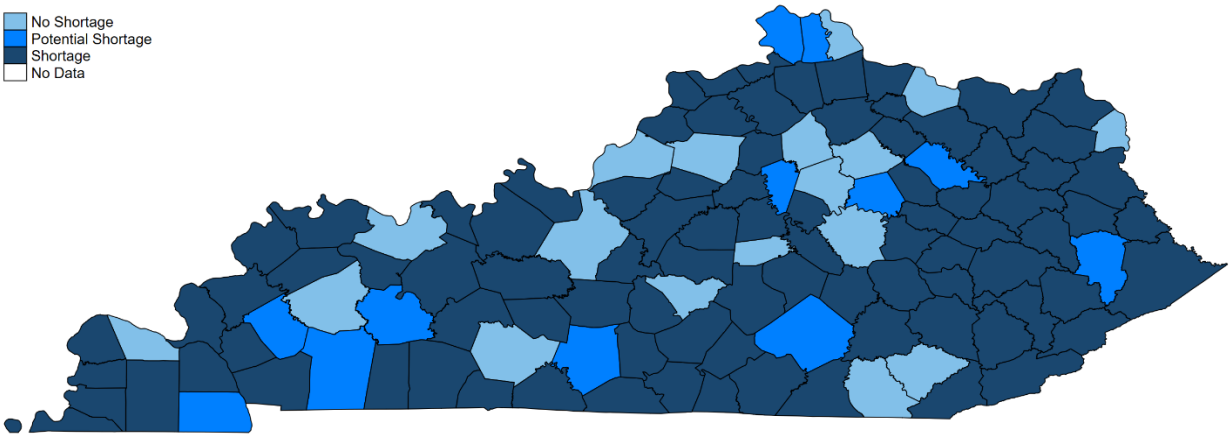

Figure 2. Hearing Health Care Shortage Counties in Appalachian Kentucky in 2019