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RURAL KENTUCKY'S PHYSICIAN SHORTAGE

Strategies for producing, recruiting and retaining primary care providers within a medically underserved region

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OVERVIEW

Attracting primary care physicians to rural Kentucky has been, much like medicine itself, both an art and a science. Since the early 1970s, Kentucky's experience with rural family medicine residencies has shown that training doctors in rural communities is the most effective way to keep them there. Kentucky's predominately rural nature, with 98 of its 120 counties categorized as non-metropolitan, means that successful recruitment to this population is particularly important for the health of the state.

Yet, rural areas continue to have only marginal success in their attempts to cure the ailment known as persistent physician shortage. The reasons given for the problem vary: medical schools have failed to select and prepare the right students; outlying communities have been ill-equipped to recruit physicians effectively; state and federal governments have failed to establish proper incentives; or simply that doctors are unable to adapt to non-urban practice and life.

Rural Kentucky's physician shortage is not a new affliction. Programs such as the Frontier Nursing Service, established in 1925 near Hyden, were predicated on the assumption that rural Kentucky would never be able to attract and retain doctors. In fact, Mary Breckinridge, the mother of nurse-midwifery in the United States and founder of the Frontier Nursing Service, said one of the reasons she chose the Eastern Kentucky mountains for her nursing demonstration was that Leslie County was "in the heart of a thousand-square-mile area covering parts of several counties, where some 15,000 people lived without benefit of one resident state-licensed physician." (1)

Things are not nearly so desperate today, though they are far from ideal. More than two-thirds of Kentucky's counties – 81 out of 120, and nearly all of them rural – are officially designated health professional shortage areas (HPSAs) for primary care by the Health Resources and Services Administration (HRSA) (2). Nationally, only about one-fourth of the United States' 3,082 counties are wholly designated as primary care HPSAs (3).

In order to meet the standards for primary care and family practice manpower recommended by the U.S. Council on Graduate Medical Education, Kentucky would need approximately 600 additional family medicine practitioners (4). Only 15 Kentucky counties now meet the federally recommended physician manpower standards.

Rural Kentucky, however, is far from alone in suffering a shortage of physicians. In order to offset a predicted national shortfall by 2020, the Council on Graduate Medical Education has recommended an increase of 3,000 American medical school graduates by 2015, a corresponding expansion in residency positions and a change in the distribution of residency slots (5).

To further complicate matters within the Commonwealth, approximately 400 of Kentucky's family physicians are age 60 or above (6). At the same time, the state's rural medical residency programs, as they now exist, realistically can be expected to produce only 16 to 18 new family physicians each year (6).

And there is more bad news: Student interest in family medicine at the University of Kentucky, University of Louisville and many other colleges and universities across the country has waned in recent years, as has the number of residency applications (7). It stands to reason that as medical education costs increase so does student

debt – a factor that has influenced many students' decisions to select specialties much more lucrative than family practice.

It is unlikely that other primary care specialties will significantly impact rural primary care physician shortages, since relatively few general pediatricians, general internists and obstetrician-gynecologists enter practice in rural areas (6). In 2000, for instance, rural Kentucky had an average of only seven OB-GYNs per every 100,000 residents, while metropolitan areas averaged 11 OB-GYN specialists for the same level of population (8).

Also, while in Breckinridge's era the use of nurses in advanced roles was premised on the assumption there would never be enough physicians willing to work in remote areas of the state, modern efforts to use nurse practitioners and physician assistants have largely failed in rural Kentucky, at least with regard to their ability to fill the provider shortage. Actually, about two-thirds of the nurse practitioners and physician assistants in Kentucky are practicing in urban Jefferson and Fayette counties, an indication of the maldistribution of the state's health professionals (6).

Then there is the issue of retention. One source of dissatisfaction on the part of rural physicians could be that the workload and demands placed upon them generally are greater than those experienced by their metropolitan counterparts (9). Those within Kentucky's health care industry also point to decreased opportunity for professional contacts in medically underserved areas as a reason for premature physician departures from rural regions.

There also are economic concerns. The federal government has become the largest contributor to graduate medical education, paying more than \$7 billion annually toward that effort. Yet, federal and state governments have been criticized

for failing to develop incentives that better encourage rural practice. Rural physicians typically derive a larger share of their gross practice revenue from Medicaid and Medicare patients, but these publicly supported insurance programs pay physicians at lower rates than private insurers (9). Rural physicians also typically have received lower Medicaid and Medicare reimbursements than their urban counterparts for performing the same medical procedures (9).

That situation soon could be rectified, however. The landmark Medicare reform legislation President Bush signed into law in December 2003 includes provisions that many rural health advocates say should create increased equity in reimbursements to rural providers (10).

One of the more recent economic deterrents for Kentucky's rural physicians is increasing medical liability insurance premiums, which professional organizations have blamed for the departure of scores of physicians from Kentucky to take advantage of bordering states' cheaper rates. According to a Kentucky Medical Association (KMA) physician movement study, of the 1,273 physicians who left Kentucky between January 2000 and December 2002, 31 percent went to surrounding states such as Indiana, Ohio and Tennessee, where insurance premiums are less expensive (11).

About 70 percent of all Kentucky physicians saw a rise in insurance premiums in 2002, according to the KMA study, ranging from 40- to 64-percent spikes for obstetricians and internists to more than 200 percent increases for emergency physicians (11).

During 2004, KMA conducted a telephone survey of OB-GYN practices to determine the number of physicians who had stopped delivering babies due to

liability considerations. Out of 131 practices, which represented 382 physicians, 55 physicians – or 14 percent – had ceased delivering babies within the last two years (12). Of those who had stopped performing deliveries, more than half indicated rising liability premiums was the reason.

Kentucky, in fact, has been identified by the American Medical Association as a “crisis” state with regard to increases in malpractice insurance. As Pikeville College School of Osteopathic Medicine Dean John Strosnider, D.O., said, “It does us no good to train physicians for rural and medically underserved Kentucky if it is too expensive for them to remain here and practice. If it is cheaper for them to practice in Indiana then that is what will happen.” (13)

Once doctors choose a rural setting, relief coverage – the assurance of a reasonable amount of time off from work – is the most important factor in their decisions to stay or leave, according to a study of 132 primary care physicians by University of Kentucky researchers (14). The study found other issues that factor into physicians’ decisions about whether to stay in rural areas include quality of public schools and their ability to become a part of the local community, which was scored as more important than income.

One of the most troubling consequences of rural Kentucky’s long-standing problem with attracting and retaining health care professionals has been limited access to care, most notably preventive measures, which in turn has contributed to an unhealthy population. Residents of rural Kentucky suffer from unusually high rates of diseases that would be most responsive to consistent primary care, including heart disease, hypertension, asthma, diabetes and cancer.

STRATEGIES

There can be no disputing that rural communities in Kentucky need more physicians, and there seem to be two primary ways to get them to the region – recruiting doctors from outside the state into Kentucky’s rural areas, and increasing the number of students from rural Kentucky, as well as other students committed to rural and family practice within the region, who enroll in medical schools.

The addition of an osteopathic medical school in Pikeville in 1997 creates a better chance of attracting rural doctors – at least those who will be practicing in primary care fields such as family practice. Prior to the establishment of the Pikeville College School of Osteopathic Medicine, Kentucky’s only two medical schools were allopathic and located in urban settings – at the University of Kentucky in Lexington and the University of Louisville.

Osteopathic medical schools have a long tradition in rural communities, and physicians who are trained in osteopathic medicine have proven to be more likely to select family practice as a specialty than those trained in allopathic medicine – 46 percent to 11 percent – and to practice in rural areas – 18.1 percent vs. 11.5 percent (15). The Pikeville medical school, in particular, uses a rural bias in student selection; with 1,500 applicants vying each year for 75 available slots, the school can afford to target students from rural Kentucky first. The Pikeville medical school’s initial 53 graduates completed their residencies in July 2004, and more than half were on the Kentucky Scholarship and agreed to practice within the state (13).

The University of Kentucky and University of Louisville medical schools and the Pikeville College School of Osteopathic Medicine share the responsibility of training medical students to become physicians within the state. In response to the Council on Graduate Medical Education’s recommendation to significantly increase the

country's total number of medical graduates by 2015, Kentucky's medical schools have increased the number of students they admit each year. Pikeville College's medical school increased its class size from 60 students to 75; the University of Louisville's has risen from 141 students to 149; and, beginning with the 2004 fall semester, UK's medical school increased its annual admissions from 95 students to 103.

There are, however, no immediate plans to increase the class sizes at UK's and U of L's affiliated family practice residency programs, seven of which are strategically located across the state. Still, the rural residency program concept is one of the four primary strategies Kentucky has used – and continues to use – in its efforts to produce, recruit and retain physicians within rural areas.

I. RURAL RESIDENCY PROGRAMS

Kentucky has seven accredited allopathic family practice residency programs that serve as three-year training grounds for physicians who have received their medical degree and wish to pursue a specialty in family practice. Together, the family practice residency programs have the capacity to produce approximately 38 new board-eligible family physicians per year. Of these programs, four have a rural mission, and at full capacity can produce 16 to 18 family practice specialists each year. The rural residencies have a clear record of success in convincing their graduates to enter rural practice:

- Trover Foundation Family Practice Residency Program, Madisonville – Established in December 1971, this program was the first of its kind in Kentucky. Since that time, Trover's residency program has graduated 153 physicians. Of these, 103 currently practice in a rural area.

■ East Kentucky Family Practice and Community Medicine Residency Program, which is housed at the University of Kentucky Center for Rural Health, Hazard – This program first accepted residents in 1991 and has been called the nation’s most rural family medicine residency program. It has graduated 36 physicians, with 27 now practicing or receiving additional training in a rural area, the vast majority of them in Appalachian Kentucky.

■ University of Louisville Family Medicine Residency, Glasgow – Established in 1997, this program has graduated 19 physicians, with 11 now serving in a rural area.

■ University of Kentucky Rural Family Practice and Community Medicine Residency Program, Morehead – This program became fully accredited in May 2001 and in October 2004 graduated its first resident, who now works part-time in rural areas.

Baptist Regional Medical Center’s University of Kentucky Family Practice Residency Program at Corbin graduated three family physicians, with each working in a rural area, before it closed in June 2003 due to financial and medical liability constraints.

In sum, the state’s rural-based family practice residency programs have produced 212 physicians, with 145 – or slightly more than two-thirds – practicing in rural areas. There are obstacles to continued success, however. Besides addressing recent years’ declining applicant pool, health and education officials say the state’s lawmakers should re-examine rural residency program funding.

First, despite continued growth in training expenses over time, state support for family practice graduate medical education in Kentucky has remained flat for several years (6). Second, health officials have urged a “single, unified approach” toward

funding support for the residencies. Currently, the state financially supports the various family practice residencies at different levels. Kentucky Senate Bill 28 supplies approximately 40 percent of the training costs for most family practice resident slots each year. The Glasgow program, however, was created more recently than most of the state's other rural residencies and was funded at close to 60 percent of the cost to train each of its residents. University of Kentucky Department of Family Practice representatives have determined that if each residency position in Kentucky were funded at the 60 percent level reflected by the Glasgow program, more than \$5 million per year in additional state funding would be required (6).

II. PHYSICIAN PLACEMENT SERVICES

Since 1990, both UK and U of L have operated physician placement services created by the Kentucky legislature in an effort to increase the number of health professionals in the state – with an emphasis on rural and underserved areas – as well as to assist in their retention. In 1993, UK expanded its service to include nurse practitioners, nurse midwives and physician assistants; its name then was changed to the UK Medical Professions Placement Service. Due to the need for certified registered nurse anesthetists, the UK service recently added that specialty to its placement efforts.

In the past 15 years, the UK service has placed more than 200 physicians across the state, predominantly to Kentucky-based health care organizations. The U of L service, which focuses almost exclusively on physicians, has facilitated the placement of 277 providers.

There is no cost to candidates or individual providers for using either the UK or U of L service. However, an organization utilizing the placement services to find and

recruit prospective health providers is charged a state-mandated fee of \$10,000 for a physician, and \$5,000 to \$8,000 for a physician assistant. The fee charged to client facilities in Kentucky is less than half the average cost charged by national placement firms.

III. STATE LOAN REPAYMENT PROGRAM

The federal Bureau of Health Professions, part of HRSA, awards new and continuation grants to states that successfully compete for loan repayment programs. These programs are a collaboration of federal, state and community efforts. The grants provide matching support (up to 50 percent) from the federal government to be used by states for loan repayment to eligible primary care health providers who agree to provide services in federally designated health professional shortage areas. The remaining 50 percent of the funding comes from state or community resources, with the state providing all funds necessary for administering the program.

This program is not limited to rural areas, but as a practical matter most of rural Kentucky qualifies because of its critical level of need. Health professionals entering the loan repayment program agree to a service commitment in return for loan repayment. This service commitment can be from two to four years. Terms of the programs vary from state to state.

The Kentucky State Loan Repayment Program is administered by the Kentucky State Office of Rural Health, which is based at the UK Center for Rural Health. State Office staff members attempt to obtain the state match – up to \$35,000 a year for two years – from health organizations willing to sponsor a primary care provider in exchange for that provider's agreement to practice in a HPSA.

The loan repayment program has the potential to be a valuable physician recruitment resource in rural Kentucky. However, thus far it has proven only modestly successful because most rural health care organizations are unable to pay their portion of the loan repayment.

IV. J-1 VISA PROGRAMS

When rural Kentucky has been unable to produce primary care physicians from within its own ranks or lure those from other parts of the country to locate within the Commonwealth through loan repayment incentives or other inducements, it has joined the rest of rural America in turning to international medical graduates (IMGs). Foreign-trained doctors often agree to practice in the United States' rural areas in exchange for the opportunity to stay in the country. Nationally, IMGs make up approximately 23 percent of the U.S. physician population and 24 percent of resident physicians (16).

A 1998 University of North Carolina study found that Kentucky had the nation's eighth-highest percentage of international medical graduate doctors practicing in rural, underserved areas, trailing only Florida, West Virginia, North Dakota, Illinois, New York, Kansas and Georgia in that regard (17). Of Kentucky's 15 area development districts, three – Kentucky River, Big Sandy and Cumberland Valley – have foreign-trained doctor rates of higher than 30 percent (18). These areas encompass 21 Eastern and Southeastern Kentucky counties. The North Carolina study concluded that “international medical graduates are an important safety net” in rural America and that “their role in alleviating underservice should not be easily dismissed.” (17)

Many IMGs come to the United States to train on J-1 exchange visitor visas, which allow holders to remain in the country until their studies are completed. Nationally, more than 1,000 IMGs are sponsored for J-1 visa waivers each year. Employers must be located in federally designated HPSAs or medically underserved areas to obtain waivers for J-1 visa holders, and the physician must practice primary care or psychiatry (19).

IMGs have been processed by the U.S. Department of Agriculture, the Veterans Administration, Public Health Service, Appalachian Regional Commission and states participating in the Conrad State 30 program, which has allowed state departments of health to recommend up to 30 waivers of the two-year home residence requirement for J-1 doctors in exchange for the physician agreeing to work three years in a medically underserved area.

In December 2004 President Bush signed into law a two-year reauthorization of the Conrad 30 program, retroactive to May 31, 2004. Provisions included a national pilot program to allow states the flexibility to place up to five J1 physicians in an area not designated as a HPSA, provided the facility serves individuals residing in a HPSA, and exempting the federal J1 program from the H-1B visa cap, an immigration law that limits the number of foreign professionals allowed to enter the U.S. each year. Under the bill, the J1 waiver program also will be applied to specialists as well as primary care physicians (in order to receive a waiver for a specialist, a sponsoring agency must determine the area to be served has a shortage of that particular specialty).

A 2002 study by UK Center for Rural Health researchers found that 147 IMGs had been placed in Kentucky's 51 Appalachian counties through the ARC and Conrad

programs (20). These physicians were specializing in family practice, internal medicine, obstetrics/gynecology, pediatrics and psychiatry. Together, these specialties comprised 99 percent of the 147 placements. Internal medicine was the largest category, comprising 63 percent.

The 2002 data collected by the UK researchers indicated that IMGs are not transient. Eighty-two percent of the 147 J-1 visa physicians were practicing in the county in which they originally were placed; 91 percent were in original placement counties or counties within the Kentucky ARC region. Of physicians who were placed in rural communities, only one moved from a rural county to an urban one, nine were in medical practice outside of Kentucky, and three were not licensed in Kentucky at the time, according to medical licensure information. These data suggest a very stable infusion of highly qualified primary care physicians for medically underserved communities.

RECOMMENDATIONS

There is no quick fix for rural Kentucky's chronic physician shortage. Even if all the obstacles discouraging rural practice suddenly disappeared, the task of getting a sufficient volume of current physicians, medical school students and other college or high school students into the rural pipeline likely would take a generation or longer to accomplish.

Programs such as the Kentucky Professional Education and Placement Program, which accepts students from the most underserved Kentucky counties and works to improve their chances of admission to health professional schools, are making modest strides. And in October 2004 the University of Kentucky Area Health Education Center was awarded a federal grant totaling more than \$1 million for its

Health Careers Opportunity Program to increase the number of disadvantaged and underrepresented students pursuing education for careers in the health professions.

But, realistically, the shortage might never be fully corrected and could grow worse, considering the graying of the state's family physicians, some physicians choosing early retirement, physicians leaving the state to practice elsewhere, discrepancies in Medicaid reimbursements, high medical liability premiums and other factors. However, here are a few short- and long-term recommendations that could help remedy the situation:

SHORT-TERM

■ **Equalize funding among rural residency programs:** At the very least, state support of Kentucky's three other rural-focused residency programs should be increased to the Glasgow benchmark, which is close to 60 percent of the cost to train each resident. Doing so would improve the sustainability of the Madisonville, Hazard and Morehead residency programs and might allow them to begin offering additional recruitment incentives.

■ **Increase funding for all rural residency programs:** Beyond simply equalizing financial support of the state's rural residencies, the Kentucky General Assembly should significantly increase its financial support of each program. Likewise, Congress should maintain – and even increase – federal support of rural graduate medical education through Medicare and Title VII programs.

■ **Create waivers for physician placements within rural areas:** As previously noted, the UK and U of L physician placement services charge the legislatively regulated rate of \$10,000 to each health care organization with which they place a

physician. That fee should be waived for health organizations located in medically underserved areas, where subsidies should be provided to offset the expense.

■ **Allow alternative loan repayment matching funds:** Severance tax returns should be approved for rural, coal-producing counties' use in attracting primary care providers. Successfully attracting physicians to locate in rural areas is, after all, a form of economic development, the use for which coal severance funds are designated. Studies in Oklahoma, for instance, have demonstrated that a rural physician is worth about 17 jobs and \$343,706 in community economic impact each year, considering the ambulatory component alone. A similar study at the UK Center for Rural Health noted a figure of \$2 million per year, based on the ambulatory component plus the physician's share of the hospital impact (21).

Specifically, through the Kentucky State Loan Repayment Program, rural health care organizations should be permitted to use coal-severance tax funds for their portion of the state match used to repay prospective physicians' college loans in exchange for their agreement to practice in an underserved area.

LONG-TERM

■ **Expand Kentucky's rural residency programs:** As they now exist, Kentucky's rural-based residency programs are capable of producing only 16 to 18 new family practice physicians each year – hardly enough to fill the void created by decades of chronic physician shortages throughout rural Kentucky. Each program should receive a state pledge of funding for up to two additional resident slots, which could provide the state with eight additional family practice physicians each year. Consideration also should be given to the creation of new family practice residency programs in rural areas where there is the greatest need for primary care physicians.

■ **Reform medical liability:** Find workable solutions to the state’s medical liability crisis. Numerous proposals have been considered in Kentucky, including failed efforts in 2004 and 2005 to place a constitutional amendment question on the general election ballot. Voters’ approval of such a measure would authorize the legislature to rewrite those portions of the constitution relating to lawsuit damage awards.

Nationally, some states have approached the issue by devising self-insurance plans that are lower in cost and allow physicians to self-regulate. In 2005 alone, 48 states combined to introduce more than 400 bills in their legislative sessions to address the situation (22). Proposed solutions “range from enacting limits on noneconomic damages, to malpractice insurance reform, to gathering lawsuit claim data from malpractice insurance companies and the courts for the purpose of assessing the connection between malpractice settlements and premium rates.”

Medical liability reform was made a centerpiece of the 2004 presidential election, as well as many congressional races. And though medical malpractice tort law has always been maintained at the state level, the 109th Congress has seen the introduction of many federal bills on the issue.

The proposed Help Efficient, Accessible, Low-Cost, Timely Healthcare (HEALTH) Act of 2005 “would dismantle state judicial authority and preempt all existing state laws governing medical malpractice lawsuits” by, among other things, capping noneconomic damages at \$250,000; establishing a three-year statute of limitations to initiate lawsuits, or one year from discovery; limiting attorneys’ fees whether in settlement or judgment; and limiting the liability of the manufacturer or distributor of a medical product approved by the Food and Drug Administration (22). The bill

passed in the U.S. House of Representatives in July and was referred to Senate committee, but Congress recessed in August without a Senate vote on the issue.

Finally, in the 1980s, when medical liability insurance costs burst on the national scene, Public Health Service grantees were given protection under the Federal Tort Claims Act. The National Association of Community Health Centers persuaded Congress that CHCs spent \$50 million in malpractice liability insurance premiums each year, while the amount of claims paid each year was less than 10 percent of the premiums paid (23). Since the Bush administration has made community health centers the focus of his plan to ensure access to health care, more practitioners can be expected to be working at CHCs within Kentucky and therefore receiving the benefit of tort claims coverage. With changes in administrative regulations, critical access hospitals – of which Kentucky has 25, with most located in rural areas – also could receive such a benefit.

■ **Take steps to increase the “rural pipeline”:** Part of the reason for Kentucky’s inability to produce its own rural physicians has been that not enough young students pursue health professions education. State government, along with Kentucky’s schools, colleges and universities, must make a commitment to reversing that trend, initially by improving math and science content and attracting more students into these fields. There also should be better funding and support of the Kentucky Professional Education and Placement Program; the Gil H. Friedell Scholars Fund, which seeks to encourage rural students in Kentucky to become behavioral science researchers; and other scholastic initiatives aimed at recruiting young people into health professions education.

■ **Continue support of J-1 visa waivers:** Security considerations raised by the Sept. 11, 2001, terrorist attacks prompted the U.S. Department of Agriculture to stop processing J-1 visa waivers. These waivers are still being processed through the ARC and Conrad 30 J1 Visa Waiver Program and remain of significant importance in providing physicians, albeit foreign-trained doctors, for rural Kentucky. Additional J-1 visa waiver incentives should be pursued.

CONCLUSION

Family practice physicians contribute to the health, culture and overall quality of life in small, outlying communities. They also are good medicine for rural economies. Yet, despite the many benefits rural physicians create in their communities, Kentucky's outlying areas have been medically underserved for decades. Rural medical residencies, physician placement services, loan repayment programs and J-1 visa waivers have helped ease the chronic shortages, but they have never fully overcome the many obstacles to rural practice or thwarted the stereotype that medicine practiced in urban areas is inherently better than that performed by so-called country doctors.

The recommendations presented in this paper, if supported by state and federal officials, would strengthen these programs and allow them to be more effective in achieving their stated goals. Otherwise, rural Kentucky's physician shortage will continue to pose a major challenge on several fronts, from the sustainability of government-supported programs to the general well-being of outlying communities.

Indeed, rural is a unique health care delivery environment. A great part of eliminating, or at least minimizing, these areas' health disparities could rest in the ability of rural health advocates and providers to convey the complexities and

rewards of non-urban life and practice. Only then will our rural areas become healthier places to live, work and raise a family.

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