At the heart of the rural health solution

By Dale Smith
After World War II, MU’s Board of Curators laid out its vision for the school’s approach to rural health care: The medical school would graduate generalist physicians to practice in the countryside with cooperation between other campus departments and the state. Because part of the training would take place in rural Missouri, MU would be providing health care and educating physicians at the same time.

Meanwhile, federal policy makers were embarking on a 30-year stint of funding rural hospital construction. Their vision was that rural dwellers would never have to travel more than a county or two for all their health care needs.

 Needless to say, the landscape of rural health care wasn’t quite that easy to paint. And it’s not so idyllic just now. Rural hospitals are closing at alarming rates, and, despite a national surplus of doctors, many rural areas still lack family health-care providers. Nurses are now being empowered to help out. At one end of the life cycle, rural infants die at higher rates than urban babies. At the other end, chronic diseases are more prevalent. Ruralites of the ages in between die far more often from accidents than their urban counterparts.

The seeds of relief for such physical and social ills often germinate at universities through research, education and service to communities in need. Not so in the case of rural health. Not enough, at least.

“No university in the country is doing a top-notch job of both educating health providers and improving the organization and delivery of health services,” says Chancellor Charles Kiesler. “The trick is to be the model program in the country because that position is unfilled. I think it’s a natural for MU.”

What makes it a natural? Part of MU’s advantage is location, location, location. Few health sciences centers are headquartered in the heart of the country, Kiesler says. That makes access to rural areas easy. The proximity also makes the problems more compelling. Another part of the chemistry comes from an unusually good combination of programs and people. It’s rare to find under one university’s umbrella not only schools of medicine and nursing, but also programs in health related professions and health services management.

Dean of Medicine Lester Bryant has appointed a rural health initiatives committee to find out how these people and programs might combine to become the model for solving rural health problems. Leading the multidisciplinary group are representatives of medicine, nursing and health services management.

The rest of this article offers highlights of what campus health-care leaders see as MU’s strengths in rural health as well as their ideas for approaches that could make MU the nation’s leading center for education, research and service in rural health care. At the heart of their work is the goal of providing rural patients with access to affordable, high-quality care.

**The cost-quality-access squeeze**

Independence, a cherished ideal in our country, must be shaven in the future of health-care reform, says Gordon Brown, director of health services management.

“Gone with the wind.” That’s how Brown describes the era of the independent rural hospital offering cradle-to-grave care.

“Not in the cards.” That’s his verdict on unfettered patient choice of health providers and facilities. The same goes for the relative freedom of providers to decide how they will treat patients and when to refer them elsewhere in the system. “It’s been done.” We’re caught in the cost-quality-access squeeze, Brown says.

Some key questions: How can we make high-quality care more accessible and affordable to rural people? If planners put people first, what might a health-care system look like? Brown proposes integrated regional health systems that would include major portions of the entire state. For example, patients would receive primary care and secondary or basic hospital care near their homes. But for tertiary or high-tech care, they’d have to travel to regional hospitals. Small rural hospitals would no longer break their budgets trying to be all things to all patients.

In Brown’s vision, patients would move from primary to secondary to tertiary care settings and back based on agreements among the providers. Primary care and specialist physicians, for example, have historically treated and referred patients as they saw fit. In the future, providers would decide collectively where patients belong in the system. Their decisions would be based on the training, experience and resources of providers.

“This system is driven by very sophisticated information. No one has that in place,” Brown says. This important gap is one MU could help fill. For example, imagine a patient’s blood is analyzed in Boonville, and then the patient is referred to Columbia. Today, the blood test would be repeated — just to make sure. That’s expensive and inefficient. An integrated system would ensure that Boonville’s blood work would be acceptable to Columbia. The same goes for everything from medical records to X-rays.

Currently, Brown says, patients are on their own in the maze of health services and financing. “We’ve got big problems with quality and gaps. We’ve got a system that’s not a system.”

**From turf to teams**

The boundaries of professional turf are changing faster than ever, says Dr. Rich Oliver, director of health related professions. To function effectively in the future, health workers will need better skills in collaboration, communication and teamwork. That requires reform in health professions education.

• “Health reform begins at home,” says Dr. Toni Sullivan, dean of nursing. On July 1 at Missouri’s Capitol, Gov. Mel Carnahan, JD ’59, signed legislation empowering nurses to take a far more prominent role in health care. The legislation permits collaborative practice between physicians and advanced practice nurses, which include nurse practitioners and nurse midwives. A properly prepared nurse can now serve as a patient’s primary provider, backed up by a physician up to 75 miles away. This opportunity lets Sullivan extend the reform effort to education at MU.

• “MU’s new nurse-midwife program is nursing’s single most significant accomplishment so far toward our goal of providing leadership in rural health care,” Sullivan says. Only weeks after Carnahan set the legislation in motion, Sullivan began recruiting faculty members for the nurse-midwife program, which could help ease the shortage of rural physicians who provide prenatal care, childbirth services and care for newborns. Nurses are less expensive to train. They require less financing to practice their craft, which stems partly from a difference in philosophy from the prevailing medical approach, Sullivan says. “Nurse-
midwives believe that pregnancy, labor and delivery is a normal wellness process," she says. "It's just another stage of development for women. Nurse-midwives are less likely than physicians to use forceps, sonograms and labor-inducing drugs; and their patients have lower rates of cesarean section delivery." She envisions a network of rural labor and delivery centers across Missouri, where students would train and local women and children would receive care they might have delayed or neglected entirely.

- By collaborating with physicians, nurse practitioners trained in primary care could provide services to a range of patients. "Nurses can provide 85 percent to 90 percent of the primary care we need. Not only are nurses decent physician substitutes, but they do some things a lot better, and they're a lot cheaper, too," she says, for example, that nurses are more "person-centered, and focused on helping people help themselves. If you're a newly diagnosed diabetic, you need a nurse to help you understand the disease and how you should modify your lifestyle. You need a nurse to help you understand the importance of diet and exercise, how to care for your feet, how to test for blood sugar. All these things could be provided best by a nurse practitioner, without the patient having to drive 60 miles and wait for an appointment."

**Starting with students**

Rural begets rural. Students from the countryside are more likely than urbanites to practice in rural areas. Those odds become even better when the students train in rural settings.

**Recruit rural**

- "We need to focus differently on who we prepare for medical school," says Hal Williamson, associate professor of family and community medicine. "I could see developing relationships with other state universities that enroll primarily rural students." They could be recruited for a program, now being planned, in which rural pre-medical students who qualify could be guaranteed admission to MU's medical school.

- "There's plenty of untapped potential on campus already," Williamson says. "It may be useful to look in the College of Agriculture, for example. There are lots of rural people there who have science backgrounds. But maybe it never occurred to them that they could become a doctor. Perhaps all they need is a little encouragement."

- Sullivan echoes the "recruit rural" refrain. This strategy may be especially fruitful for nurses, a larger pool of people than physicians. Nurses are also more likely than physicians to reside in rural areas.

**Train rural**

- Using rural clinics in Fulton and Fayette, MU’s department of family medicine has been a model of rural medical education for more than a decade. Not only have these clinics offered health services to people who might have gone without, the sites are also research locations and training grounds for resident physicians.

- Dr. Jack Colwill, chairman of family medicine, envisions an expanded version of the Fulton and Fayette clinics. He calls it a medical school without walls. "Students would spend part of their training with community-based faculty of all specialties." Based in locations all over Missouri, they'd see patients with on-site guidance while continuing their formal instruction via interactive telecommunications and a laptop computer. (See Supporting rural practices on the next page.) "The new technologies are just beginning to make community-based education possible," Colwill says.

- A pilot "rural-intensive" course is in the

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**Students team up to solve patients' problems**

MU’s medical school is among a handful nationwide to adopt a problem-based curriculum — the first fundamental medical training reform since 1910. After decades of trying to cram ever-greater numbers of facts into the minds of medical students, the fall 1993 class will enter a program that integrates basic science lectures, patient care and clinical problems, says Dr. Ron Swinford, co-chairman of the medical admissions committee. The emphasis is on learning to solve problems.

These problems are written cases that describe patients' complaints. Students work with tutors in groups of eight to develop lists of hypotheses about what might cause chest pain, for example. While discussing the case, students also construct a list of topics — parts of the body and biological mechanisms that could cause chest pain — they'll need to understand to solve the problem. Then, students head to the library or to learn on their own, says Dr. Mike Hosokawa, assistant to the dean for curriculum. At the next group meeting, they discuss what they've learned and go through the cycle again, refining their hypotheses and learning lists. This goes on for about a week.

"The main thing," Hosokawa says, "is that the students are going through a problem-solving process that they will use as physicians." Research shows that learning facts in the context of clinical problems makes them easier to recall later on when seeing patients.

In general, Swinford says, students are "wildly enthusiastic" about the problem-based approach. They've been frustrated for decades because the first two years of medical training emphasized basic sciences. The aspiring doctors didn't get to do the things doctors do until late in the second year of school. "They like the fact that problem-based education lets them get started right away learning skills that will let them mature as physicians."

"Students also like the collegiality of working in groups. They like the idea of teaching each other, as long as they have a faculty member nearby to consult. It's good that medical students will be learning earlier how to communicate with colleagues and that they have a commonness of purpose."

The new curriculum also develops another skill designed to last a lifetime. "They'll be learning how to learn," Swinford says. With no way to predict future demands on physicians, they've got to know how to find facts in an ever-expanding body of information through computers, journals, texts and experts.

By training physicians who can solve problems, work with others and master the art of finding facts, Swinford says, "We will have brought medicine into the 21st century."
works at the School of Health Related Professions. The course sends students from respiratory therapy, occupational therapy, physical therapy, speech therapy and the radiological sciences into rural towns with a broad agenda. Students will meet townspeople, assess the community’s health needs, consider what a team of providers could offer and how it might be incorporated into the system. In the meantime, students get to know a lot about what the other disciplines have to offer. “We may require this sort of course of all our students. We want them to see that they can be agents of change in Missouri’s rural communities,” Oliver says.

• The School of Medicine initiated its first class in a new problem-based curriculum this August. One of the program’s innovative components is a primary care emphasis beginning in the first month of class and continuing at least through the second year, Colwill says. This contrasts traditional programs, which have students cram facts for two years and emphasize high-tech hospital care during the second two years. Instead, MU medical students will work in communities within 50 miles of Columbia every two weeks during the first two years. In the third year, they will have opportunities for extended training in rural areas. (See story, “Students team up to solve patients’ problems.”)

• For students who don’t want to wait three years, Williamson proposes a summer RUOPs — rural underserved opportunities. “With money from rural hospital administrators, we’d place students with exemplary rural practitioners,” Williamson says. “That way they get to see the joy of that kind of life early in their training.” Williamson believes this approach could also foster interest in underserved urban areas.

Place rural

• Last year, through existing programs, three family medicine graduates were recruited to underserved areas by the Indian Health Service. Two others left to practice in Africa. These programs, Williamson says, make smooth transitions from schooling to practice. “We could develop a kind of broker service,” Williamson says, “that would connect physicians with rural areas that need them.” Without “rural-broker” programs, young physicians have settled in settings such as rural emergency rooms or urban health maintenance organizations. These options not only pay better than rural private practice and afford contact with other professionals that isolated practitioners crave, but they also pose little if any financial risk.

• MU’s department of family medicine has one of the best track records nationwide for placing physicians in rural areas. Although 30 percent of family physicians practice in rural areas, 60 percent of MU’s graduates have done so. Unfortunately, many locate outside Missouri. Part of the lure, Bryant says, is that other states support rural practice better.

Supporting rural practices

Assuming that health-care providers can be recruited, trained and placed rurally, other grave barriers remain to keeping them in place. For a rural generalist, opening a practice means facing intimidating startup costs and overhead expenses. Governmental regulations and insurance paperwork add hours to already full days of patient care. Physicians too often lose patients who must be referred to bigger cities for lack of specialty consultations in rural hospitals. Bryant says many physicians look at this situation and hit the bricks to the big city.

• One helpful model may be sending part-time specialists to support rural generalists,” Bryant says. “If you’re a family doctor in Moberly and you’ve got an elderly woman in the hospital with pneumonia and a touch of heart failure, the way things are now, you may choose to refer her to a hospital in Columbia. But you’d be thinking, ‘I could treat Mrs. Smith here if I had a cardiologist and a pulmonologist to look at her once or twice a week.’ Without this support, Mrs. Smith leaves her community with her insurance dollars. Rural doctors, hospitals, patients and communities suffer the consequences directly. The nation suffers, too, with a higher health bill because it’s cheaper to treat Mrs. Smith in Moberly than in Columbia.

• A new telecommunications technology called compressed-signal interactive video may become another crucial bridge between city specialists and rural practitioners, Colwill says. This technology, whose price is beginning to fall within reach of some smaller communities, also has great potential for educating distant students and refreshing veteran rural providers. At minimum, compressed-signal technology allows conversation by television. But it’s value in health care could become much more than that. “The video and audio technology is so good that, for example, you can accurately hear heart sounds and you can accurately review X-rays and electrocardiograms. Curator James McHugh sees great potential in this technology,” Colwill says. So much so that he is leading a committee to examine its possibilities. Already, Bryant says, MU is helping to write grant requests within the Association of Independent Hospitals to make the most of this new hardware.

• Other kinds of expertise could extend from MU to rural locales. Large hospitals, for example, have sophisticated systems of billing, collecting and administration. “These are enormous costs to rural providers,” Bryant says. MU could develop ways of using its business capacities to ease administrative burdens.

Williamson mentions a somewhat broader brand of service. “We could develop technical assistance programs to help small communities improve their health-care systems,” he says. Because health care is changing so fast and because good advice is so hard to find, he says that an educated rural leadership is invaluable. Teams would go into small communities, assess current health delivery, survey health needs, and try to educate and involve the community. After the data are in, planning meetings take place. “You talk to the people about what they’ve got, what they want and how to get it,” Williamson says. How much leadership is enough? If 10 to 15 citizens become well educated and involved in addition to 100 more who are supportive, useful changes can take place. Team members are special. “They have to have one foot in academics and also be willing to go to supper Wednesday night in the church basement.”

Finding solutions

“We’re starting on a journey that will take a long time,” Bryant says. “It’ll be a long time before we see results because we’re trying to stem forty or fifty years of momentum. But we have to succeed. Otherwise, we’ll see many more rural hospitals close and many more rural people disenfranchised.”