# Establishing a Regional Academic Health Campus

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| | Section | Page |
|---|---|---|
| I. | The need for more health care professionals and possible solutions | 4 |
| II. | Arkansas as a case study | |
| | A. Building support for a satellite campus | 7 |
| | B. Facility and faculty needs for a satellite campus | 10 |
| | C. Funding needs for a satellite campus | 11 |
| | D. Establishing medical residency programs | 12 |
| | E. Medical program accreditation and curriculum needs | 15 |
| | F. Pharmacy, nursing and allied health professions programs on a satellite campus | 17 |
| III. | Benefits of a regional campus | 20 |
| IV. | Lessons learned | 21 |
| V. | Sources | 23 |
| | APPENDIX A: Accrediting Agencies | 25 |

# I. The Need for More Health Care Professionals and Possible Solutions

The United States is experiencing growing shortages of health care workers. Compounding this problem is an aging population that requires more health care services.

The oldest of the "Baby Boomer" generation – those born between 1946 and 1964 – turned 60 in 2006, beginning a generational shift in population in the U.S. By 2030, the country will have 72 million people age 65 or older – twice as many as there were in 2000. (U.S. Census Bureau)

Americans are living longer and requiring more medical care. Those Americans born in 2001 are expected to have an average life expectancy of 77 years, much greater than the average of 47 years for those born in 1900. (Centers for Disease Control and Prevention)

The federal Centers for Disease Control and Prevention reported in 2004 that the average 75-year-old has three chronic health problems and uses five prescription medications.

About 80 percent of those currently 65 or older have at least one chronic condition such as cancer, heart disease or diabetes, which requires extensive and long-term care. Older Americans also use more health care services, the CDC said in its 2004 report, noting that while representing about 13 percent of the population, persons 65 or older account for almost half of physician visits and hospital stays.

Against the backdrop of rising demand for care, patients are often finding the country's health care system to be understaffed. Work force shortages force hospitals to make staffing and operational decisions that impact patient care by causing overcrowded emergency departments, longer waits for treatment or reduced hours of operation. Patients often must travel farther for care and wait longer to see a physician.

From physicians to nurses to pharmacists and the many allied health professions, work force shortages have been reported and are expected to worsen as boomer health care practitioners retire and population growth outpaces the production of new professionals.

As these demographic changes have taken place, academic entities have been urged to increase enrollment to address the current and expected shortages.

The Council on Graduate Medical Education (COGME), the national advisory body that tracks the supply and distribution of physicians, predicted in 2004 that the demand for medical care will significantly outweigh the supply of physicians by 2020. (COGME, January 2005)

The Health Resources and Services Administration's Bureau of Health Professions projects that the nation will have a shortage of at least 55,000 physicians by 2020.

By 2000, the U.S. Department of Health and Human Services was reporting the demand for registered nurses (RNs) was already outpacing the supply by about 6 percent. The

agency projected that by 2020, there will be more than 1 million unfilled nursing jobs. (U.S. Health Resources and Services Administration)

The demand for pharmacists has been driven by rapid growth in prescriptions. Despite the addition of new pharmacy schools, the supply of pharmacy graduates was not projected to meet demand through at least 2010. A 2002 report by the Pharmacy Manpower Project predicted that by 2020, there will be 157,000 vacant pharmacist jobs in the U.S.

A variety of allied health professions, from clinical laboratory workers to respiratory therapists and from emergency medical responders to genetic counselors also are experiencing shortages attributable to many of the same factors – population shifts and increased demand for services.

In July 2005, the Health Resources and Services Administration said clinical managers and educators were concerned about a growing shortage of laboratory workers, including medical technologists and cytotechnologists. The aging population, improvements in health care technology and increases in the number of available clinical laboratory tests were seen as factors in the rising demand for workers. The shortfall was due in part to a decrease in the number of education programs, mainly in hospitals, as a result of limited budgets.

As the shortages are projected to worsen in the coming years, academic health sciences campuses and training programs across the United States are working to develop strategies to increase the supply of health care workers through increased enrollment. Possible solutions include expanded educational programs.

COGME, for example, has endorsed a 30 percent enrollment increase – about 4,900 new students annually – by 2015 in the nation's medical schools to help meet the rising health care demand. An increased number of medical graduates alone will not solve the problem without the opportunity to complete their clinical education by serving a medical residency. So other proposals include an increase in the number of medical residency slots to further increase the supply of practicing physicians.

In considering the best route to increasing enrollment, universities must consider classroom, laboratory, library and study space, in addition to available faculty and clinical education sites. If one or more of those factors is not adequate for expansion on the main campus, then a regional or satellite campus remote from the main campus is a possible alternative.

Many of the regional or satellite health sciences campuses across the country are more than just an extension of a medical school. They also are home to programs of the other health professional schools.

In the 2003 monograph *Regional Medical Campuses: Bridging Communities, Enhancing Mission, Expanding Medical Education*, 23 of 39 regional campuses responding to a survey hosted health professions programs in addition to the medical school. Nursing and pharmacy programs were the most common, followed by physician's assistant and other allied health programs. (Mallon)

In the 2003 report examining regional campuses, a clinical campus for a medical school was defined as meeting three criteria:

1. The campus is geographically separate and does not serve as the medical school's primary clinical site for medical student education.

2. The campus has an administrative tie to the office of the dean (not only with departmental-level ties).

3. The campus offers four of the required third-year clerkships [internal medicine, surgery, pediatrics and obstetrics/gynecology]. (Mallon, Liu, Jones and Whitcomb)

Using that definition, the researchers identified 41 regional campuses at 25 medical schools. Several other regional campuses were in various states of development at that time, with the number reaching approximately 50 regional campuses by 2007. (*AAMC Reporter*, February 2007)

Establishing a satellite campus can be an effective way to reduce the facility and faculty costs along with some of the regulatory and political challenges associated with starting a new school. In addition, a regional campus should be located in sites with adequate clinical capacity.

According to a February 2007 report by the Center for Workforce Studies of the Association of American Medical Colleges (AAMC), nearly 60 percent of the nation's medical schools reported plans for expanding enrollment between 2005-2006 and 2011-2012. Of those planning enrollment increases, more than 20 percent of respondents, 18 schools, said they had "definite" or "probable" plans to establish a regional or branch campus.

Recognizing the attraction of regional campuses, the AAMC Executive Council established a professional development group in 2002 specifically for the executive leadership of regional medical campuses, the Group on Regional Medical Campuses.

"Creating new stand-alone medical schools from scratch is difficult due to the high start-up costs, accreditation challenges, and state and local politics," said Bill Mallon, Ed.D., lead author of the 2003 regional campus study in a February 2007 interview with the *AAMC Reporter*.

The educational programs for medical students at a satellite campus can either be a preceptor model, depending extensively on clinical faculty physicians in practice or a residency model in which residents in training participate in the education of the students (M. Friedland)

The preceptor model is the easier to initiate, particularly with smaller programs. However, the addition of resident training programs provides an additional source of educational support, particularly in larger programs. This also provides the needed expansion of post-graduate education that will be needed to accommodate the larger number of graduating medical students.

Teaching hospital administrators could be reluctant to take on the increased cost associated with increasing medical school enrollment enough to meet the enrollment goals called for by the Council on Graduate Medical Education. Hospitals that agree to increase undergraduate medical school enrollment must be willing to cover the cost out of existing patient care revenue and may also provide for subsequent postgraduate training. (Whitcomb)

In spite of these concerns, academic health centers can provide leadership in increasing medical school enrollments through creation of regional clinical campuses.

Mallon said that for an established school looking for clinical sites to expand enrollment, sending students to hospitals and clinics outside its area must be considered. At the same time, fast-growing areas where hospitals with clinical capacity are located make a regional campus a "win-win" for the school and the community, he said.

"Many large cities are very interested in having a medical school and are lobbying their state politicians. For many of them, partnering with an established medical school outside their immediate area can be a faster and less cost- and labor-intensive way to accomplish that goal," Mallon said. (*AAMC Reporter*, February 2007)

## II. Arkansas as a Case Study*

## A. Building support for a satellite campus

Faced with the prospect of rising health care work force shortages and the call for medical schools across the country to increase enrollment, the University of Arkansas for Medical Sciences (UAMS) determined that creation of a branch or satellite campus would be the optimal method for producing more health care professionals.

With the facility, faculty and funding needs that a new campus requires, broad support is needed across many different constituencies. A university must reach out to doctors and hospital officials to pave the way for potential clinical sites. Community support is needed to show the new campus is wanted and needed. Legislative efforts at the state and federal level are focused on funding issues for startup and operations.

There also is an educational period required for those at all levels who might not understand what a satellite campus would be.

For a rural state such as Arkansas with thousands of health care vacancies, increasing the production of doctors, nurses, pharmacists and allied health professionals can help reduce those work force shortages. In a 2003 assessment of Arkansas' health care work force needs, researchers at the University of Arkansas for Medical Sciences (UAMS) canvassed health care facilities across the state and found thousands of immediate vacancies.

Of the 341 responding facilities to the Arkansas survey, 3,387 current vacancies were reported in 79 health professions in 2003. The number of vacancies was expected to

more than double by 2007. When those figures were extrapolated to include all 774 of the Arkansas facilities surveyed, the estimated number of vacancies by 2007 jumped to more than 14,000. (UAMS Rural Hospital Program)

Increasing production of health professionals will improve health care access. Physicians often start their career in the area where they completed medical school or their residency. In 2005, Arkansas ranked third in the nation, behind only California and Texas, in the percentage of active physicians who graduated from medical school in the state. Arkansas also ranked fifth in the nation in percentage of medical residents and fellows who remained in the state after completing their residency. (AAMC)

The education effort required includes illustrating the benefits of a satellite campus to the different constituencies, improving health care access at the local level, and meeting the health care work force needs of the entire state. The depth and level of coordination required for this effort is in many ways like a political campaign.

In 2005, UAMS administrators began studying a potential satellite campus in earnest. The existing campus in Little Rock and UAMS programs around the state that hosted clinical education for students and medical residents were at capacity or not able to accommodate enough new students. The location of a new campus was among the first concerns.

Since the branch campus would be a clinical campus for more advanced students and residents, the location needed to be where there were enough clinical hosts. Clinical sites include hospitals, clinics and pharmacies where students can attain experience developing their skills with the latest medical technology or treating real patients in supervised settings.

Outside of central Arkansas, where the UAMS campus is located, the next highest concentration of health care providers is in the northwest region of the state.

The concentration of hospital and clinics in that area could ensure enough patients to provide a diverse range of medical conditions for students and residents to observe and treat. The region's population growth also pointed to a growing need for more health care professionals.

Accordingly, northwest Arkansas best fit the needs for a satellite campus. UAMS officials began meeting with area physicians and representatives of local hospitals in 2005 to discuss the idea of a branch campus and the clinical sites that would be needed to support it.

Next were meetings with business and community leaders, from mayors to state legislators to congressional representatives. Discussions centered on the funds that would be needed to support the campus – whether new facilities were to be built or existing buildings renovated. There were also discussions about the benefits of having the satellite campus, including improved health care access and new health care professionals starting their careers in the region.

The University of Arkansas (UA), also part of the University of Arkansas System of which UAMS is a member, is located in Fayetteville. The UA has been supportive of the

UAMS effort and continued discussions have focused on potential academic collaborations.

At the federal level, there were consultations with the Arkansas representatives and senators about issues, such as the CMS funding cap on hospital medical residency positions, which would require Congressional attention.

Contact was made with the Accreditation Council for Graduate Medical Education as well as professional organizations, seeking information on accreditation requirements and issues related to establishing a regional campus. These collaborations could identify methods for overcoming obstacles that others had already faced.

Some misconceptions that emerged during the various meetings included a concern that the satellite campus meant UAMS was planning to build a new hospital that would compete with the four hospitals already in the area. There was no intention, however, to build a new hospital. Existing hospitals and clinics were being considered as potential hosts for students and medical residents.

There also was a belief by some that the plans meant a new and separate medical school, something the state could not afford. A satellite campus is not a separate institution.

Another perception that arose was that the satellite campus would only benefit the region of the state in which it was located. As the state's only medical school and academic health sciences campus, one of UAMS' missions is to meet the health care work force needs for all of the state – not just the region in which the main campus is located. Expanding the number of medical students should benefit the entire state.

In June 2006, a delegation of legislative and business representatives from northwest Arkansas accompanied UAMS officials on a two-day visit to a satellite medical school campus at the University of Kansas School of Medicine-Wichita in Kansas.

The University of Kansas School of Medicine affiliate has served as a clinical campus since it was established in 1975. Its 2006-2007 academic year enrollment was 118 students, and its faculty consists mostly of over 1,000 area physicians and clinicians who volunteer their time. (KU School of Medicine-Wichita)

During the site visit, meetings were arranged with school administrators, faculty members, legislators and community leaders. It offered the northwest Arkansas representatives an opportunity to ask questions and see firsthand what a branch health sciences campus could mean to the region.

As the planning and development of the satellite campus continues, UAMS administrators will meet with different target audiences, from local service clubs and business groups to professional organizations and area news media. The goal is to explain and provide as much detail as possible about the need and benefits of a satellite campus.

Close contact also will be maintained with the governor and state legislators to ensure the project can be seen as a funding priority. Continued contact also will be needed with

physicians, pharmacists and other health care practitioners to build support and keep the project in the public's eye.

Building support for a satellite campus is a continuing effort from the time of conception through the planning and opening. The key is to identify the target audiences and make sure they have the information needed to make informed decisions.

## B. Facility and faculty needs for a satellite campus

**Facilities**

Facility needs for a regional or satellite campus will vary, mainly depending on the size and specific needs of the programs to be located there.

Depending on available resources, a university can build a new facility or renovate an existing structure. The University of Arkansas for Medical Sciences is currently examining its options for a facility to house a satellite campus in northwest Arkansas.

One of the more economical strategies is to obtain an existing building, then seek a partnership of public, private and corporate funds to pay for renovating it to meet the needs of the satellite campus. Hospitals are often looked to as sources of funding, but their resources may not be sufficient.

The programs intended for the UAMS satellite campus anticipate between 250 and 300 students, including pharmacy, allied health and medical residents when full enrollment is reached. It will likely take up to several years to reach this level.

Classrooms as well as small conference rooms would be needed for several programs, along with lecture halls and laboratories. An auditorium would be desirable for hosting larger lectures and events such as Grand Rounds, at which health care experts and specialists speak. The facility would also be well positioned to host health education presentations and health screenings for the public as well as continuing education sessions for community health care providers.

Distance learning accommodations and video connections would be needed. UAMS currently uses these tools to broadcast lectures or special events from its main campus to classes or programs at its Area Health Education Centers (AHECs) around the state. The interactive and real-time nature of distance learning extends the educational resources.

Office space will be needed for the administrative functions of the satellite campus and the faculty members based there. The satellite will not require as many administrators and office staff as the main campus, since it functions like a branch office of the colleges and programs based on the main campus. Some programs do require full-time administrators, though, on the geographically separate campus.

Space for student services, including an adequate library and computers, will be required. Across the various accreditation agencies governing health professions education, the

overriding view toward satellite campuses is that the student experience there cannot put those students at any disadvantage compared to those on the main campus.

**Faculty**

Volunteer and part-time faculty members will almost certainly outnumber the full-time faculty on the satellite campus. This is the case at most existing satellite campuses, at which local clinicians volunteer their time and expertise to enhance the education experience for students.

The part-time and volunteer faculty members serve as preceptors in clinical settings. Here, they serve as supervisors and mentors for students gaining hands-on experience with real patients.

The residency programs on the satellite campus will require part- or full-time directors. The staffing requirements are specified by the review committees of the Accrediting Council for Graduate Medical Education that oversee those disciplines.

## C. Funding needs for a satellite campus

Creation of a regional campus will require both startup funds to cover facility acquisition and administrative costs, along with continuing operational funding. Funding can be a delicate balance for many institutions involving a combination of sources including the clinical sites, local, state and federal governments, and philanthropy.

One of the most important current funding issues for either a satellite campus or an academic health center is the limit on federal funding for medical residencies. Teaching hospitals and clinical sites that host residents receive money through the federal Medicare program to pay for residency positions since those hospitals provide health care services to Medicare beneficiaries.

The Balanced Budget Act of 1997 limited the number of residency positions that could be counted for Medicare reimbursement. The intention was to control costs to help balance the federal budget. Another reason was that previously, experts had predicted a physician surplus. (Brezenoff testimony)

Now the pendulum has swung in the other direction with the anticipated shortage in physicians. Even without new funding for residency positions, teaching hospitals have increased the number of residents since the residency cap was put in place. Based on reports from 975 teaching hospitals across the country, nearly half have already exceeded their resident count by a total of some 4,900 positions.

The teaching hospitals have funded the additional positions from their own budgets or with support of state governments. They have not received additional Medicare funding for these positions. Despite some refinements to the program that added some monies for rural teaching hospitals and a one-time redistribution to hospitals below the limit, the limit has remained in place.

The need to fund residents is one reason that hospital administrators may not be enthusiastic about increasing the number of residents in training.

With the expected impact of the increase in the number of elderly and the work force shortages, there are proposals to increase the resident limit. Those proposals are being debated in Congress. Faced with the call to increase medical school enrollment by 30 percent, it would seem logical that an increase in the resident cap also would be necessary.

Congressional delegations from some states have expressed concerns that the number of residency slots could be increased without any additional funding to pay for those new positions. This would further stretch the existing funds, potentially causing funding to be shifted from one state to another. The implications of this could cause some states to resist a change to the residency numbers.

Another problem has been the concern by some in Congress that the federal government should not have to be the main supporter of graduate medical education.

However, it is clear that with the increased demand for care and the increased number of older Americans in the next 10 to 20 years, there will need to be more residency slots along with some mechanism for funding to pay for them.

Other funding needs for a satellite campus could be provided at the state and local level. Contributions from local hospitals and clinical sites in addition to payment for residency positions could include equipment, facilities and staffing to accommodate the residents and students in other programs. State government support could range from ongoing funds for operations to assistance with residency costs.

Those amounts needed from the state could be reduced based on any increases made to the federal residency cap or in support from area hospitals participating as clinical affiliates for the satellite campus. Another potential contributing factor in those budget projections is philanthropy.

Some of the costs, perhaps for facilities, could be offset by private or corporate gifts. Another possibility is that private gifts could provide teaching endowments, paying the costs to allow local physicians to participate by mentoring and teaching students and resident physicians.

## D. Establishing medical residency programs

The driving force behind establishing a satellite campus is the need to produce more health professionals to meet work force shortages. For a medical school, the issue is often not only graduating more medical students but creating more medical residency training positions for those graduates.

A medical residency follows graduation from medical school and includes more specialized education in a hospital or health clinic. The length of a residency varies

across the different disciplines and gives a new physician the opportunity to see a range of patients and procedures while practicing in a closely supervised environment.

Physicians often stay in the region in which they complete their residency. For a state like Arkansas, which is largely rural and experiencing a shortage of doctors, increasing the number of medical residencies would inevitably increase the number of young doctors entering the profession in the region and state.

In 2006, UAMS had 714 residents and fellows. UAMS has been approved for more residency slots but currently there are not funds or enough clinical education sites to support those additional students.

Establishing a satellite campus is therefore critical for UAMS in its ability to increase the number of medical residents. Its current clinical affiliates, the hospitals and clinics that host residents, are at or near capacity based on their ability to pay and accommodate those residents.

And while it is possible to have medical students in clinical rotations without a resident physician present, we believe it is preferable to have a residency program in place to help with student education. Then, when medical students examine patients or accompany physicians on patient rounds, residents also are present to further assist students with questions about diagnosis or clinical management.

Residency programs are governed by the Accreditation Council for Graduate Medical Education (ACGME), the nonprofit organization that accredits about 8,000 residency programs in the United States. Most medical and surgical specialty boards require physicians to complete an ACGME-accredited residency education program to be eligible for specialty certification. In addition, programs must be ACGME-accredited in order to receive federal graduate medical education funds. (ACGME)

For its satellite campus, UAMS has planned to establish residency programs in five core areas: internal medicine, obstetrics/gynecology, pediatrics, psychiatry and surgery, in addition to a family medicine program that already exists in the UAMS AHEC program. ACGME approval would be necessary for each program before new residents could be accepted.

It is anticipated that the residency programs for a UAMS satellite campus will be phased in – with some starting before others – due to the varied timelines to assemble the program and complete the accreditation process.

Each medical or surgical specialty discipline has an ACGME Residency Review Committee (RRC), composed of physicians nominated by supporting organizations (e.g., AMA, medical specialty boards, professional organizations) as well as one or more resident representatives. The RRCs establish program requirements and make accreditation decisions for programs in that specialty and related subspecialties. (ACGME)

| **Length of Medical Residency in Years** | | **Min. # Residents/Year** |
|---|---|---|
| Internal Medicine | 3 | 4/yr average |
| Obstetrics /Gynecology | 4 | 4/yr average |

| | | |
|---|---|---|
| Pediatrics | 3 | 4 per year |
| Psychiatry | 4 | 3 per year * |
| Surgery | 5 | Varies |

* Except for the fourth year, which can have less

A potential alternative to establishing separate residency programs would be to expand the central training program to clinical rotations at new sites that could accommodate new residents. UAMS must still apply for the additional residency positions to the ACGME.

The mechanics of a residency program might prove an obstacle to the satellite alternative. One requirement of a residency is that the residents must have a continuity clinic experience, which is the opportunity to follow medical patients from intake through follow-up visits. This experience includes the diagnosis, treatment and record keeping involved through the course of care.

If a resident is sent to another part of the state for two to three months for a clinical rotation, it can dilute the clinical experience he or she is receiving at the home location. Also, clinical sites receive funding for hosting residents and paying their salaries. It also would seem unlikely a hospital would be satisfied paying for a resident to work elsewhere.

An early step in creating a residency program would be to select a program director. Program directors, as well as most faculty, must be board-certified physicians in their specialty. The program director also must be based at the teaching site.

The program director and a program coordinator will select clinical sites for hosting residents and gather lecturers who will augment a resident's clinical experience along with clinical supervisors. Each element of the program must conform to specific program requirements for each discipline, which can range from faculty-to-student ratios to duty hours and board examination passing rates.

For internal medicine, for example, the ACGME requires a residency program to have four "key clinical faculty" members plus a program director working at least 15 hours a week. For pediatrics, a program director must be at least a 75 percent full-time faculty member, and the residency program must include five pediatric subspecialties such as pediatric oncology or pediatric cardiology.

The program director will craft the Program Information Form (PIF) for submission to its particular RRC. This form will detail how the program will be established and operated. The PIF will cover financing, facility plans, faculty credentials, curriculum and clinical site information.

Each RRC meets at least once a year, at which time submitted PIFs are reviewed. If the PIF does not meet the deadline for submission, a program may have to wait a full year before making another application, depending upon the RRC's meeting schedule.

An ACGME representative may make a site visit ahead of the RRC meeting and submit a report that also will be considered by the committee making the accreditation decision.

If the committee approves, the program will be accredited and additional residency slots approved based on the program's ability to support them.

If the committee does not approve, it will ask for additional information for meeting program requirements. This would require a new application, the timing of which would depend upon when that RRC was scheduled to meet next.

An estimate from initial writing of the PIF to the first day a resident could start training is 15 months to two years if all requirements are met. If a program has to resubmit the initial PIF, it could add another year or two to the process. The program is accredited for up to five years, based on the program's strengths.

Upon accreditation, the residency program must make arrangements to enter the National Resident Matching Program (NRMP). The NRMP is the organization responsible for placing medical school students with residency programs across the country. A nationwide computerized selection process matches the fourth-year students with residency openings based on student preference and availability.

The match results are released simultaneously to students across the country on "Match Day" every March. The new residency programs would need to be in place and able to communicate their availability to potential residents who will be submitting applications to the match program.

Yet another consideration for establishing a residency program will be addressing the anxiety that such programs can cause within the medical staffs of host hospitals. Members of the medical staffs could be concerned about how the residency programs will affect patient care in their facility. As Whitcomb noted in his 2007 *Academic Medicine* editorial, this is critical "since the medical staff alone have the authority to determine whether residents may be involved in patient care. Other issues he felt must be addressed will be how the staff will participate in the training of residents and whether they will be compensated for the time involved. (Whitcomb)

## E. Medical program accreditation and curriculum

Regional campuses for medical schools in the United States have followed different structural models, whether they offer only basic science instruction or serve as a clinical campus for third- and fourth-year medical students. Most regional campuses include or are affiliated with medical residency programs.

In the planning stages for a satellite campus, UAMS chose to pursue the option of a clinical campus for third- and fourth-year medical students, as well as residency programs. The satellite campus also will serve as a location to expand programs in its colleges of Pharmacy and Health Related Professions. In each case, the educational programs included in the regional expansion are governed by accreditation organizations. (Appendix A)

Expansion of a medical school in the United States must be accomplished under the oversight of the Liaison Committee for Medical Education (LCME), the accrediting

authority for medical education programs leading to an M.D. degree in the U.S. and Canada. The LCME is sponsored by the Association of American Medical Colleges (AAMC) and the American Medical Association.

Based on the LCME's 2005 statement on the scope of accreditation, UAMS would not need a separate accreditation for its satellite medical education program (called a "geographically separate" campus by the LCME). The LCME only accredits "complete" programs that offer all courses, electives and clinical rotations necessary for a student to earn an M.D. degree. (LCME)

A school must notify the organization if it plans a substantial change in its curriculum or educational program. Notification also is required for any enrollment change. Upon receiving such notification, the LCME could choose to reevaluate a program prior to its accreditation renewal or accept the changes.

The LCME limits how fast a medical school can grow, so it will not exceed its resources. Current LCME guidelines prohibit medical school enrollment to expand by more than 10 percent or 15 students in any given year or by a cumulative increase of 20 percent over three years without prior notification. (LCME)

The LCME expects the educational experience on the geographically separate campus to be essentially the same as for students on the main campus. This ranges from primary issues, such as curriculum, faculty and clinical requirements, to support services such as access to a library, student health, career advising and personal counseling services.

The curriculum on geographically separate campuses does not necessarily need to be identical to that on the main campus, but it must provide essentially the same information. Some lectures and courses could be taken by teleconference with the presenter remaining on the main campus, for example, or a student could travel to the main campus on a temporary basis.

During the third year of medical school, UAMS students complete eight clinical rotations. They are exposed to different specialties in both outpatient and inpatient settings.

The third-year rotations at UAMS include:

- 8 weeks of internal medicine
- 8 weeks of pediatrics
- 8 weeks of surgery
- 6 weeks of obstetrics/gynecology
- 6 weeks of psychiatry
- 4 weeks of geriatrics
- 4 weeks of family medicine
- 4 week specialty rotation

During the specialty rotation, students will either have a combination of neurology and neurosurgery or a combination of orthopedics, otolaryngology, urology, anesthesiology and ophthalmology. In the fourth year, students will complete the specialty rotation they did not have during their third year.

In addition to the specialty rotation, fourth-year students complete a four-week acting internship. During this time, students are given increased responsibility in an inpatient clinical setting, not unlike new residents but more closely supervised. Several students will accompany an attending physician and some residents on daily patient rounds and will follow cases from beginning to end.

For the clinical rotations, a site will be needed that has all of the necessary services as well as staff to supervise students.

Another necessity for the medical education program is a clinical skills education center. This center, also used by pharmacy students, allows face-to-face interaction between students and "patients" – actually people hired or who volunteer to simulate illnesses for students to diagnose. Students learn how to take patient histories and perform examinations in a controlled and supervised setting. The centers also are used for testing clinical skills. A location would be needed that would mimic a clinic or hospital with exam rooms. An administrative staff is needed, along with someone to recruit and train the simulated patients.

## F. Pharmacy, nursing and allied health professions programs on a satellite campus

UAMS plans for a satellite campus in northwest Arkansas include expanding its College of Pharmacy and at least five programs in its College of Health Related Professions (CHRP). The colleges' decision to participate was driven by existing work force shortages in those professions, shortages expected to grow with the retirement of the baby boomer generation and the rising need for health care.

Responding to those anticipated shortages requires more graduates in the health professions. The education of those additional graduates requires, among other resources, an increased number of clinical education rotation sites for them when they are students. Northwest Arkansas offers a number of large and excellent health care institutions as well as smaller settings that can provide many of those needed rotation sites that are currently saturated in central Arkansas surrounding UAMS.

Placing additional programs on the satellite campus increases efficiency through the ability to share services that would be needed by all. The costs of some student and administrative services could be shared.

### Nursing

The University of Arkansas in Fayetteville (UAF) already has a nursing program, so UAMS does not plan to start a duplicate program. However, the UAMS College of Nursing is examining the addition of graduate-level programs on the satellite campus, something the UAF program does not have currently.

Arkansas, like the rest of the country, is facing a significant nursing shortage. One factor holding back enrollment in many nursing schools is the lack of faculty. Nurses often are able to make more money providing clinical care than teaching nursing.

A 2007 work force survey of executives at academic health centers by the Association of Academic Health Centers, showed faculty shortages to be considered a major problem. The most serious faculty shortages were seen in nursing schools. (AAHC)

In Arkansas, for example, the average age of doctorally-prepared faculty is 59. For other RN program faculty, the average age is 54.

The master's and doctoral programs on a satellite campus would focus on preparing future nursing faculty.

Changes in the nursing programs would require notification and approval as necessary at the state level to the Arkansas State Board of Nursing and at the national level to the Commission of Collegiate Nursing Education.

Another possible avenue for expanding a nursing program could come in the form of programs to accelerate nursing education. Such a program was introduced in 2001 by the Oregon Health & Science School of Nursing when it joined with Oregon Community Colleges to create the Oregon Consortium of Nursing Education (OCNE) in response to the critical nursing shortage.

OCNE enables Oregon nursing programs to expand the ability of students to earn a nursing degree through shared curriculum across several campuses and institutions; agreements to facilitate students completing needed courses on different campuses through dual enrollment and other services; and shared graduation standards among partner schools. (OCNE)

Such a program could be replicated, including an "educating the educators" format that would promote advanced nursing degrees to prepare new nursing faculty.

**Pharmacy**

The UAMS College of Pharmacy hopes to have 30 fourth-year students complete their entire senior year in northwest Arkansas through the opening of a satellite campus. In addition, the college is considering having 30 third-year students taking classes on the satellite campus.

The Accreditation Council for Pharmacy Education (ACPE) is the organization responsible for accrediting colleges of pharmacy. UAMS will notify the ACPE and seek any necessary approvals for the planned changes in its pharmacy program, including the details on how it will accommodate the additional students, provide clinical experiences and student services.

A formal satellite campus with pharmacy students would require a site visit by the ACPE. ACPE regulations also point to the need for an administrator for the college to be based in a satellite campus. (ACPE)

Facility needs would be similar to the other colleges, including classroom space, small group meeting sites, technology equipment for distance learning and a laboratory. Clinical sites, in this case institutional and retail pharmacies that would host students, will be needed.

A major need would be a center for clinical skills education. This center, used by pharmacy, nursing, allied health and medical students, would allow face-to-face interaction between students and "patients" – actually people hired or who volunteer to portray patients by simulating illnesses for students to diagnose. These "standardized patients" also test pharmacy students by simulating a health professional or patient requesting a drug therapy consultation.

A mix of full-time, part-time and volunteer faculty is anticipated. A small administrative staff for the college would be based on the satellite campus.

In the case of the UAMS colleges of Pharmacy and Health Related Professions, their programs already have a presence in the region. About 30 fourth-year pharmacy students are intermittently spending time in clinical practice experiences in northwest Arkansas. There are also about 30 students in the radiologic imaging sciences and diagnostic medical sonography programs offered through the UAMS Area Health Education Center (AHEC) in Fayetteville.

A satellite campus should provide excellent educational opportunities to UAMS colleges as they expand. CHRP also plans to add new programs to the area in health information management, medical technology and respiratory care.

**Allied Health**

The College of Health Related Professions predicts that once it fully phases in its programs to a satellite campus, its enrollment in the region over three years would at least double. Its expansion plans, much like its continued growth over the years has resulted in CHRP now offering programs in 17 different allied health professions, in response to health care work force needs. The college will conduct needs assessments through contacts with health care practitioners and their employers in the region to determine the precise size and scope of its expansion plans.

In each program, the college will need to notify its appropriate accrediting body of its plans. Whether it is the Commission on Accreditation of Allied Health Programs (CAAHEP) or professional organizations like the Committee on Accreditation for Respiratory Care (CoARC), each accrediting agency requires notification of a program change. Each evaluation becomes part of the next re-accreditation cycle. [Appendix A]

Facility needs include office, classroom and laboratory space. Equipment, such as ventilators and X-ray equipment, and technology for video classes and conferences and hands-on teaching will be needed as well.

Five to seven full-time faculty members would likely be needed across all of the five CHRP programs to reach the planned enrollment. Volunteer faculty will be used as well, many from the health care providers hosting students for clinical experiences. About three administrative employees would handle operations for all of the programs.

## III. Benefits of a Regional Campus

Establishing a geographically separate, or regional campus offers a university another avenue for expanding its enrollment. This is a solution being examined by academic health centers across the country as a response to the growing shortages of physicians, nurses, pharmacists and other health care professionals.

As the baby boomer generation reaches age 65 over the next few years, the work force shortages will increase as will the demand for care. That is driving the sense of urgency to increase enrollments as quickly as possible. Nearly saturated clinical sites and overcrowded classrooms on main campuses that lack space for additional growth make the establishment of a regional campus more attractive.

The benefits of a satellite campus include: increasing the number of health care professionals entering the work force in the region; allowing improved access to care for patients with the addition of medical residents seeing patients in area clinics and hospitals; and allowing educational institutions to deliver on the mission of education and community outreach.

UAMS has traditionally produced many of the health care professionals working in Arkansas. Increasing the flow of students in its education programs by adding a satellite campus will increase the number of graduates entering the work force in the state.

This benefit extends to other satellite campuses. In its 2003 survey of regional campuses, the AAMC found that 50 percent of medical residents in the program at the Fresno satellite campus of the University of California, San Francisco School of Medicine remained in the Fresno area to practice medicine. (Mallon)

Mallon also learned in community interviews that a satellite medical education program boosted the community's ability to attract specialty physicians to the region that otherwise would have gone elsewhere. The impact can be economic as well as the improved level of care can attract employers to the region.

Hospital administrators indicate that hosting medical residency programs enhanced the hospital's reputation as an academic medical center. One hospital leader noted that the relationship between the hospital and the residency program enhanced the hospital's academic image, offering strategic benefits such as improved ability to capture state funds for research. (Mallon)

Teaching hospitals often see more patients from underserved populations. The additional staff provided by the presence of medical residents means improved health care access for patients from economically disadvantaged backgrounds.

The addition of medical residents to the physician staff is believed to improve patient care. With residents shadowing staff physicians and participating in cases, the outcome is a team format for care, with multiple evaluations and opinions about the best course of care. The presence of residents also may challenge and stimulate attending physicians to

be as up-to-date and engaged as possible because of their role as mentor. (Journal of General Internal Medicine)

Hosting medical residents or students in the pharmacy or allied health programs also places the clinical site in a prime position to recruit program graduates. Hiring recent graduates is generally less expensive that recruiting more established professionals or trying to attract recent graduates from other states.

John Molidor, Ph.D., community assistant dean at Michigan State University College of Human Medicine-Flint, summed it up:

"If a medical school approaches a hospital and says, 'We are looking for sites where we can place students for the last two years of their education, and we'd like to partner with you,' that can be an extremely attractive position.

"The benefits can be considerable. They can hire their choice of new doctors with minimal recruitment costs. They get the cutting-edge cachet of being an affiliated teaching hospital. And it's true that doctors can learn as much from students as the reverse, so bringing in students tends to rejuvenate and enhance the skills of the entire staff." (*AAMC Reporter*, February 2007)

## IV. Lessons Learned

Pressured by the rising demand for health care and increasing shortages of health care professionals, academic health centers across the country are wrestling with how to respond to calls to raise student enrollment.

For institutions constrained by facility limitations, faculty shortages or a lack of clinical education sites, one potential solution is the establishment of a regional or satellite campus apart from the main campus as a way to obtain new resources and increase capacity for producing more health care professionals. Establishing a new campus is often an economically sound and efficient alternative to starting a new school. However, there are often substantial academic, regulatory, political and financial hurdles that must be overcome.

Our experience is replete with lessons for others.

Among the issues being addressed:

- Location – Institutions must find a location for a potential campus that includes access to clinical education sites. An adequate patient volume and mix is needed for students to complete clinical education by seeing actual patients in supervised settings.

- Local support – Local government and business leaders must understand what a satellite campus would mean for their communities. Statistics show that doctors often start their career in the area where they completed their residency. The same goes for other health care professionals, meaning that the area around the regional

campus will have access to new health care workers, likely improving access to health care. However, this very advantage may be threatening to health professionals already practicing in the area.

Misconceptions of what a satellite campus is not must also be addressed. A regional campus is not a new and separate school. While the professionals in the optimal location may not be sure they want the new campus, other regions of a state may need to be reassured they will not be left out of access to new health care professionals by not having the campus located in their area.

- Funding – State government, federal government, corporate and philanthropic sources will be needed to provide sufficient funding to establish and operate a satellite campus. There are issues that could raise or lower each element of the financial support stream, though, such as an increase in the number of federally-funded residency positions or philanthropic support for facility costs or teaching endowments. In a time of tight budgets at the state level, explaining the scope and benefits of a satellite campus become more critical in securing state funding.

- Accreditation – Review and approval by the respective accrediting agencies also will be necessary for all programs on the satellite campus. While each accrediting entity has its own requirements when it comes to staffing, resources and clinical experiences, the underlying theme is that the educational experience on the satellite campus be essentially the same as that on the main campus.

  This sentiment extends to campus resources as well, in that a satellite campus needs to provide adequate access to a library, technology and student health services, for example.

- Medical residency programs – Establishing residency programs will likely be the most complicated piece in creating a satellite medical school campus. Specialization through a medical residency follows graduation from medical school for a new physician.

  For its satellite residency programs to become accredited with the Accreditation Council for Graduate Medical Education (ACGME), an institution will need to meet a series of requirements ranging from faculty credentials to facility resources and clinical education opportunities for each medical specialty.

  If the funding can be obtained, it is the residency programs, however, that often prove most attractive to prospective clinical education partners. Resident physicians improve patient access to care at that hospital or clinic. Since many residents usually remain in the region to practice medicine following their residency, the residency programs and by extension the satellite campus, become even more valuable to local communities.

- Clinical sites – While facility needs include classroom space and lecture halls, the major need for a satellite campus that will host third- and fourth-year medical and pharmacy students will be access to clinical education sites. As with the residency locations, these are in hospitals, clinics or offices. There, students receive hands-on experience with real patients under close supervision. Many

hospitals do not have adequate small conference rooms for teaching small groups, so some provision has to be made for these.

In many cases, it is the lack of clinical education locations or the ability to expand existing clinical capacity that is driving academic health sciences centers to consider creation of a separate campus.

- Volunteer and part-time faculty needs – Volunteer and part-time faculty will usually outnumber the full-time faculty on a satellite campus. With the focus in the latter years of medical and pharmacy education on clinical experiences, the main staffing needs will be for preceptors – health care professionals in the community who can supervise and mentor the students and residents.

Ultimately, the benefits of a regional campus as a means for increasing enrollment include: improving access to health care in the region and the anticipated influx of new medical residents and other health care professionals in a time of practitioner shortage.

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*** Author's Note: Author Peter O. Kohler, M.D., was involved in the planning of a satellite campus for the Oregon Health and Science University while serving as that institution's president. Upon retirement, he agreed to be directly involved in the development of a remote campus in Arkansas. The Arkansas experience hopefully will be useful to others contemplating a satellite campus.**

# APPENDIX A

Accrediting organizations for health care programs vary across disciplines. Here are those for the programs that will need approval for starting on the satellite campus planned by the University of Arkansas for Medical Sciences.

**Accrediting Agencies**

| Program | Accrediting Agency |
|---|---|
| Diagnostic Medical Sonography | Commission on Accreditation of Allied Health Programs (CAAHEP)<br>Joint Review Committee on Education in Diagnostic Medical Sonography (JRCEDMS) |
| Health Information Management | Commission on Accreditation for Health Informatics and Information Management Education (CAHIIME) |
| Medicine | Liaison Committee for Medical Education (LCME)<br>Accreditation Council for Graduate Medical Education (ACGME)<br>Residency Review Committee (RRC) for each specialty |
| Medical Technology | National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) |
| Nursing | Arkansas State Board of Nursing<br>Commission of Collegiate Nursing Foundation |

| | |
|---|---|
| Pharmacy | Accreditation Council for Pharmacy Education (ACPE) |
| Radiologic Imaging Sciences | Joint Review Committee on Education in Radiologic Technology (JRCERT) |
| Respiratory Care | CAAHEP<br>Committee on Accreditation for Respiratory Care (CoARC) |