The Arkansas Aging Initiative: An Innovative Approach for Addressing the Health of Older Rural Arkansans

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The Donald W. Reynolds Institute on Aging at the University of Arkansas for Medical Sciences in Little Rock is addressing one of the most pressing policy issues facing the United States: how to care for the burgeoning number of older adults. In 2001, the Institute created the Arkansas Aging Initiative, which established

seven satellite centers on aging across the state using $1.3 to $2 million dollars annually from the state’s portion of the Master Tobacco Settlement. These centers on aging assist the state’s population of older adults, many of whom reside in rural areas, live in poverty, and suffer from poor health. The centers provide multiple avenues of education for the community, health care providers, families, and caregivers. The Arkansas Aging Initiative, in partnership with local hospitals, also makes geriatric primary and specialty care more accessible through senior health clinics established across rural Arkansas. In 2005, older adults made more than 36,000 visits to these clinics. All sites have attracted at least one physician who holds a Certificate of Added Qualifications in geriatrics and one advanced practice nurse. Other team members include geriatric medical social workers, pharmacists, nutritionists, and neuropsychologists. This initiative also addresses other policy issues, including engaging communities in building partnerships and programs crucial to maximizing their limited resources and identifying opportunities to change reimbursement mechanisms for care provided to the growing number of older adults. We believe this type of program has the potential to create a novel paradigm for nationwide implementation.

Key Words: Geriatrics, Education, Interdisciplinary, Rural aging, Senior health clinics
Introduction

Arkansas has a growing population of older citizens that represents one of the most vulnerable groups in the United States in terms of health, access to care, and economic status. Specifically, older Arkansans have the worst health statistics in the country for the state’s top three causes of mortality: heart disease, cancer, and cerebrovascular disease (Arkansas Department of Health, 2004). Contributing to the state’s challenge in providing high-quality care to these senior citizens is the fact that Arkansas is a predominantly rural state, with 84% of its counties classified as rural or in non-metropolitan statistical areas (University of Arkansas, 2005). Compared to urban areas, rural communities have fewer specialty health care providers (Himes & Rutrough, 1994). Further compounding this challenge is the economic status of Arkansas’s elders, as the state has one of the highest poverty rates (23%) among older adults in the country (University of Arkansas, 2005). This is important, as low economic status tends to hinder access to health care (Ortiz & Fitten, 2000). To address these critical needs of older Arkansans, officials established an aging initiative with funding from the Master Tobacco Settlement.

Arkansas Aging Initiative (AAI) Development and Operations

Through a referendum by the citizens of Arkansas in 2000, all of Arkansas’s funding from the tobacco settlement was dedicated to improving the health of Arkansans. The Arkansas Center for Health Improvement (2006; hereafter, the Center), an independent nonpartisan organization, was identified to develop the tobacco settlement plan for improving the health of Arkansans and for allocating the funds. The Center’s mission is to improve the health of Arkansans through evidence-based research, public issue advocacy, and collaborative program development. Thus, the Center was well positioned to lead development of the tobacco settlement plan and to select the leadership of each of the programs. The Center selected the Donald W. Reynolds Institute on Aging (hereafter, the Institute) to implement the program targeting older Arkansans. Established in 1995, the Institute has built a solid foundation of geriatric education, clinical care, and research programs, and has a broad understanding of the challenges of accommodating the ever-increasing number of older Americans.

The Institute established the AAI between 2001 and 2004 (Figure 1) with its share of the tobacco settlement funds (approximately 3% of Arkansas’s total tobacco settlement dollars). The AAI is a statewide network of seven regional centers on aging (COA) formed in partnership with communities to develop the educational and clinical care components of each center. The primary goals of the AAI include (a) preventing future health problems and enhancing the health of older adults by improving access to high-quality, interdisciplinary geriatric health care and by providing education to older adults, family members, caregivers, and the community; (b) providing geriatric education to health care professionals and students; and (c) influencing health policy at state and national levels.

Figure 1. Map of regional centers.
Community Capacity-Building Model

The AAI views community as multidimensional, with interactions and partnerships between academia, community organizations, governmental agencies, residents, and health professionals. The community’s ability to sustain its capacity for improving health outcomes of older adults and to establish regional centers stems from the development of synergy between these partners (Poole, 1997). Based on this view, the AAI chose the community capacity-building model for providing older rural Arkansans high-quality education and health care. This model seeks to identify and build on the assets and strengths that already exist in the community to enhance the quality of life for older adults in each particular region (Easterling, Gallagher, Drisko, & Johnson, 1998; Minkler, 1997). This paradigm implies that strengthening a community’s capacity or infrastructure will improve the health status of its residents. It also fits well with the Healthy People 2010 indicators of physical activity, overweight and obesity, tobacco use, and immunizations (with preventive care), and most certainly with increasing access to health care.

COA Start Up and Operations

A central leadership team (CLT) of faculty from the Institute directed development of the AAI. The director of the leadership team reports directly to the Arkansas Tobacco Commission and has responsibility for the overall program, including ongoing operations; financial management; and health, education, and policy outcomes.

The first phase of each COA’s development involved establishing a steering committee composed of regional partners. These partners included health system chief executives, Area Agency on Aging directors, representatives from academia and from the Area Health Education Center, community leaders, and influential physicians from the community. To alleviate fears of competition, committees found it extremely important to include the local health care professional community. Led by the CLT, each steering committee met for about a year to develop the COA’s initial goals, objectives, and strategies.

A major task of the steering committees involved filling the COA’s two key positions, the director and the education director. For the director position, the committees gave priority to fellowship-trained physicians with a Certificate of Added Qualifications in geriatrics but also considered physicians with a long history of geriatric care and a good reputation in the local community. Currently, each site has at least one physician with a certificate in geriatrics (15 physicians total). Of these, 3 had established practices and 12 were new to Arkansas. For the education director, the committees also attempted to recruit from the local community. It was essential that the candidates have master’s degrees or higher in a health-related field such as nursing or counseling and be well-known and respected individuals who could jump-start efforts.

Once the committees had hired local leadership, they dissolved, and smaller local/regional leadership teams were created. These smaller groups direct and guide the operations of each COA and include the director, education director, director of the Area Agency on Aging, one or two hospital representatives, and the chair of the community advisory committee. The CLT members serve in an ex officio capacity on each of the seven regional committees.

During the start-up year, each site completed a needs assessment of regional stakeholders using two complementary methodologies to obtain input. First, sites mailed surveys to older adults identified by the various regional and local aging programs or delivered to elders participating in Meals on Wheels programs. Second, trained University of Arkansas (Little Rock) staff conducted focus groups of health care providers and community members in more than 50 locations throughout the state. Results showed that health problems in these regions were consistent with the leading causes of morbidity and mortality at state and national levels and also indicated that respondents’ top three health needs related to the affordability of prescription medications, medical care, and health insurance (Beverly, McAtee, Costello, Chernoff, & Casteel, 2005).

Financial Relationships

The AAI has two central components: education and clinical care. The education component is financed by the tobacco settlement dollars, and the clinical component is financed (100% owned and operated) by the local/regional hospital partner. At each COA, 10% of the COA director’s time is supported by the educational dollars, and 90% is generally supported by the partnering hospital. Although the two components are financed differently, the integration and partnering of education and clinical care are what comprise a COA.

The financial structure of each COA is similar. University of Arkansas for Medical Sciences distributes tobacco settlement funds to the AAI, which divides the funds evenly between the seven sites and central administration. The AAI receives $1.3 to $2 million annually in tobacco funds, depending on the amount the state actually receives. Central administration and individual COAs use these dollars to support operations such as administrative functions and staff salaries; however, the majority of the funding goes toward educational programming and outreach activities. The Institute does not contribute money directly to the AAI; however, it supports the program in ways such as providing office space for the central leadership team, education and meeting space, and distance-learning capabilities, among other things.

The clinics are provider based and are owned and operated as departments of the partnering hospitals; they do not receive AAI funds. Charging a facility fee makes the clinics financially feasible. This fee is reimbursable under Medicare when the clinic is owned and operated by a hospital (vs an independent practice). The reimbursement mechanism (facility fee)
allows for calculation of a time factor for a patient visit, thereby allowing coverage for the various team members who cannot bill Medicare independently.

Unfortunately, most of the participating hospitals have not done a thorough financial analysis of the clinics and, therefore, do not know their exact financial impact. As part of any financial analysis, it will be critical for hospitals to examine not only the cost of operating the clinics and the revenue they receive from professional and facility fees, but the downstream revenue as well. However, the administrative and financial systems in most rural sites are not sophisticated, and they have limited capabilities to track downstream revenue.

Currently, if any deficits do exist, the hospitals absorb the losses. We believe that a more accurate tracking of this downstream revenue will show that the hospitals do break even and probably make money. Clearly, the hospitals believe this as well, as evidenced by the fact that many are looking to expand services by hiring additional geriatricians and/or geriatric nurse practitioners. In fact, because of its success, one hospital has created two additional clinics, further expanding the number of geriatricians and geriatric services available to residents in that region.

**AAI Educational Component**

As noted previously, a majority of the funding received by each COA (approximately $190,000 minus an administrative fee to the regional Area Health Education Center and minus other operational costs such as leases, travel, supplies, and capital equipment) goes toward providing innovative educational programming in all counties of its region. COAs have used various strategies to implement these educational programs. Figure 2 presents the number of educational encounters by target population, which total more than 101,000. Prior to the existence of the AAI, minimal public education targeted this population; therefore, all encounters noted are new to the communities.

**Education for Health Professionals.**—The AAI sponsors several programs designed to educate health professionals on various facets of providing geriatric care. For example, in collaboration with the Institute; the Arkansas Geriatric Education Center; and the Geriatric Research, Education, and Clinical Center at the Central Arkansas Veterans Health System, the AAI offers training opportunities and continuing education symposia that address geriatric topics for faculty, staff, and others at regional sites. The AAI serves as a conduit for these established programs, thereby increasing the number of health professionals with expertise in geriatrics across the state. In particular, the AAI has provided a new avenue and venues for the Arkansas Geriatric Education Center, and participant numbers have increased by 150% since 2001.

All educational programs sponsored by the Arkansas Geriatric Education Center are evaluated by participants, which include physicians, nurses, pharmacists, social workers, physical and occupational therapists, and others. Additionally, the Arkansas Geriatric Education Center conducts biannual statewide needs assessments alternating with evaluation surveys of all health professionals who participated in its programs during the previous calendar year. Two thirds (67%) of survey respondents have indicated that the knowledge gained from the programs changes the way they care for older adults (Chernoff, 2004).

**Education for Students.**—Beginning in Fall 2006, two junior medical students from each 4-week mandatory geriatric rotation had the option to receive this educational experience at one of the COAs. Leaders anticipate that this will attract two students every 4 weeks of the mandatory geriatric rotation (24 students the first year). Furthermore, the AAI anticipates expanding this to two students in at least one additional COA site annually, and leaders hope to have students in all sites within the next 5 years. Additionally, in their senior elective, two medical students have chosen a senior rotation at one COA, and many family practice residents have received geriatric training in six of the seven sites.

Since 2003, more than 1,048 students in nursing, pharmacy, medicine, social work, and allied health have participated in learning opportunities in all seven COAs. These have been students from local colleges and University of Arkansas branches around the state; some of the students are practicing health professionals participating in the Arkansas Geriatric Education Mentors and Scholars program. Increasingly, colleges are realizing the impact of the exponentially increasing number of older adults and are searching for geriatric learning opportunities for their students. At the same time, they have become more aggressive in requiring geriatric content and practice opportunities as part of their curriculum.

**Education for Community Members.**—Educational efforts are also impacted by and directed toward the health care needs of the community. Each COA focuses much of its efforts on the top three health needs, COAs have addressed the top need, affordability of medications, in at least two ways. First, a University of Arkansas for Medical Sciences faculty member in the College of Pharmacy secured a grant from the Centers
A comprehensive AAI evaluation plan ensures that the COAs meet expected outcomes as originally intended in the legislative language and the strategic plan. The AAI evaluation plan includes both internal and external components. Although many consider

Continued Community Support

Because community support is crucial, each COA’s leadership group has developed a community advisory committee. With the assistance of a subcommittee of the Reynolds Institute Advisory Board, leaders of each COA identified community leaders who have a special interest in the care of older adults. The local community advisory committees serve as advocates for the COAs and help address the critical issues of program recognition and financial sustainability for the educational component.

Health Policy

The AAI is currently engaged in several policy-related activities. We reported two previously: consumer education about Medicare Part D and a method to study the financial viability of a rural provider-based interdisciplinary geriatric clinic. The AAI is also currently working with the state’s Medicare Quality Improvement Organization to implement Section 649 as outlined in the Medicare Modernization Act of 2003 (Federal Register, 2005). This activity involves assisting in the implementation of electronic health records and practice guidelines in all AAI-partnered clinics. The next step will be to incorporate evidenced-based guidelines available through the Centers for Medicare and Medicaid Services.

Evaluations of the AAI

A comprehensive AAI evaluation plan ensures that the COAs meet expected outcomes as originally intended in the legislative language and the strategic plan. The AAI evaluation plan includes both internal and external components. Although many consider
experimental designs to be the gold standard, experimental or quasi-experimental designs are neither feasible nor necessarily informative in evaluating multifaceted community initiatives (Goodman, 2001). The Authors, believe that evaluation should stem from the information needs of the primary stakeholders (Patton, 1987), which in this case include the state-appointed Arkansas Tobacco Commission, state and federal legislators, and the University of Arkansas for Medical Sciences. Reports to the stakeholders usually revolve around indicators that stem from the original law and the AAI strategic plan and that were developed with the external reviewer hired by the Arkansas Tobacco Commission.

Internal Evaluations

Internally, the AAI has conducted two pilot studies: one to determine consumer satisfaction with their health care from an interdisciplinary team approach and the other on the development of a methodology for studying the financial impact that a senior health clinic has on its rural owner hospital. The consumer satisfaction study compared patient satisfaction with care they had received in the traditional health care delivery system versus care received by the interdisciplinary geriatric team after 1 year of enrollment in two clinics. A 20-question instrument, cast on a 4-point scale, assessed patients’ satisfaction with access, accommodation, and acceptability of the previous traditional health care at time of enrollment in the interdisciplinary care clinic and 1 year later (n = 193 at enrollment, and n = 145 after 1 year). Attrition occurred due to death, participant move, or the inability to contact the participant. Results from both sites showed a statistically significant (p < .0001) improvement in satisfaction with the interdisciplinary clinic over the traditional health care system.

Using a descriptive case-study approach, the second internal evaluation study collected data for a 12-month retrospective period on a geriatric provider-based outpatient clinic and the associated downstream revenue. Findings showed a total loss of $326,871, which included a large cost-to-charge ratio (which made the expenses applied to the hospital and outpatient charges large) and a significant gap between Medicare-allowable charges and collections. Initial findings of an investigation into the issue indicated that some bills were missing or had not always been coded and/or billed appropriately. The hospital has successfully completed an audit of charges and coding, and has reorganized some clinical operations. In addition, this study had a major limitation: The hospital’s financial and data systems could only track physicians, not geriatric patients (McAtee, 2005); thus, the systems could not trace much of the downstream revenue. For example, if a patient had been admitted by a physician to whom he or she had been referred by the geriatrician, had had tests ordered by the referring physician, or had been admitted during non-business hours, the system could not track him or her as a geriatric referral or patient.

External Evaluations

In addition to the internal evaluation studies, several external entities have extensively evaluated the AAI. Table 1 outlines the methods, findings, and recommendations from the external reviewers. In summary, the external reviewers noted that the clinical and educational components, as well as the AAI’s ability to reach out to this neglected target population, were strengths of the program. Needed improvements included increasing funding and acquiring and implementing better data and budget management systems.

Challenges and Lessons Learned

In general, the AAI has been a success for both the state’s elderly citizens and for the health care professionals who provide care to them. Of note is the remarkable success in having partnering hospitals in all 7 sites open a senior health clinic and be willing to take full financial risk for their operations. These clinics have increased patient satisfaction with the care received by the elderly population and have encouraged and enabled older adults to remain in their local area to receive care. Additionally, COAs have provided a significant amount of education to both health care professionals and citizens that would not have otherwise been possible. However, there have been many challenges and lessons learned.

Financial Sustainability of the AAI

Tobacco funds fluctuate and depend on the dollars people spend for tobacco products, but projections had the dollars leveling out in 2007 at approximately $1.5 million per year for this initiative. However, tobacco settlement funding is decreasing and is therefore inadequate to maintain the program at its current level; it certainly will not allow for program expansion. Therefore, the AAI as a whole and each regional COA is working hard to identify multiple revenue sources, and advisory committees are forming at each site to assist in the financial development activities of each COA.

Geriatric Workforce

Recruitment of geriatric health care specialists remains an ongoing challenge due to the critical nationwide shortage of geriatric health professionals. The AAI is taking a proactive stance to address this problem and is vigorously working with each site to recruit geriatricians and geriatric nurse practitioners. Several of the sites use a headhunter service to recruit physicians, and the AAI participates in the interview process, especially if the individual will also be the COA director. Additionally, the AAI is currently exploring opportunities for community physicians (internal medicine and family practice) to seek geriatric fellowships. If this is not possible, physicians will receive opportunities to increase their geriatric expertise through the
Table 1. External Evaluation of the Arkansas Aging Initiative

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<th>Component</th>
<th>Evaluator 1</th>
<th>Evaluator 2</th>
<th>Evaluator 3</th>
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<tr>
<td>Methods</td>
<td>Combined quantitative, qualitative, and observational methods to assess AAI operations and outcomes. Held focus groups with consumers, family members, and community providers. Conducted semistructured interviews with partnered hospital senior management staff, clinic staff, educational staff, Area Health Education Center staff, and AAI central leadership.</td>
<td>Used the AAI strategic plan, goals, and objectives to evaluate progress and use of funds. Developed indicators based on education and clinical goals; made reports annually.</td>
<td>Held discussions with government, community, and leaders in aging. Made site visits to five of the seven COAs. Reviewed annual reports and held focus groups with program officials, community members, and health care professionals.</td>
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<td>Findings</td>
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<td>Strengths</td>
<td>Provides comprehensive patient assessment and treatment</td>
<td>Has made substantial progress reaching out to communities and educating older adults, their families, other community members, and health care providers.</td>
<td>COAs have helped reduce the confusion generated by the fragmented aging services.</td>
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<td>Weaknesses</td>
<td>Lacks clear AAI branding; the AAI identity is blurred with other programs.</td>
<td>Lacks sufficient leveraging of tobacco funds to support the growth of AAI activities. Data and budget systems lack the sophistication needed to track the program in the future.</td>
<td>Lacks a statewide master plan that would tie services together and reduce duplication. Lacks sufficient numbers of trained geriatric providers. Economic, educational, and cultural barriers prevent many from accessing services.</td>
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<td>Centers too much attention on specific disease states or issue areas in the education component rather than the strength of the model itself. Lacks funding for sustainability and expansion.</td>
<td>Make fundraising a higher priority across all COAs. Further develop and engage the community advisory committees, and identify other funding opportunities through the state and federal governments, private donors, and foundations. Develop fundable proposals. Consider centralizing responsibility for financial management and reporting. Help each COA improve reporting on process indicators and other data.</td>
<td>Create a statewide master plan for aging services and activities. Develop a recruitment and retention plan for geriatricians. Address transportation, economic, and cultural barriers. Address sustainability by examining the costs and benefits of the AAI to encourage greater investment of public and private money.</td>
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Note: AAI = Arkansas Aging Initiative; COA = Center on Aging.
Replicability

The AAI model should be replicable in other states. However, the major barriers to replicability by other sites will continue to be the availability of geriatric expertise and financial resources. Currently, senior health clinics operate as provider outpatient clinics using an interdisciplinary team approach. The more rural the center is, the more difficult it is to recruit physicians and nurse practitioners. Replication sites may need to explore other options to fill these positions, such as those described previously. It is difficult to generate revenue for education, making education funding a major concern. Ideally, early in the development phase, replication sites should aggressively identify and seek funding from a variety of sources such as private foundations and government entities.

Rapid Implementation

Although mandated by law to open within 5 years, all seven sites opened within approximately 3 years, which may have been overly ambitious. The haste in opening the sites was influenced by the need for legislators to see tobacco settlement funds used in their region, the inability to carry over funds from each biennium, and the eagerness of the regions to get their share of the dollars. Opening the sites more gradually would have allowed the community advisory boards to mature at a more reasonable pace, and, most importantly, officials would have better known the trend in the flow of tobacco dollars from the national settlement. Given the reality of funding today, leaders should have begun a more aggressive effort to diversify the revenue stream in Year 1 and continued this effort each subsequent year.

Branding

In an effort to engage all of the partners and participants at the community level, each regional leadership team named its own COA and developed a logo reflective of the local partnerships. However, the logos had no identifying connection to the larger AAI program; therefore, identification with the overall program has been a constant struggle. Work is currently underway to develop an AAI brand for each site.

Difficulty of Master Planning

Arkansas is in the unique position of having strong health and social service networks. Discussion is currently underway with lead state agencies to develop a master plan for aging. Within the context of the overall master plan, each regional COA and Area Agency on Aging would either continue the already strong collaboration or begin initiating one to develop and implement a master plan for aging in each region. This has the potential of integrating the health care and social services systems statewide, thus maximizing the scarce dollars and better meeting the needs of Arkansas’s seniors.

Clinical and Educational Outcomes

Leaders intended tobacco settlement funds to support education and the overall AAI structure. Officials designated no funds for evaluation; this has severely hampered researchers’ ability to study the impact of the AAI. However, as noted previously, there have been several internal and external evaluations of the AAI. Although these were not true measures of effect, future evaluation efforts will be augmented through the implementation of more scientifically rigorous evaluative programs, which will help investigators more objectively determine the value added by the AAI, both in terms of improving patient care and providing fiscally sound educational and clinical programs.

Toward this end, our efforts have already changed from start-up activities to implementation of an outcomes-focused approach. Currently, we are aggressively seeking funding to support evaluation efforts, especially with respect to recruiting a senior-level researcher in rural aging. We have already employed a researcher in the University of Arkansas for Medical Sciences College of Public Health to begin developing a research plan and to lead our research efforts. Our first step is to seek funding for a project in which we will use a tracer condition of diabetes in those sites with electronic health records. Using an experimental approach, and following Centers for Medicare and Medicaid Services and American Diabetes Association best-practice guidelines for diabetes, we will determine if there is a difference in patient outcomes when care is provided by an interdisciplinary team of geriatric specialists versus in a more traditional way. We have submitted this proposal for pilot funding. Our second initiative is to use the methodology developed by Dr. McAtee to examine the financial viability of four partner hospitals over a 2-year period. The results from this study, combined with those from the previous case study, should provide enough cumulative data to draw
more detailed and accurate preliminary conclusions regarding the financial viability of the senior health clinics within our partnered hospitals.

Conclusion

The AAI addresses the needs of rural older adults, is multifaceted, and brings together two components essential to improving the quality of elders’ health status: education and clinical health care. Merely having clinical and educational offerings available is not enough. Providers must encourage elders to engage in healthy lifestyles and empower them to actively participate in their own health care. By helping to provide the requisite education and access to care, and by being involved in the community, programs such as AAI can have a dramatic positive impact.

A strong commitment to evaluation and outcomes research is imperative to determine if efforts are cost effective, are beneficial, and improve the health of older Arkansans. Key to this initiative is the implementation and evaluation of best practices in both education and clinical care. Therefore, one of our primary goals is to secure sufficient information and outcomes data to clinically and financially validate the AAI program and to support replicability in other states.

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Received June 8, 2006
Accepted September 25, 2006

Decision Editor: Nancy Morrow-Howell, PhD