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REPORT

Evaluation of the Arkansas Tobacco Settlement Program

Progress During 2006 and 2007

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Prepared for the Arkansas Tobacco Settlement Commission

RAND HEALTH

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PREFACE

The Tobacco Settlement Proceeds Act, a referendum passed by Arkansans in the November 2000 election, invests Arkansas' share of the tobacco Master Settlement Agreement (MSA) funds in seven health-related programs. The Act also created the Arkansas Tobacco Settlement Commission (ATSC) to monitor and evaluate the performance of the funded programs. As part of its evaluation function, the ATSC contracted with the RAND Corporation in January 2003 to serve as an external evaluator. RAND is responsible for performing a comprehensive evaluation of the progress of the seven programs in fulfilling their missions, as well as the effects of the programs on smoking and other health-related outcomes. RAND submitted its first biennial report to the ATSC in July 2004, presenting evaluation results for the first biennium of the tobacco settlement program (Farley et al., 2005a). RAND submitted a subsequent interim report in June 2005 (Farley et al., 2005b) and a second biennial report in June 2006 (Farley et al., 2007).

This document is the third official biennial report from the RAND evaluation. It documents continued activity and progress by the ATSC and the seven funded programs through December 2007, as well as trends in relevant health-related outcomes. First, the report summarizes the history and policy context of the tobacco settlement funding in Arkansas and discusses the ATSC's activities and its responses to recommendations by RAND in the earlier evaluation reports. Then it evaluates the progress of each of the funded programs, including assessing progress in achieving long-range goals established by the programs in 2005 and tracking the program's process indicators. The report also updates trends in outcome measures developed to monitor the effects of the funded programs on smoking and other health-related outcomes. Finally, it provides both program-specific and statewide recommendations for future program activities and funding. The contents of this report will be of interest to national and state policymakers, health care researchers and providers, and others concerned with the effect of the tobacco settlement funds on the health of Arkansans.

This work was sponsored by the Arkansas Tobacco Settlement Commission, for which Aaron Black serves as project officer. The work was carried out within RAND Health. RAND Health is a division of the RAND Corporation. Abstracts of all RAND Health publications and full text of many research documents can be found at the RAND Health Web site at http://www.rand.org/health/.

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SUMMARY

The Master Settlement Agreement (MSA), the historic agreement that ended years of legal battles between the states and the major tobacco companies, was signed on November 23, 1998. Under the terms of the MSA, Arkansas has a 0.828 percent share of the payments made to participating states over the next 25 years. Arkansas is unique in the commitment made by both elected officials and the general public to invest its share of the tobacco settlement funds in health-related programs. The Arkansas Tobacco Settlement Proceeds Act of 2000 (referred to hereafter as the Initiated Act), a referendum passed by the voters in the November 2000 election, specifies that the Arkansas tobacco funds are to support seven health-related programs:

- Tobacco Prevention and Cessation Program (TPCP)
- College of Public Health (COPH)
- Delta Area Health Education Center (Delta AHEC)
- Arkansas Aging Initiative (AAI)
- Minority Health Initiative (MHI)
- Arkansas Bioscience Institute (ABI)
- Medicaid Expansion Programs (MEP).

The Initiated Act was explicitly aimed at the general health of Arkansans, not just at the consequences of tobacco use. Only one of these programs, TPCP, is completely dedicated to smoking prevention and cessation; it does, however, receive about 30 percent of Arkansas' MSA funds. Some programs primarily serve short-term health-related needs of disadvantaged Arkansas residents (Delta AHEC, AAI, MHI, MEP); others are long-term investments in the public health and health research knowledge infrastructure (ABI, COPH).

The Initiated Act also created the Arkansas Tobacco Settlement Commission (ATSC) and gave it the responsibility for monitoring and evaluating the performance of the funded programs. As part of its evaluation function, the ATSC contracted with the RAND Corporation to serve as the external evaluator. RAND was charged with performing a comprehensive evaluation of the progress of the programs in fulfilling their missions, as well as the programs' effects on smoking and other health-related outcomes.

This report is the third official biennial report from the RAND evaluation. The report updates the information and assessments provided in our first and second biennial reports submitted to the ATSC in 2004 and 2006. Using the evaluation methods described in Chapter 1 and Appendix B, the present evaluation is designed to address the following research questions:

- Have the funded programs achieved the goals that were set for them for the past two years?
- How did the programs respond to the recommendations made in earlier evaluations?
- How do actual costs for new activities compare to the budget; what are the sources of any variances?
- What effects do the funded programs have on improving the health of Arkansans, in terms of smoking behavior, health outcomes related to tobacco use, and other health outcomes addressed by the programs?

The answers to these questions serve to generate recommendations for how the programs, the ATSC, and other Arkansas agencies might better fulfill the aims of the Initiated Act.

SUMMARY OF PROGRAM PERFORMANCE THROUGH 2007

Achievement of Initiation and Short-Term Goals Specified by the Act

The Initiated Act states basic goals to be achieved by the funded programs through the use of the tobacco settlement funds. It also defines indicators of performance for each of the funded programs—for program initiation and short- and long-term actions. In our prior reports, we reported our conclusion that TPCP, COPH, Delta AHEC, AAI, and ABI had achieved their initiation goals and short-term goals.

The MEP have now achieved their initiation goal because the ARHealthNetworks expansion program has been launched after receiving approval from the federal Centers for Medicare and Medicaid Services (CMS). They have also largely achieved their short-term goals of increasing the number of participants in the expanded programs, although there have been fluctuations in enrollment over time, particularly for the pregnant women's program.

MHI has also now achieved the short-term goals specified in the Initiated Act: (1) prioritize the list of health problems and planned intervention for minority population(s); and (2) increase the number of Arkansans screened and treated for tobacco-related illnesses. Following RAND's recommendation, MHI conducted several planning sessions to develop a list of potential programs. It terminated the hypertension screening and treatment programs and is now implementing a cadre of programs that focus on connecting individuals to already existing health resources, facilitating the development of policies to increase access to treatment, increasing prevention activities in the state, and facilitating the implementation and translation of research that can inform the development of public health programs.

Program Progress on Long-Term Goals Specified by the Act

The Initiated Act also specifies long-term goals for the programs supported by the tobacco settlement funds. These goals target "ultimate" outcomes for the improvement of the health and well-being of Arkansans, which are expected to take years to accomplish. In addition, the stated goals do not have measurable endpoints that can be used to determine the extent to which programs have achieved them.

In 2005, the ATSC formally approved the programs' long-term goals, and it has continued to monitor their progress toward those goals. RAND has worked with each of the programs to establish two means of assessing progress toward these longer-term goals. First, each program has a set of specific programmatic goals that define the programs' vision for their future scope of activities. The programmatic goals for each program are presented in Chapters 3 through 9, along with any associated process indicators and our assessment of their progress toward achieving these goals. Second, each program has specific outcome measures for assessing the effects of the programs on the most salient outcomes. The outcome measures for all of the programs are presented in Chapters 10 and 11. For the long term, the monitoring should be a two-step process, starting with tracking how well programs are moving toward their programmatic goals, then assessing how much effect this progress is having on their outcome

measures. If the level of activity is not affecting outcomes, then the long-term goals may have to be revised to target stronger interventions to ultimately affect outcomes.

Summary of Program Performance and Recommendations for Moving Forward

Overall, the seven tobacco settlement programs have continued to refine and grow their program activities during the last two years. In doing so, the programs have made a number of changes in their activities in response to the program-specific recommendations we presented in our 2006 biennial evaluation report. In Chapters 3 through 9, we provide an update on each program's activities and describe the progress toward achieving their programmatic goals. We also present an analysis of spending trends for each program and provide recommendations for each program as it moves forward.

As described earlier, RAND worked with each of the programs to specify programmatic goals for program activities. These are reported in detail in the respective evaluations of the seven programs (Chapters 3 through 9) and summarized here. This time, all but one of the programs had accomplished or was on schedule to accomplish all of their programmatic goals (Table S.1). MEP did not achieve the desired utilization of benefits in the AR-Seniors program or increase enrollment in either that program or the pregnant women's expansion program.

Table S.1
Progress Toward Programmatic Goals

Program	Total	Accomplished	Not Accomplished	On Schedule	Ahead of Schedule	No Longer Relevant
TPCP	5	4		1		
COPH	4	2		1	1	
Delta AHEC	8	4		3		1
AAI	6			6		
MHI	4			4		
ABI	3	1		2		
MEP	4	1	3			

Below, we briefly summarize each program's status and progress during 2006 and 2007 and list our specific recommendations for each program.

Tobacco Prevention and Cessation Program (TPCP)

Overall, TPCP continues to actively pursue prevention and cessation efforts in accordance with the CDC program components. The community coalitions are maintaining their efforts to effect changes in their communities through education and advocacy. TPCP's funding of the Coordinated School Health Program is an innovative approach to building infrastructure within schools to address youth tobacco use and other health issues. The Arkansas Tobacco Control Board makes thousands of compliance checks of tobacco outlets all across the state each year, and violation rates are steadily declining. The two cessation programs have greatly increased their enrollment, although the quit rates for the Quitline have decreased recently. In terms of public awareness, the Stamp Out Smoking campaign shows strong recall among Arkansans and attracts a large amount of free media contributions, even though the media campaign has received less funding over time.

TPCP has met four of the five programmatic goals developed to guide their early implementation and is on schedule with the fifth. With the overall maturation of the program over time, several of the programmatic goals need to be reconsidered. Our recommendations for developing new strategic goals for the program and for other ways to strengthen the program's implementation are listed below.

- Develop new strategic goals in each program area, revisit the process indicators that track progress toward the goals, and integrate the tracking of process indicators into the Web-based reporting system.
- Strengthen the quality management process within TPCP and the communication of results to the advisory committee.
- Raise funding for the nine components of a comprehensive statewide tobacco control strategy to the level recommended for Arkansas by the Centers for Disease Control and Prevention (CDC) through either additional funds over and above those provided by the MSA or reallocation of existing TPCP funds from non-tobacco programs (continuation of a recommendation in the previous evaluation report).
- Reevaluate funded programs that are not within the scope of tobacco prevention and cessation programming, as defined by the CDC guidelines, for their value in contributing to reduction of smoking and tobacco-related disease (continuation of a recommendation in the previous evaluation report).
- Change the process TPCP must use to budget its funds to be in line with the other tobacco settlement programs (continuation of a recommendation in the previous evaluation report).
- Strengthen communication between TPCP staff and the TPCP advisory committee (continuation of a recommendation in the previous evaluation report).

College of Public Health (COPH)

Now in its seventh year, COPH has demonstrated steady growth in nearly all activities and has evolved into a fully-accredited institution. Its educational activities have centered on attaining full accreditation from the Council on Education for Public Health. It has grown its enrollment through a variety of recruitment efforts. In terms of its research activities, COPH has steadily increased the amount of grant funding, the number of submitted grants and the number

of ongoing projects. COPH has also maintained its efforts to serve as a policy and advisory resource to legislative committees and individual legislators.

COPH is doing well on goal attainment, having accomplished two of its programmatic goals and being on schedule or ahead of schedule on the other two. COPH has continued to meet or exceed all criteria set forth by the process indicators. Partly because of the reaccreditation process, COPH has been quite successful in monitoring and examining its own growth. Our recommendations for COPH recognize its growth since inception and its readiness for the next phase of implementation and evaluation.

- Continue to think about innovative and sustainable ways to increase contributions to COPH for faculty recruitment.
- Conduct strategic planning to develop areas of expertise in which COPH can excel.
- Continue to develop and support research, specifically grants and contracts.
- Measure the impact of COPH's community partnerships.

Delta Area Health Education Center (Delta AHEC)

Delta AHEC has continued to serve the region through its efforts to improve access to health care, provide services, and educate health care professionals. While it has been challenging to recruit primary care providers, Delta AHEC has had some success with nurses. After some initial positive efforts, participation in the physician programs tapered off in 2006 and 2007. For its service provision efforts, Delta AHEC has steadily increased its encounter rates both overall and across several of its programs. It continues to offer a wide range of health education services to residents of the region. In educating health care professionals, the total number of session encounters decreased in 2006 and 2007, in part due to staffing issues.

Overall, Delta AHEC has achieved four of its programmatic goals and is making progress and on schedule to accomplish three others. Our recommendations for increasing participation and recruitment efforts and for strengthening the program's evaluation are listed below.

- Increase efforts to recruit health students.
- Continue to increase resources to conduct program evaluation activities.
- Conduct a survey of knowledge gained in training sessions as part of its evaluation efforts.

Arkansas Aging Initiative (AAI)

The past two years have been successful for AAI. AAI has worked to increase access to quality, evidence-based education and clinical services for older Arkansans. AAI's clinical service efforts focus on expanding the work of the Centers On Aging (COAs), increasing service capacity, and reaching the minority community. For its education component, AAI has steadily increased its education encounters for each target group of health professionals. One notable strength of AAI is its wide base of collaborators. Not only does AAI collaborate with other agencies but it also collaborates with other tobacco settlement programs including Delta AHEC, MHI, COPH, and ABI.

AAI is on schedule to achieve all six of its programmatic goals. These goals are regularly updated as AAI reaches its objectives or finds new opportunities to expand its reach.

Specific recommendations for quality improvement within its programs, fundraising, and collaboration are listed below.

- Ensure that each COA establishes and maintains a formal quality improvement process to monitor, assess, and improve performance; establish a strategic plan for evaluation in which AAI's central administration assesses COA performance on a periodic basis (continuation of a recommendation in the previous evaluation report).
- Set more specific fundraising goals for each COA including identifying a short list of funding opportunities through the state and federal governments, foundations, and the private sector for each site and setting financial goals for each year (continuation of a recommendation in the previous evaluation report).
- Continue to push forward with collaborative efforts partnering with the other tobacco funding programs.
- Build on AAI's strategic plan to present a set of outcome measures that are representative of its work given its funding levels.

Minority Health Initiative (MHI)

MHI has made progress during the past two years as it has worked to respond to RAND's recommendations in the last evaluation report and the interim review. While MHI is not at the point one might expect for a five-year-old initiative, it is progressing well given the course corrections and leadership and staffing changes it has undergone. Programmatic approaches that were not cost-effective have been eliminated, while new programs are in development. Some of the new programs have been spawned from the original MHI programs while others have resulted from newly developed sources. MHI has continued with its screening efforts and screening rates have increased dramatically in 2006 and 2007. In terms of collaboration, AAI and MHI have joined forces in an effort to increase utilization of AAI services for the minority population in south Arkansas. To address sustainability, MHI has recognized the importance of supplementing the tobacco settlement funds and has committed to aggressively pursue proposal and funding opportunities. MHI has also worked to develop its monitoring and evaluation capabilities by implementing financial reporting and quality management processes as well as treatment and research databases.

MHI is in the process of developing a series of long-term goals with corresponding process indicators, which are slated to be completed during fiscal year (FY) 2008. Until those goals and indicators are completed, we used MHI's progress on its original programmatic goals to assess the status of MHI during this evaluation period. Overall, MIH is on schedule with each of those programmatic goals. We expect that the next one to three years will be a time of steady growth for MHI. Our specific recommendations for MHI are listed below. These recommendations recognize the changes and progress made since the interim review.

- Finalize strategic plan for FY 2008–FY 2011.
- Narrow MHI's focus to one or two health concerns.
- Examine the professional contract process and outcomes.
- Diversify the Arkansas Minority Health Commission (AMHC) board.
- Expand the After School Childhood Nutrition Education and Exercise Program (ASCNEEP).

- Improve program monitoring and evaluation.
- Seek supplemental funding for programs and services.
- Strategically fund pilot and demonstration programs.
- Collaborate with other tobacco settlement programs.

Arkansas Bioscience Institute (ABI)

ABI has continued to fulfill the expectations set forth in its mandate to foster the conduct of research through its member institutions. For its targeted research programs, ABI has increased research activities both overall and in three of the five research categories. ABI has maintained a steady level of collaboration among research institutions during 2006 and 2007, as seen in the number of collaborative projects. The amount of funding being used for collaborative research projects has also increased to almost 40 percent of the total funding. In terms of dissemination of research results, the number of publications, lectures and seminars, media contacts, and press releases rose steadily. As demonstrated by many of the institutes, community outreach activities have been increasing as well.

Overall, ABI accomplished one of its three programmatic goals and is on schedule with the other two. The amount of extramural funding received by ABI scientists during FY 2006 and FY 2007 continued to exceed funding received in past years. Further, ABI is on schedule with its efforts to support research with community impact and community outreach programs. Below are three recommendations that come out of our most recent evaluation process.

- Continue to foster collaborations that provide support especially to institutions with a lesser research infrastructure, so that they are able to lead projects and partner with more established institutions.
- Begin to focus and document collaborations that lead to partnerships with, or service toward, industry.
- Continue to obtain grant funding at a level that can support the infrastructure that has been established at the different institutions.

Medicaid Expansion Programs (MEP)

The MEP successfully launched their fourth program during this reporting period. The ARHealthNetworks program provides a limited benefits package to employees and their families age 19 to 64 with income at or below 200 percent of the federal poverty level (FPL) working in firms with between two and 500 employees. After a start-up period, enrollment has increased to 200–300 new subsidized enrollees per month. Aside from the new ARHealthNetworks program, enrollment in the Medicaid programs remained at consistent levels throughout 2006 and 2007. There is still a substantial need for more education and outreach so that the general population and providers can be reached and informed about the available programs. In addition, the Department of Human Services (DHS) needs to do more education of the enrollees to ensure that they understand their health care benefits under the expanded coverage programs.

Overall, MEP accomplished one of their programmatic goals. Individuals enrolled in the Pregnant Women's Expansion program utilized services at the same or higher rate as others. However, this was not the case for the AR-Seniors program, where dually eligible individuals used more services. MEP did not accomplish either enrollment goal with slower than expected

growth in both the AR-Seniors program and the Pregnant Women's Expansion program. Below are four recommendations that focus on developing new goals and process indicators for the MEP, conducting education and outreach for individuals and providers, and collaborating with other tobacco settlement programs.

- Develop new programmatic goals and revisit the process indicators that track progress toward the goals.
- Initiate an outreach campaign to inform both potential enrollees and providers about the availability of the Medicaid Expansion Programs.
- Allocate funds to educate newly enrolled and current enrollees in the Pregnant Women's Expansion program and the AR-Seniors program regarding the services they are eligible to receive under their respective programs.
- Develop partnerships with some of the other tobacco settlement programs or other state or local organizations to educate and conduct outreach in communities.

SUMMARY OF PROGRAM EFFECTS ON OUTCOMES

An important part of any evaluation is the examination of the extent to which the programs being evaluated are having effects on the outcomes of interest. We assessed effects on both smoking outcomes and other program effects on non–smoking outcomes.

Program Effects on Smoking Outcomes

Our analysis of smoking behavior in Arkansas provides evidence of the continued effectiveness of the tobacco settlement programs on smoking outcomes, especially for the most vulnerable populations such as young people and pregnant women. Our main findings regarding smoking outcomes are summarized as follows:

- For the first time, we find that smoking rates for the adult population in Arkansas are significantly below what they were prior to the initiation of TPCP's tobacco settlement programming. The 2007 smoking rate is approximately four percentage points lower than in 2002, which is equivalent to 16 percent fewer smokers. Although we cannot rule out that this is continuation of a preexisting trend, it nonetheless represents a major milestone for the health of Arkansans.
- We find that women are smoking significantly less than would be predicted by their baseline trend, while men are not.
- We continue to find that young people are smoking less than would be expected based on trends prior to the TPCP tobacco settlement programs. Many data sources confirm this finding. All of the following groups show substantial decreases in smoking:
  - Middle school students
  - High school students
  - Young adults, age 18 to 25
  - Pregnant teenagers
  - Pregnant women, age 20 to 29

- The dramatic improvement in compliance with laws prohibiting sales of tobacco products to minors has continued and has been verified by federal auditors.
- We find some very weak evidence that people who live in areas where the Arknasas Department of Health (ADH) focused its TPCP activity are less likely to smoke. An imbalance in TPCP resources among Arkansas counties continues, with resources distributed without apparent regard to need.
- There have been reductions in the hospitalization rates for a variety of diseases that are affected by smoking and by secondhand smoke. The strongest evidence is for reductions in hospitalizations for strokes and acute myocardial infarctions (heart attacks).

As in past years, our analysis of smoking rates for young adults, pregnant adults, and pregnant teenagers shows conclusively that these groups are smoking less than would be expected if there had been a continuation of the trends in rates that preceded the tobacco settlement programming. This year's report provides additional evidence from a new data source of decreased smoking among high school students. Reductions in smoking among young people are particularly advantageous because, as this population ages, these reductions will provide health dividends to the state for years to come. This optimistic conclusion is based on the assumption that young people will not initiate or resume smoking when they are older; such an assumption is supported by evidence in the literature. Although smoking rates for pregnant women remain below the baseline trend, we find that there have not been additional gains for this group since those made immediately after the initiation of programming. This trend should be monitored for additional progress in the future.

Program Effects on Non–Smoking Outcomes

Highlights of our findings regarding the effects of the tobacco settlement programs that have a direct impact on health outcomes other than smoking are as follows:

- *Delta AHEC.* The Delta AHEC has fully implemented a system to collect demographic and satisfaction data from participants in its community health education programs. It also has implemented systems for particular initiatives that collect outcomes data. It has demonstrated an ability to manage and analyze these data to monitor the effect of its programs and report their achievements to their funders and oversight groups. We encourage Delta AHEC to build on this foundation by collecting and analyzing outcomes data for its health professional education programs and for additional community education programs.
- *Minority Health Initiative*. Due to changes in program leadership and direction, MHI has not completed any evaluations of participant outcomes. However, MHI is in the process of collecting and analyzing outcome data for two of three new initiatives. MHI should work quickly to produce evaluations of the impact of its efforts on participants, so that it can leverage its activities to assist a greater portion of the populations at risk. We recommend additional collaborative efforts with programs that have completed successful evaluations and with researchers who can bring needed expertise.
- *Arkansas Aging Initiative.* There continues to be some evidence that the COAs have reinforced the decline in avoidable hospitalizations in the counties where they are

located. AAI has completed a small but valuable study of one of its health interventions and has made concrete progress on outcome evaluations of several other initiatives, including raising external funds for such studies. RAND recommends that these efforts be expanded, particularly into evaluations of educational programming.

- *Medicaid Expansion Programs.* Because the Medicaid Expansion Programs provide additional Medicaid benefits to eligible beneficiaries across the state, our outcome analysis examines potential program effects at the statewide level. We updated results on outcomes for the three operational programs—Pregnant Women's Expansion, Medicaid-Reimbursed Hospital Care, and AR-Seniors—and introduce new outcome measures for ARHealthNetworks.
    - Pregnant Women's Expansion Program. We no longer find that the expansion of benefits for pregnant women has led to increased prenatal care. In fact, there appears to have been a recent decrease in adequate prenatal care among women who are eligible for this benefit.
    - Medicaid-Reimbursed Hospital Care. The data continue to support our previous findings that one component of the expanded hospital benefits is associated with increased access to hospital care for conditions requiring very short stays. The other component that reimburses for hospital days 21 through 24 appears to be reducing the amount of unreimbursed care rather than increasing the amount of care overall.
    - AR-Seniors. An additional year of data confirms our previous finding that the AR-Seniors program has accelerated the decline in avoidable hospitalizations among the elderly.
    - ARHealthNetworks. Although the program is too new to have had a measurable impact on its target population, we propose to use avoidable hospitalization rates for people age 19 to 64 as a measure of program impact as the evaluation moves forward. We expect avoidable hospitalizations in the target age group to decline if ARHealthNetworks is increasing access to primary care.

For the two academic programs, COPH and ABI, we did not look at direct impact on health outcomes, but instead used more traditional academic outcome measures.

- *College of Public Health.* COPH's number of scholarly publications continues to increase. In 2007, both the total number of publications and the number of publications in ranked journals increased substantially from previous years.
- *Arkansas Biosciences Institute.* ABI's publication of research findings in top quality scholarly journals has increased dramatically over the past three years. Its research is being disseminated in top journals in a wide variety of scientific subjects.

POLICY ISSUES AND RECOMMENDATIONS FOR THE PROGRAMS

In our analysis, we identified five common themes across programs that merit attention. These themes are discussed in Chapter 12 and summarized here.

Managing Transitions and Change

Recommendation: With the programs continuing to grow and change, all of them need to develop methods to manage leadership transitions and programmatic changes.

While staffing and leadership changes are to be expected, particularly for programs operating within public agencies, policies, procedures, and processes should be well-documented to ensure institutional knowledge and program consistency over time. There are also programmatic changes as the programs develop and adapt their efforts over time. While the changes need to stay within the scope of the Initiated Act, programs also have to be responsive to changes in the environment and in the needs of the populations they are trying to serve.

Ongoing Strategic Planning

Recommendation: As the programs mature, each program and the ATSC itself should have in place a documented strategic plan and process that includes concrete objectives, strategies, and tasks.

As noted throughout this report, the programs continue to develop and mature. While several of the programs have undertaken strategic planning processes, all of them would benefit from a more formalized and ongoing process. The strategic planning should focus on cost-effective ways to implement strategies that are directly tied to the program's goals. The plans should also detail the specific strategies and tasks that address each objective.

Evaluation Development

Recommendation: Evaluation plans should evolve along with the programs and move toward measures of broader impact. As programming and activities develop over time, the programs should be urged to update the programmatic goals and the indicators used to measure progress toward these goals.

With program activities now well established, the programs should use the evaluation data to modify their programmatic goals and process indicators. For some programs, the goals and process indicators are no longer relevant given changes in program direction and the overall maturation of the program over time. Many of the programs have increased their technical capacity to the point where they can now fully track the effects of the programs and determine quality deficiencies and what to do about them. With more advanced data collection and analysis capabilities, the programs are better positioned to take the next step with their evaluation efforts. While some of them have begun to develop measures and approaches to measuring statewide impact, the programs need assistance in determining how to show the difference they are making statewide.

Collaboration

Recommendation: The seven tobacco settlement programs should be encouraged to intensify their collaborative efforts, especially as programs develop and adapt their programming to meet changing needs. The ATSC can help in this regard by continuing to convene meetings of the programs specifically on collaboration and requesting that the programs report on their progress on these efforts during the meetings.

As noted throughout this report, collaborative activity across the programs is increasing, although somewhat slower than would be expected given the synergies across the programs. In addition to new efforts, the joint activity already established can also be fruitfully increased. The ATSC can help with both approaches by continuing its efforts to convene meetings of the programs to discuss collaborative opportunities and requesting that the programs report back on their progress.

Sustainability

Recommendation: The ATSC and each of the seven programs should focus on sustainability with particular attention to funding stability and growth. As the tobacco settlement funds continue to fall below the amounts expected based on the MSA, some of the shortfall can and should be made up by aggressively seeking other funding sources to supplement the tobacco settlement funds.

While funds increased slightly for FY 2007 and increased about 13 percent for FY 2008, the total remains below the amounts expected based on the MSA. Uncertainties about future funding are even more apparent as the programs move into the next stage of program development. Some of the programs have been successful in securing additional funding while the other programs have either no or minor percentages of additional funding.

RECOMMENDATION FOR THE ATSC

Finally, we present our recommendation for the ATSC's ongoing management of program process.

Recommendation: The ATSC should continue to work toward establishing a complete reporting package through which the funded programs provide it with performance information on both their program activities and spending, which it should use for monitoring program performance on a regular basis. This package should build on the existing quarterly progress and financial reports to include systematic tracking of progress on the process indicators and a comprehensive annual report that assesses progress toward long-term goals and describes the challenges faced.

As the tobacco settlement programs have developed, RAND's role has evolved. In the prior evaluation reports, we presented recommendations to the ATSC for actions it could take to strengthen program reporting and accountability. With steps taken on some of these recommendations, the monitoring role has begun to shift away from the external evaluator into the hands of the ATSC. As the ATSC continues to expand its monitoring capabilities, an external evaluator will remain a necessary aspect of the program for the foreseeable future, although that body's role will continue to shift over time. One of the responsibilities of the external evaluator is to support the sponsoring organization (the ATSC) in making this evaluation function an integral part of its ongoing operation. RAND, if selected to continue in this role, will support each of the programs as they work to use their evaluation data to modify the programmatic goals and the process indicators used to measure progress toward those goals. RAND will also serve as an objective observer, reviewing performance reports the programs submit to the ATSC and assessing data on the programs' process indicators and progress toward programmatic goals. At the same time, as we noted in the last report, the emphasis of the external evaluator should increasingly focus on analysis of program effects on outcomes, a function that requires modeling and statistical expertise that is not yet within the capacity of the

ATSC. Finally, even if the ATSC is fully capable of evaluating the programs, an external organization must "watch the watchers" and provide oversight of the ATSC itself.

DISCUSSION

The seven programs supported by the tobacco settlement funds have continued to strengthen and expand their reach in support of improving the health of Arkansans. TPCP is making use of its available resources for smoking prevention and cessation programs that follow the CDC's recommended guidelines. AAI, Delta AHEC, MHI, and MEP all are serving the short-term health-related needs of disadvantaged Arkansas residents through a variety of targeted programs and services. Both COPH and ABI are expanding public health education and public health and health research knowledge infrastructure in Arkansas. All of the programs have now achieved their initiation and short-term goals as specified by the Initiated Act. For the long term, all but one of the programs had accomplished or were on schedule to accomplish the programmatic goals developed to measure progress toward long-term outcomes. Our analysis of smoking behavior in Arkansas provides evidence of the continued effectiveness of the tobacco settlement programs on smoking outcomes, especially for the most vulnerable populations such as young people and pregnant women.

Arkansas has been unique among the states in being responsive to the basic intent of the master tobacco settlement by investing its funds in health-related programs with a focus on reducing smoking rates. We encourage the state policymakers to reaffirm this original commitment in the Initiated Act to dedicate the tobacco settlement funds to support health-related programming. To do justice to the health-related services, education, and research these programs are now delivering, they must be given the continued support and time they need to fulfill their mission of helping Arkansas to significantly improve the health of its residents. In addition, the programs must take the actions needed to ensure that issues identified in this evaluation are addressed to reinforce the effectiveness of Arkansas' investment in the health of its residents.

ACKNOWLEDGMENTS

We acknowledge with pleasure the thoughtful participation by numerous people in the evaluation process as RAND gathered information on the context, history, and progress of the seven funded programs initiated by the Tobacco Settlement Proceeds Act, including the members of the Arkansas Tobacco Settlement Commission, members of the Arkansas general assembly, and program directors and staff at the Department of Health, College of Public Health, Arkansas Biosciences Institute, Centers on Aging, Arkansas Minority Health Commission, Delta Area Health Education Center, and state Medicaid offices. Suzanne McCarthy of the Arkansas Center for Health Improvement and Joe Thompson, Arkansas Surgeon General, have provided important insights into the history and current development of Arkansas health programs and policies. These individuals participated in group and individual interviews, sharing their experiences in the history, context, and progress of the funded programs. They also engaged with RAND in the development of long-range program goals and outcome measures.

We would also like to acknowledge the assistance and guidance of the Arkansas Tobacco Settlement Commission during the execution of our evaluation, including that of Aaron Black, current executive director; Chiquita Munir, previous executive director; Karen Elrod, executive assistant; General William Lefler, commission chair; and the commission members. Their support derives from a commitment to objective evaluation that continues to reinforce our evaluation work. Stacy Fitzsimmons and Gina Snyder provided excellent production assistance on this report. Donna Farley, who served as project director for its first four years, has been an invaluable source of knowledge, wisdom, and support throughout the project.

ACRONYMS

AAA	Area Agencies on Aging
AAI	Arkansas Aging Initiative
AATS	Arkansas Adult Tobacco Survey
ABI	Arkansas Bioscience Institute
ACH	Arkansas Children's Hospital
ACHI	Arkansas Center for Health Improvement
ACLS	Advanced Cardiac Life Support
ADAP	Alcohol and Drug Abuse Prevention
ADE	Arkansas Department of Education
ADH	Arkansas Department of Health
AGEC	Arkansas Geriatric Education Center
ALED	Active Living Every Day
AMHC	Arkansas Minority Health Commission
ARCC	Arkansas Cancer Coalition
ARCHES	Arkansas Cardiovascular Health Survey
ASCNEEP	After School Childhood Nutrition Education and Exercise Program
ASU	Arkansas Sate University
ATCB	Arkansas Tobacco Control Board
ATSC	Arkansas Tobacco Settlement Commission
BMI	body mass index
BRFSS	Behavioral Risk Factor Surveillance System
BSN	Bachelor of Science in Nursing
CCC	Comprehensive Cancer Control Program
CDC	Centers for Disease Control and Prevention
CEPH	Council on Education for Public Health
CHC	community health center
CMS	Centers for Medicare and Medicaid Services
CAN	certified nurse assistant
COA	Center for Aging
COPH	College of Public Health
CSH	Coordinated School Health
CTFA	Coalition for a Tobacco Free Arkansas
DCOA	Delta Center on Aging
Delta AHEC	Delta Area Health Education Center
DEQ	Department of Environmental Quality
DHS	Department of Human Services
EMR	electronic medical records
FFY	federal FY
FPL	federal poverty level
FTE	full-time equivalent
FY	fiscal year
GSA	Gerontological Society of America
HHIY	How Healthy Is Your
ISI	Institute for Scientific Information
JIF	journal impact factor

LPN	licensed practical nurse
MASH	Medical Application of Science in Health
MEP	Medicaid Expansion Programs
MESH	Marianna Examination Study on Hypertension
MHI	Minority Health Initiative
MISRGO	Minority Initiative Sub-Recipient Grant Office
MSA	Master Settlement Agreement
MSN	Master of Science in Nursing
PALS	Pediatric Advanced Life Support
PEPPI	Peer Exercise Program Promotes Independence
PI	principal investigator
PSA	public service announcement
QMB	Qualified Medicare Beneficiary
RFA	request for application
RN	registered nurse
SACOA	South Arkansas COA
SAFS	Southern Ain't Fried Sunday
SHC	senior health clinic
SSI	Supplemental Security Income
TCYB	Tobacco Control Youth Board
TPCP	Tobacco Prevention and Cessation Program
UA-Ag	University of Arkansas, Division of Agriculture
UAF	University of Arkansas, Fayetteville
UALR	University of Arkansas at Little Rock
UAMS	University of Arkansas for Medical Sciences
UAPB	University of Arkansas at Pine Bluff
YRBS	Youth Risk Behavior Survey
YRBSS	Youth Risk Behavior Surveillance System

Chapter 1.
Introduction and Background

The Master Settlement Agreement (MSA) that ended years of legal battles between the states and the major tobacco companies was signed on November 23, 1998. Under the terms of the MSA, the participating states will receive more than $206 billion in payments from the tobacco companies over the next 25 years. Following the agreement made by the attorneys general of the participating states, Arkansas has a 0.828 percent share of these payments, which it has been receiving since the agreement went into effect.

The state of Arkansas is unique in the commitment that has been made by both elected officials and the general public to invest its share of the MSA funds in health-related programs. The Tobacco Settlement Proceeds Act, a referendum passed by the voters in the November 2000 election (henceforth called the Initiated Act), established a comprehensive program that uses the MSA funds to invest in the public health of Arkansans.

The Initiated Act created the Arkansas Tobacco Settlement Commission (ATSC), giving it the responsibility for monitoring and evaluating the performance of the funded programs. As part of its evaluation function, the ATSC contracted with the RAND Corporation to serve as an external evaluator. RAND was charged with performing a comprehensive evaluation of the progress made by the programs in fulfilling their missions, as well as effects of these programs on smoking and other health-related outcomes.

This report is the third biennial report from the RAND evaluation, which updates the information in the second evaluation report (Farley et al., 2007) with findings for 2006 and 2007.

In the remainder of this chapter, we provide background information about the MSA, the basic orientation and content of the Initiated Act, and the methods used in the RAND evaluation. Chapter 2 addresses the policy context within which the tobacco settlement program operates, including activities and progress of the ATSC. Chapters 3 through 9 present evaluation results related to the activities and progress of each of the seven funded programs. Chapters 10 and 11 present findings regarding trends in effects of the programs on smoking and other outcomes. Finally, Chapter 12 synthesizes the evaluation findings and offers recommendations for program improvement and future spending of the tobacco settlement funds.

THE MASTER SETTLEMENT AGREEMENT

The MSA settled all legal matters alleged by the participating states against the participating tobacco companies, placed conditions on the actions of the tobacco companies, and provided for large payments from those companies to the states and several specific funds. All states except Florida, Minnesota, Mississippi, and Texas are participants in the MSA, as are the District of Columbia and several U.S. territories.

Under the MSA, the tobacco companies are to make three types of payments to the states: up-front payments (1998–2003), annual payments, and payments to the strategic contribution fund. In addition to the state payments, the MSA places other conditions on the tobacco companies, some involving additional payments and others placing constraints on their business practices, in particular with respect to the marketing of tobacco products to youth.

The up-front payments totaled $12.7 billion, with $2.4 billion paid in 1998 and a like amount (adjusted for inflation) paid annually for the next four years. The annual payments to the states currently total $183.7 billion. These payments are supposed to "ramp up" over time, with payments specified in the MSA of $4.5 billion in 2000, $5 billion in 2001, $6.5 billion in each of 2002 and 2003, and $8 billion annually in 2004 through 2007. Payments in 2008 through 2017 will be $8.1 billion annually, and payments in later years will be $9 billion annually. Starting in 2008 and continuing through 2017, the tobacco companies will pay $861 million annually into the Strategic Contribution Fund, for a total payment of $8.6 billion. Payments to the fund will be allocated to states based on a formula developed by the attorneys general. This formula reflects the contribution made by the states to the resolution of the state lawsuits against the tobacco companies.

All of the payments to the states are subject to a number of adjustments, reductions, and offsets, so the actual payments the states receive differ from the base amounts defined in the MSA. These include adjustments for inflation, volume, nonsettling states' reduction, miscalculated and disputed claims offset, nonparticipating manufacturers, federal legislation offset, and litigation releasing parties offset. In fact, the ATSC anticipates—based upon its own experience—that the annual payments, rather than increasing over time, will be significantly reduced and will not achieve the initial estimates listed above. For example, the payment received increased from $6.1 billion in 2007 to $6.9 billion in 2008, but this fell short of the anticipated $8.1 billion.

THE ARKANSAS TOBACCO SETTLEMENT PROCEEDS ACT

The Initiated Act authorized the creation of seven separate programs to be supported by tobacco settlement funds, established short- and long-term goals for the performance of these programs, specified the funding shares to support the programs and a structure of funds for management and distribution of proceeds, and established the ATSC to oversee the overall initiative (Appendix A). Subsequent legislation made slight modifications to some of the goals and programs but maintain the original intentions.

Funded Programs

The goals of the Initiated Act are to (1) reduce the initiation of tobacco use and increase its cessation, with the resulting health and economic impact; (2) expand access to health care, especially for those who demonstrably lack access; (3) develop basic and applied tobacco-related medical and agricultural research in Arkansas; and (4) specifically address targeted state needs. The seven programs follow from these goals:

- **Tobacco Prevention and Cessation Program (TPCP).** Managed by the Department of Health, TPCP aims to reduce the initiation of tobacco use and resulting negative health and economic impacts.
- **Arkansas Bioscience Institute (ABI).** ABI works to develop new tobacco-related medical and agricultural research initiatives, improve the health of Arkansans, improve access to new technologies, and stabilize the economic security of Arkansas. The Initiated Act provides for ABI to be funded through separate appropriations to the participating institutions. The program's management reports to the ABI board, which also was established by the Initiated Act.

- **Medicaid Expansion Programs (MEP).** The MEP seek to expand access to health care through targeted expanded benefits packages that supplement the standard Arkansas Medicaid benefits. It is managed by the Arkansas Department of Human Services (DHS).

The remaining four programs addressed the "targeted state needs" in the Initiated Act:

- **College of Public Health (COPH).** COPH is a resource to provide professional education, research and services to the public health community of Arkansas. It is a unit of the University of Arkansas for Medical Sciences (UAMS).
- **Arkansas Aging Initiative (AAI).** AAI provides community-based health education for senior Arkansas residents, through outreach to the elderly and educational services for professionals. It is housed in the Reynolds Center on Aging, a unit of UAMS.
- **Delta Area Health Education Center (Delta AHEC).** Delta AHEC is an additional unit in the statewide Arkansas AHEC system to provide clinical education throughout the state. It was put into the Initiated Act to provide such services for the underserved and disproportionately poor Delta region of the state.
- **Minority Health Initiative (MHI).** MHI aims to identify the special health needs of Arkansas' minority communities and to put into place health care services to address these needs. MHI is managed by the Arkansas Minority Health Commission (AMHC).

Only one of these programs, TPCP, is completely dedicated to smoking prevention and cessation; it does, however, receive one-third of the MSA funds. Some programs primarily serve the current health-related needs of disadvantaged Arkansas residents (AAI, Delta AHEC, MEP, MHI); others are long-term investments in the public health and health research infrastructure (ABI, COPH).

Performance Expectations for the Funded Programs

In addition to the overall goals, the act defined indicators of performance for each of the funded programs—program initiation, short-term, and long-term actions. In the 2006 evaluation report, we assessed the performance of the seven programs on their short-term indicators. In this report, we continue this assessment by looking at progress made during 2006 and 2007. Moving forward, most of the programs are reaching the stage where they are better positioned to move away from a focus on short-term measures to the next phase where their performance is measured based on long-term performance. In Chapter 12, we discuss overall progress toward the long-term performance goals.

Funding and Fund Flows

The act authorized the State Board of Finance to receive all disbursements from the MSA escrow and to oversee the distribution of the funds as specified in the Act. The fund structure and distribution of funding shares by program are displayed graphically in Figure 1.1. The MSA disbursements are deposited into the Tobacco Settlement Cash Holding Fund, from which funds are to be distributed to other funds. The other funds consist of the Tobacco Settlement Debt

Service Fund, the Arkansas Healthy Century Trust Fund, the Tobacco Settlement Program Fund, the Arkansas Tobacco Settlement Commission Fund, and the program accounts.

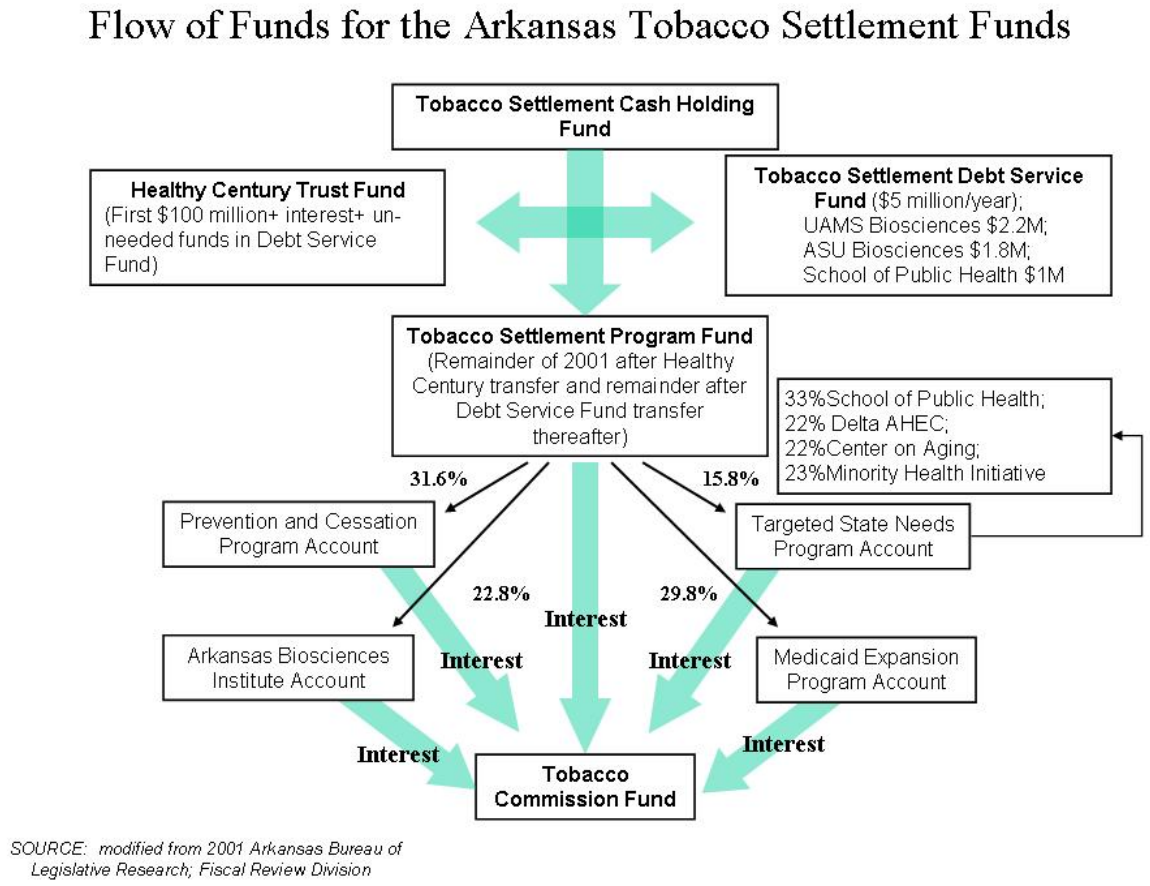


Figure 1.1 Flow of Master Settlement Funds Received by Arkansas, As Defined in the Initiated Act

In calendar year 2001, $100 million of the first MSA funds received (mostly the up-front payments) were deposited in the Arkansas Healthy Century Trust Fund. This trust fund is intended to serve as a long-term resource to support health-related activities. Interest earned by the fund may be used to pay expenses related to the responsibilities of the State Board of Finance, as well as programs and projects related to health care services, health education, and health-related research as designated in legislation adopted by the general assembly. Since then, no additional MSA funds have been placed in this trust fund.

The remainder of the 2001 funds and funds for each subsequent year have been deposited in the Tobacco Settlement Cash Holding Fund. Each year, the first $5 million in funds are transferred to the Tobacco Settlement Debt Service Fund to pay the debt service on bonds for three capital improvement projects (debt service limits shown in Figure 1.1): the UAMS Biosciences Research building, the COPH building, and the Arkansas State University Biosciences Research building. The remaining amounts are transferred to the Tobacco

Settlement Program Fund for distribution to program accounts for the funded programs, according to the percentages shown in Figure 1.1.

The State Board of Finance invests all moneys held in the Tobacco Settlement Program Fund and the program accounts. Interest earned on funds in the Tobacco Settlement Program Fund is used to pay the expenses of the ATSC, and is transferred to the ATSC on July 1 of each year.

If the deposits into the Arkansas Tobacco Settlement Commission Fund exceed the amount necessary for ATSC expenses, then the ATSC is authorized to make grants to nonprofit and community-based organizations for activities to improve and optimize the health of Arkansans and to minimize future tobacco-related illness and health care costs in Arkansas. Grant awards may be made up to $50,000 per year for each eligible organization, and funds are to be invested in solutions that work effectively and efficiently in Arkansas.

The programs, as well as the ATSC itself, receive biennial appropriations from the legislature. These appropriations are not cash allocations but are instead maximum amounts that the programs can spend, by category of spending. Programs can spend the tobacco settlement funds they receive in both years of each biennium, i.e., they are allowed to carry over unspent funds from the first to the second year of any biennium. However, any funds that remain unspent at the end of the biennium are returned to the Tobacco Settlement Program Fund, and are then redistributed across all the funded programs according to the percentage distributions of funding established within the Initiated Act. The MEP is an exception to this provision because it has delayed payments of claims for health care costs incurred (TSA of 2000, section 8(e)), and TPCP is an exception because of a shifting of the first year of funds, which has had cascading effects.

Within a year following the tobacco settlement appropriations, Arkansas experienced a budgetary crisis that put the state Medicaid program at serious risk. In a special session in 2002, the general assembly declared an emergency and made two changes to the Initiated Act that would provide emergency funding for the Medicaid program to mitigate the threat to its ability to provide adequate care to the state's neediest citizens. The first change was a modification of the Medicaid Expansion Programs account so that funds in that account also could be used to supplement current general Medicaid revenues, if approved by the governor and the chief fiscal officer of the state for the Arkansas Medicaid Program. Funds could not be used for this purpose, however, if such usage reduced the funds made available by the general assembly for the Meals-on-Wheels program and the senior prescription drug program. The second change was the funding of an Arkansas Rainy Day Fund by shifting the first year of funds out of the TPCP account. The purpose of the Rainy Day Fund is to make moneys available to assist the state Medicaid program in maintaining its established levels of service in the event that the current revenue forecast is not collected. As a result of this shift in funds, the Department of Health has been placed in the position each year of borrowing funds to support its tobacco prevention and education activities, which then are repaid in the next cycle of tobacco settlement funds.

EVALUATION APPROACH

The ATSC Monitoring and Evaluation Function

The Initiated Act directed the ATSC to monitor and evaluate the funded programs, and to ensure optimal impact on improving the health of Arkansans and fiscal stewardship of the tobacco settlement. The evaluation is designed to assess the programs to justify continued support of the funded programs based upon the state's performance-based budgeting initiative. The act specified the following provisions for the ATSC evaluation:

- Programs are to be administered pursuant to a strategic plan that encompasses a mission statement, specific programs, program goals with measurable objectives, and strategies to be implemented over a specific time frame.
- Evaluation of each program is to include performance-based measures for accountability that will measure specific health related results.
- All expenditures from the Tobacco Settlement Program Fund and the program accounts are subject to the same fiscal control as are expenditures from state treasury funds.
- The chief fiscal officer of the state may require additional controls, procedures, and reporting requirements that are determined to be necessary to carry out the act.

RAND Evaluation Methods

The evaluation approach we have designed responds to the intent stated by the ATSC to perform a longitudinal evaluation of the development and ongoing operation of its funding program. We employ an iterative evaluation process through which information is tracked on both the program implementation processes and any effects on identified outcomes. This information can be used to inform future funding considerations by the commission and general assembly as well as decisions by the funded programs regarding their goals and operations. The evaluation addresses the following four research questions:

- Have the funded programs developed and implemented their programming as specified in the Tobacco Settlement Proceeds Act of 2000 (taking into account any subsequent legislative modifications)?
- What factors are contributing to the programs' implementation successes or challenges?
- How do actual costs compare to budget; what are sources of any variances?
- What effects do the funded programs have on improving the health of Arkansans?

The logic model that guides our evaluation design is presented in Figure 1.2. This model identifies a two-tiered structure for the ATSC and its funded programs, which is mirrored in the evaluation design. On the left side of Figure 1.2, the Commission itself is at the policy level, providing advice to the general assembly in three major areas: defining goals for programs to achieve, monitoring progress toward the program goals, and recommending program funding. The second level is the funded programs, which perform activities to establish and carry out their work, monitor their progress toward goals, and assess their effects on outcomes of interest.

The evaluation, shown in the right side of the diagram, also consists of two levels—policy-level and program-level evaluations. Within the program evaluations, we perform a process evaluation to document the implementation processes, including relationships between the programs' goals and activities and the successes and challenges they experienced. We also perform an outcome evaluation to assess the extent to which the program interventions are achieving the intended outcomes for both program activities and the health status of the state population. This approach was taken to ensure that the evaluation of the programs is performed within the correct policy context, and that the results of the program-level evaluation are synthesized to generate usable information for future policy decisions by the commission and the general assembly. Further, the program evaluation results were designed to be useful to the individual programs for decisions on future program goals, strategies, and operational modifications. The evaluation components and methods are described further in Appendix B.

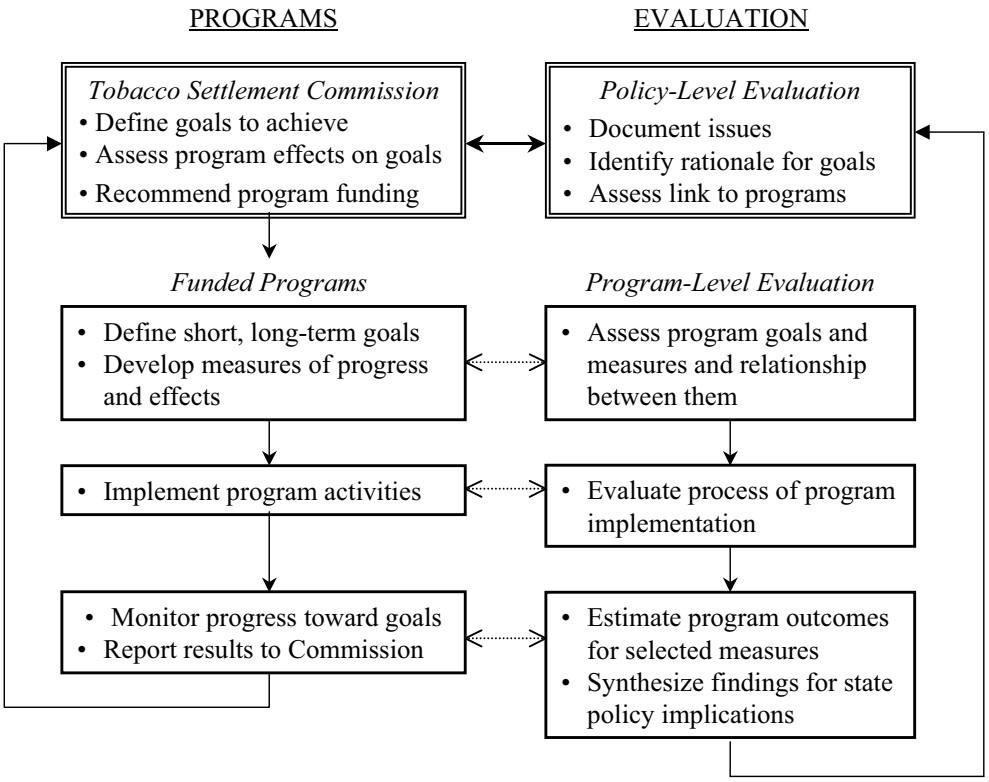


Figure 1.2 Logic Model for Evaluation of the Arkansas Tobacco Settlement Program

Implicit in this logic model is an important design principle. In our view, the most effective evaluation is one that provides a vehicle for program leaders and participants to gain new knowledge that they can apply to strengthen the program for which they are responsible. We can learn from both successes and challenges in program operation. This principle is relevant to the ATSC, which has been given the responsibility to oversee the tobacco settlement program and advise the general assembly and governor on future use of this funding. It also is relevant to the individual programs supported by the tobacco settlement funding, which are expected to achieve the outcomes defined as priorities by the Initiated Act.

Chapter 2.
The ATSC Policy Context in 2006–2007

To effectively assess the performance of the Initiated Act and the work of the funded programs, the program must be considered in the context of tobacco-related policies in Arkansas and neighboring states as well as the activities of the ATSC. We first examine the policies that affect smoking in Arkansas and the region. We then examine the operation of the ATSC during the past two years. Finally, we review the commission's response to previous recommendations.

TOBACCO-RELATED POLICY ISSUES

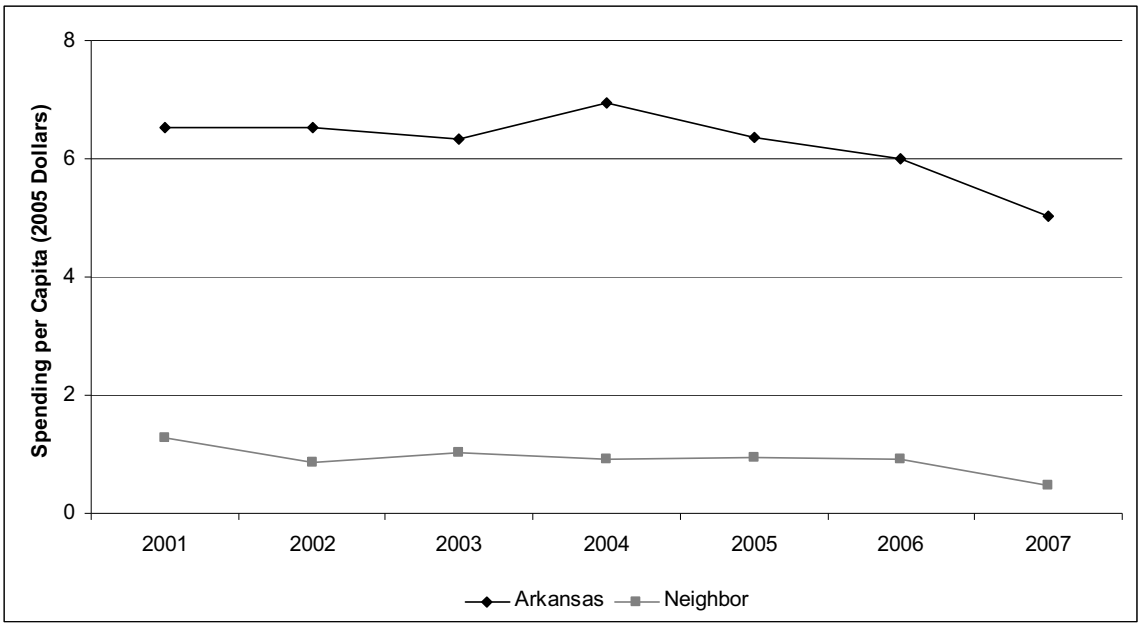
There are three legs to the public policy stool that supports improvements in Arkansans health as it relates to tobacco use: programming to reduce smoking rates through prevention and cessation initiatives, policies that reduce opportunities to smoke, and policies that raise the cost of smoking. Each reinforces the other; without all three, it is very difficult to attain reductions in smoking and subsequent improvements in health.

Prevention and Cessation Programming

The Initiated Act provided directly for the first of these efforts. Primarily through TPCP, Arkansas has implemented a wide array of smoking prevention and cessation education and treatment initiatives. As described in Chapter 3, these efforts correspond to the recommendations made by the CDC. Although they are not at the recommended levels, the efforts cover all of the recommended activities.

In the past, Arkansas was at or nearly at the minimum recommended levels for the activities and for total spending on tobacco control. However, the CDC has recently changed their method of calculating recommended levels of spending. The CDC no longer gives a range of recommended spending, reportedly because states that attained the minimum of the recommended range no longer had an incentive to increase their activity. The CDC now publishes a single amount for each type of activity rather than a range. The single amount is substantially higher than the minimum level in the prior format. Therefore, as we note in Chapter 3, Arkansas is now considerably short of CDC-recommended levels.

Figure 2.1 shows that, after adjusting for inflation, Arkansas' spending per capita has decreased from a high of approximately $7 in 2004 to approximately $5 in 2007. Although it remains considerably above the average spending per capita in the six neighboring states, this represents a 30 percent decrease after adjusting for inflation and population growth. These data on tobacco prevention spending are from the Campaign for Tobacco Free Kids. Our own assessment of TPCP's spending on tobacco-related programs shows that, during the same time period, spending decreased about 12 percent from a total of $15,553,881 in FY 2004 to $13,699,189 in FY 2007.



Source: RAND analysis of information in Tobacco Free Kids, "State Tobacco Settlement Spending for Tobacco Prevention 2000-2008"; Census population data; and Bureau of Labor Statistics inflation rates.
Note: Neighbor spending is the population-weighted average for the six states that border Arkansas.

Figure 2.1
Tobacco Prevention and Cessation Spending per Capita

Reducing Smoking Opportunities

The Clean Indoor Air Act took effect in July 2006. Not only does this act protect nonsmoking individuals from secondhand smoke, but it also reduces the opportunities for smoking, thereby making it less convenient to begin or continue a smoking habit. At its July 27, 2006, meeting, the Arkansas Board of Health passed the proposed regulations to implement the act and forwarded them to the governor for signing. This was the last step in making the act effective. As indicated in the minutes from the April 27, 2006, Board of Health meeting, both civil and criminal sanctions were quickly put in place to enforce the act:

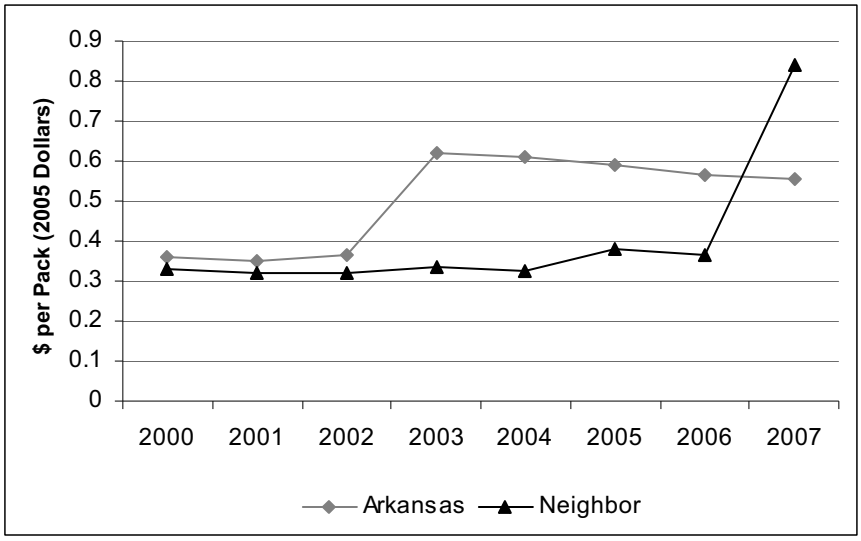
> *One thing it does, in addition to our standard approach, is "The Board shall report any violation of these rules to the applicable licensing authority, if any. Any entity licensed by the Board or Department may have its license suspended or revoked for violations of this Rule." We are talking about the regulatory approach; the law itself has a criminal approach which would be enforced by local prosecuting attorneys.*

As we noted in our previous report, the most important question at this point is the vigor with which the act is enforced. In a necessary step, the Arkansas Department of Health (ADH) developed promotional materials that informed the public—employers, workers and consumers—of its rights and responsibilities under the act. These materials discuss how to trigger enforcement activities by contacting the Arkansas Board of Health and describe the penalties for violation of the act. Complaint forms are available on the ADH web site and the required warning signs can be downloaded free of charge.

Raising the Cost of Smoking

The third public policy effort is taxation. It is well-established that higher taxes are associated with lower levels of consumption (Evans et al., 1999). In 2003, Arkansas became a leader in the region by nearly doubling its cigarette excise tax from 34 to 59 cents per pack. In earlier reports, we documented that this tax hike was clearly associated with a drop in sales. Although this tax rate remained low by national standards, it was substantially higher than that of any of the states with which Arkansas shares a border. There was concern that further tax hikes would lead to increased cross-border sales, reducing the actual impact on smoking rates.

Arkansas is no longer a regional leader in cigarette taxation. The national average is now $1.16 per pack and the Arkansas rate ranks 39th in the nation. Three of Arkansas' neighboring states have raised their tax rates to levels higher than Arkansas' rate. Two of the states, Texas and Oklahoma, have raised their rates to over one dollar per pack ($1.41 and $1.03, respectively) and the third state, Tennessee, now has a rate that exceeds Arkansas' by three cents. At the other extreme, Mississippi and Missouri rank third- and second-lowest in the nation, respectively, with taxes of 18 and 17 cents per pack. As shown in Figure 2.2, Arkansas' tax rate is now lower than the average tax rate experienced by the residents of neighboring states.



Source: RAND analysis of information from CDC State Tobacco Activities Tracking and Evaluation System, Census population data, and Bureau of Labor Statistics inflation rates.
Note: Neighbor tax rate is the population-weighted average for the six states that border Arkansas.

Figure 2.2
Cigarette Taxes in Arkansas and Neighboring States

Now that Oklahoma and Texas have raised their tax rates substantially; approximately three-quarters of Arkansans live sufficiently far from low-tax states that going to another state to purchase cigarettes is not a viable option. A substantial increase in Arkansas' tax rate would be very effective at lowering consumption and only lead to minimal increases in cross-border sales.

In conclusion, the piece of the puzzle in which Arkansas is trailing its neighbors is taxation. Due to moderate inflation, the real tax rate has decreased. More importantly, as

neighboring states raise their tax rates, the concern that cross-border sales will weaken the effect of tax increases becomes less important. Arkansas could triple its tax rate, yet it would remain lower than those of two of its large neighbors. The existence of tax variance language will minimize the negative impact of tax increases on Arkansas merchants near the borders of the other neighboring states that continue to have low taxes.

THE TOBACCO SETTLEMENT COMMISSION

The ATSC is directed by the Initiated Act to conduct monitoring and evaluation of the funded programs "to ensure optimal impact on improving the health of Arkansans and fiscal stewardship of the Tobacco Settlement" and "to justify continued support based upon the state's performance-based budgeting initiative." Regular quarterly meetings of the ATSC have been held since its inception. In addition, special meetings have been scheduled when needed to carry out its functions effectively.

In this section of the chapter, we comment on some of the issues that currently face the ATSC. We note the change in directors that has occurred and comment on its implications for the smooth functioning of the ATSC and the programs. We discuss some concerns with the ATSC structure. We conclude with a review of the progress made by the ATSC on the recommendations in our previous report.

Change in ATSC Executive Director

On October 4, 2006, Chiquita Munir resigned as executive director of the commission. Ms. Munir had staffed the ATSC since its inception and had worked closely with the ATSC and its chairperson to fulfill its mandate under the Initiated Act. She had helped develop and implement the mechanisms by which the ATSC awarded community grants and the processes by which the funded programs reported their activities to the ATSC. Her departure could have led to a disruption in ATSC activities and communications but did not, given the experience and capabilities of the remaining staff person and the new executive director.

The current executive director, Aaron Black, was not appointed until January 10, 2007. During the three-month interim period, Karen Elrod managed the day-to-day affairs of the ATSC and served as the point of contact for the ATSC, allowing the reporting processes to continue. Ms. Elrod served as executive assistant to Ms. Munir and continues in that role for Mr. Black.

The new executive director, Mr. Black, holds a Masters in Public Administration as well as a law degree. He had worked in the executive branch of the state government including roles as fiscal director and policy advisor. Upon his arrival, Mr. Black utilized his background in fiscal and policy issues to upgrade the financial reporting processes of the programs, bringing them in line with the reporting requirements that RAND uses for its evaluation report. He has worked to maintain relationships with the executive and legislative branches and with local experts such as the Arkansas Center for Health Improvement (ACHI). He also worked with RAND on its method of interaction with the ATSC. Recently, he initiated efforts to foster collaborative activities across the ATSC programs by convening an initial meeting of the program directors.

Concerns with ATSC Structure

RAND continues to have some concerns about the structure of the ATSC. The ATSC is made up of two types of members. Five of the commissioners serve by virtue of being the director or the director's designee of one of five state agencies. The other four are appointees of the senate president pro tempore, the speaker of the house of representatives, the governor and the attorney general. The ATSC meets quarterly to review overall progress and to hear more in-depth updates about one to two programs at each meeting. During the meetings, the commission members have the opportunity to learn more about the programs and pose questions about progress and future directions.

The four appointees are permitted up to two terms of four year each. Three of the four current appointees will be finishing their terms at the same time. The fourth replaced an appointee who stepped down before completing two terms and so will continue beyond the other three. Our concern stems from the simultaneous loss of considerable experience from the commission. Given the challenges related to their mission of monitoring seven complex programs, having continuity among the commissioners is very important.

A possible solution to this problem is for one or more of the current appointed commissioners to resign before the end of the current year. An immediately-appointed replacement would benefit from the presence of the remaining more experienced appointees. Through similar actions over the next few years, the terms of the four appointees would become staggered, so that the commission would not automatically lose a large portion of its expertise simultaneously at any time in the future.

There are also two concerns related to having agency directors as commissioners. First, all of the directors have some official relationship with at least one of the programs. Although their knowledge of the programs with which they are connected can be useful to the operations of the ATSC, there is also at least an appearance of a conflict of interest. It casts doubt on the value of independent oversight of the seven programs if the heads of related agencies sit on the ATSC. In some cases, this independence has been further compromised when the director has appointed a designee who is directly involved in the administration of one of the programs. A second concern is the difficulty in getting the necessary attention from the agency directors. Attendance of the directors at the quarterly meetings has not been consistent. In some cases, directors have made temporary designations for single meetings, which does not contribute to the needed consistency.

There are some possible solutions to these concerns that are consistent with the wording of the Initiated Act. One possibility is that each director, either voluntarily or by the request of the governor, appoint a designee who has no official connection to their agency. This mechanism could be used to bring valuable expertise to the commission. For example, independent experts in smoking prevention and cessation, community health education, health care access, eldercare, and so forth, could be invited to serve on the commission and provide expertise that would be a valuable asset to the programs and to the commission's ability to monitor and evaluate them. These experts could be given fixed terms, so that they would be less likely to be worried about removal by their appointing director. However, they could be required to commit to the work of the commission and could be removed by the governor if they were unable to attend meetings and do the necessary work to keep abreast of program activities. In short, such a change could lead to a more active, more involved, and more independent working commission. Another possible solution to the problem of limited expertise and

attention would be the creation of an advisory board for the commission. Although this step would not solve the conflict-of-interest problem, the presence of an independent advisory board could reduce concerns about such conflicts by acting as an ongoing watchdog. Such a board would be made up of experts in the issues addressed by the seven programs and by stakeholders such as consumers of the programs. They could be appointed by the commissioners based on their demonstrated knowledge and commitment to the program areas and would be a knowledgeable resource upon which the commissioners could draw.

ATSC RESPONSES TO PREVIOUS RECOMMENDATIONS

Technical Capacity

Recommendation: Programs should be urged to develop data collection and analysis plans and to dedicate resources for implementing these plans. The ATSC should provide funds for the training of program staff to accomplish these goals. These funds should be appropriated in the next general assembly appropriations cycle.

> *ATSC response:* The ATSC contracted with ACHI for a small amount of technical assistance but did not provide funds for the training of program staff.

Joint Activity

Recommendation: The collaboration among the seven tobacco settlement programs should be intensified, especially as programs experience challenges where expertise from potential partners would be beneficial. The ATSC can help in this regard by serving as an "honest broker," identifying potential collaborative efforts and bringing programs together.

> *ATSC response:* The ATSC convened a meeting of all the funded programs on April 2, 2008, to investigate possible collaborations. The meeting was also attended by representatives from the governor's office and ACHI. The meeting notes and reports from participants indicate that the meeting was extremely productive and provided an opportunity for the programs to learn of opportunities to work together. At least one collaboration, an effort to work with elderly through faith-based organizations by MHI and AAI, has already been implemented. As a follow-up to the initial meeting, the ATSC has scheduled quarterly meetings on collaborative efforts with all of the program directors.

Ubiquitous Quality Improvement

Recommendation: By the end of the next fiscal year, each tobacco settlement program and ATSC should have in place a documented formal quality management program that includes (1) explicit criteria for quality performance, (2) collection of information on measures of technical and perceived quality, (3) quantified measures that derive from the information collected, (4) analysis plans for addressing the measures, and (5) quality recommendations addressed to whoever needs to take action. The annual report of each program and the ATSC should include the results of quality analyses, a set of internal recommendations, and a statement of actions on previous years' recommendations.

ATSC response: The ATSC has not adopted a formal quality management program. It has improved its methods of collecting financial data from the funded programs, but it has not developed performance measures or criteria for its own functions.

Chapter 3.
Tobacco Prevention and Cessation Program

Program Description and Update

The Arkansas Department of Health's Tobacco Prevention and Cessation Branch supports programming funded by the Initiated Act and the Centers for Disease Control and Prevention (CDC) under the name of the Tobacco Prevention and Cessation Program. TPCP developed the programs according to the nine program components of what the CDC recommends for statewide tobacco control programs (CDC, 2007). The nine TPCP program areas include:

1. Community prevention programs
2. School education and prevention programs
3. Enforcement of youth tobacco control laws
4. Tobacco cessation programs
5. Public awareness and health promotion campaign
6. State-wide programs
7. Tobacco related disease prevention programs
8. Minority initiatives
9. Monitoring and evaluation

TPCP underwent some leadership and staffing changes during 2007. In January 2007, the ADH hired a branch chief for the Tobacco Control Branch. Previously, the Branch had been led by an associate branch chief. The new branch chief has brought expertise and leadership to TPCP both internally and externally. In the last quarter of 2007, the associate branch chief, who had overseen TPCP since its inception, took another position within the Arkansas Department of Health (ADH). This left TPCP without day-to-day program management until a new associate branch chief was hired in January 2008. In addition, there was staff turnover in several positions, including the program support manager of health programs, the health program analysts for disparities and cessation, data manager, administrative assistant and the grants administrative supervisor. These types of staffing changes are to be expected within public agencies.

TPCP continues to support educational efforts that relate to policies influencing tobacco prevention and cessation. Some of the potential policy changes include changing the tax stamp on cigarette packaging, strengthening the Clean Indoor Air Act to make it more comprehensive, strengthening Act 13, which outlaws smoking in cars with children, mandating smoke-free college campuses statewide, and increasing taxes on cigarettes and other smoked tobacco products and smokeless tobacco. TPCP participates in educational activities with two statewide coalitions (Coalition for a Tobacco Free Arkansas and STEP UP Coalition) on these and other policy and legislative issues. The STEP UP Coalition was formed prior to the 2007 legislative session and consists of a broad array of health care–related groups to support an increase in tobacco taxes. In addition to increasing tobacco taxes, STEP UP is working to eliminate

exemptions to the Clean Indoor Air Act, implement a change to the cigarette tax stamp that would help law enforcement activities and promote the Quitline, and expand Act 13 to include children beyond the current age of six.

TPCP also tracks and evaluates compliance with the Clean Indoor Air Act. TPCP is finalizing a report on its evaluation of the Clean Indoor Air Act which involved testing air quality in a sample of workplaces that are smoke-free environments and those that have obtained exemptions. TPCP has also completed an initial evaluation of Act 13 that includes a survey of court clerks to assess their awareness of the law. Following recommendations of a convened expert group to provide advice on the evaluation of Act 13, an observational study to assess compliance of Act 13 with being planned.

As TPCP developed its program activities, ten process indicators were selected to represent the overall progress of their efforts. These indicators are used to track progress on fulfilling the mandates in the Initiated Act for the program to develop and monitor the first eight components of the TPCP. The current status of each component and any associated process indicators are discussed below.

Community Prevention Programs

During 2006 and 2007, TPCP continued to fund community coalitions that focus on prevention programs to reduce tobacco use. In FY 2006, it funded 32 community coalitions with $1.5 million and in FY 2007 it funded 27 with $1.3 million.

After the passage of the Clean Indoor Air Act in July 2006, the community coalitions have continued to focus on youth prevention and cessation program, but also worked to educate businesses on the Clean Indoor Air Act and to develop their worksite policies. The coalitions educate a wide range of audiences about the dangers of smoking and secondhand smoke, partnering with schools, churches, universities, hospitals, businesses, and a variety of media channels. The coalitions have also been active in trying to strengthen anti-tobacco policies in schools, businesses, hospitals, public festivals, and whole cities.

TPCP has helped the community coalitions prepare for legislative sessions and increase public awareness by providing training on communication, local messaging, complaint driven enforcement of the Clean Indoor Air Act, and Act 13. TPCP has also been working with the community coalitions on sustainability through training and resources such as templates for letters to the editor and to legislators and tools for community presentations. The community coalitions have hosted public forums across the state and invited all legislators in their districts to discuss success stories and present tobacco prevention facts.

TPCP has implemented a quality management process with the community coalition grantees. The grantees develop a work plan with activities that have measurable outcomes based on the goal areas. The next step in this process is to compare the information submitted on their quarterly progress report to the work plans and budgets and review this with the grantee to assess progress in areas such as adherence to program plan, community changes, and resources generated.

The process indicator related to this program tracks the number of community-level community changes initiated, especially newly enacted secondhand smoke policies. Table 3.1 presents the number of community changes for each calendar year since the program's inception. Community changes are new or modified programs, policies, or practices in the community facilitated by the coalition that reduce risk factors for tobacco use (e.g., a *no smoking* policy). In

2006, coalition efforts led to 152 restaurants, workplaces, medical facilities, recreational facilities and events, and public buildings to go smoke-free. After the passage of the Clean Indoor Air Act, the smoke-free efforts focused on exceptions to the Act, such as small hotels and businesses and restaurants or bars that prohibit anyone less than 21 years of age from entering. Other changes precipitated by coalition efforts included the decreased tobacco advertising in the community. As shown in Table 3.1, there was a sharp increase in community changes during 2006; the community changes remained at that level for 2007.

Table 3.1
Community Changes for Tobacco Prevention

Year	Number of Community Changes
2002	2
2003	18
2004	48
2005	102
2006	152
2007	149

Source: Reports from participating educational cooperatives

School Education and Prevention Programs

During FY 2006 and FY 2007, TPCP funded 19 consortiums of school districts or schools. The school grantees worked in schools to establish and strengthen infrastructure for tobacco prevention, including the strengthening of school policies to implement tobacco-free campuses, implementing evidence-based tobacco prevention programs, promoting and referring to cessation services, and using media to disseminate anti-tobacco messages. The majority of the schools worked with the ADH community health nurse specialists to implement evidence-based curricula and implement and enforce comprehensive school policies.

Through FY 2007, the process indicator related to this program tracked the percentage of CDC-recommended approaches put in place in each participating educational cooperative. Educational cooperatives assist member school districts and communities with the development of the effective use of shared resources and provision of services that support the educational development of the students. Based on published evidence on school programs for tobacco prevention education, the CDC developed a set of best practice guidelines specifically designed for schools (Centers for Disease Control and Prevention, 1994). Data on compliance with the CDC guidelines for the FY 2006 grantees are shown in Table 3.2. In general, the level of compliance as reported by the educational cooperatives improved from the last report. The only exception was the degree to which parents were involved, which remained at virtually the same level. Some of the educational cooperatives did not report on their compliance with the CDC guidelines. Among those that did report, all of the grantees were in full compliance with the guidelines related to providing instruction on the consequences of tobacco use, program-specific training for teachers, and assessing the tobacco-use prevention programs at regular intervals. The weakest areas are the school policies and the involvement of parents and promotion of cessation. For FY 2006, seven cooperatives were in full compliance with all CDC guidelines

(compared to three in FY 2005). In FY 2008, this process indicator will need to be revised for the Coordinated School Health (CSH) funding described below.

Table 3.2
Implementation of the CDC-Recommended Approaches for Tobacco Prevention Education, FY 2006

Recommended CDC Approaches	Percentage in full compliance with guidelines*	Compliance from previous report
1. Develop and enforce a school policy on tobacco use.	79%	58%
2. Provide instruction about the short- and long-term negative physiologic and social consequences of tobacco use, social influences on tobacco use, peer norms regarding tobacco use, and refusal skills.	100%	92%
3. Provide tobacco-use prevention education in kindergarten through 12th grade; this instruction should be especially intensive in junior high or middle school and should be reinforced in high school.	93%	75%
4. Provide program-specific training for teachers.	100%	83%
5. Involve parents or families in support of school-based programs to prevent tobacco use.	57%	58%
6. Support cessation efforts among students and all school staff who use tobacco.	86%	58%
7. Assess the tobacco-use prevention program at regular intervals.	100%	100%

* Of those co-ops that reported information

For FY 2008, TPCP shifted directions with the school-based grantees. In preparing a new request for applications (RFA), TPCP partnered with the Arkansas Department of Education's (ADE) Coordinated School Health initiative. CSH is a partnership between the ADH and the ADE. While the school-based grantees have been responsible for implementing comprehensive tobacco policies since FY 2003, CSH allows schools an opportunity to implement more comprehensive health strategies and continue to impact tobacco use among students and staff. The coordinated school health model consists of eight interactive components—Health Education, Physical Education, Health Services, Nutrition Services, Counseling and Psychological Services, Healthy School Environment, Health Promotion for Staff, and Family/Community Involvement. The RFA required that applicants address four of the eight components (Family/Community Involvement, Health Education, Healthy School Environment and Health Promotion for Staff) and that each component include one health-related goal and one tobacco-related goal. The RFA also required that each applicant include a full-time coordinator position to work with the schools and the community to implement its plan. The TPCP funded 16 of the applicants for $75,000 each. The CSH program covers 23 school districts.

This new partnership with ADE provides more coordination and accountability for the school grantees. The grant coordinators report to the ADH administrators who oversee their work, and partner with the schools and ADE to provide technical support, particularly in the tobacco control–related areas. At present, all of the school grantees participate in the TPCP's Web-based progress reporting system. However, additional work is under way to make the

reporting process more efficient, user-friendly, and useful in tracking progress toward specific goals for each of the grantees. The transition in the school education and prevention program has been somewhat challenging for TPCP since the districts have spent the first year building program infrastructure for CSH and for the inclusion of tobacco control efforts into the program. There are quarterly meetings and a summer institute that is hosted by ADE. At present, a new RFA is being developed for the next biennium.

Enforcement of Youth Tobacco Control Laws

TPCP funds the Arkansas Tobacco Control Board (ATCB) to do enforcement, compliance checks, and merchant training sessions regarding sales of tobacco products to youth. The compliance checks are new checks, follow-up(s) from complaints that ATCB receives, or rechecks of previous violators. During 2007, a change was made to the minors' driver's license making it vertical rather than horizontal. This change is likely to have a positive effect on enforcement by making it easier for merchants to identify minors.

Enforcement of laws that restrict sales of tobacco products to youth is an important part of a comprehensive strategy to reduce young people's use of tobacco. To be most effective, however, laws to restrict minors' access to tobacco products need to be combined with merchant education and a comprehensive tobacco control program that reduces the availability of tobacco through social sources and limits the appeal of tobacco products. ATCB has continued its efforts to provide education to all merchants who sell tobacco about compliance with the law. ATCB conducted 40 training sessions covering 1,172 employees in 444 stores in 2006, and it did 31 training sessions covering 1,215 employees in more than 250 stores in 2007. TPCP helped ATCB develop a Web-based tool and training DVD for its merchant training sessions in order to reduce travel and use staff time and resources more effectively.

The process indicator related to this program tracked the number of stores checked by ATCB for compliance with rules not to sell tobacco products to minors. Table 3.3 shows the number of checks per six-month period and the percentage found in violation. After declining somewhat in the second half of 2005 and remaining lower through 2006, the number of compliance checks rose during 2007. The average violation rates rose somewhat in the beginning of 2006 but then dropped steadily to a record low of 6.1 percent in the last half of 2007. The violation rates are well below 20 percent, which is the benchmark used by Synar (assessed by the Alcohol and Drug Abuse Prevention [ADAP] program in Arkansas). Because the goal of these checks is to target stores suspected to be in violation, we would expect to see higher violation rates than those obtained in the Synar data. ADAP found a Synar violation rate in FY 2006 of 2.2 percent, 4.7 percent in FY 2007, and 4.2 percent for FY 2008—all of which are well below the benchmark of 20 percent.[1]

[1] The Synar data were collected in the summers of 2005, 2006, and 2007 and published in reports dated the following year.

Table 3.3
Compliance Checks of Stores by the Arkansas Tobacco Control Board

Six-Month Time Period	Number of Checks	Percentage in Violation
Jul-Dec 2002	1,138	24.1%
Jan-Jun 2003	945	17.8
Jul-Dec 2003	4,147	16.5
Jan-Jun 2004	3,878	11.8
Jul-Dec 2004	3,661	10.7
Jan-Jun 2005	4,385	8.0
Jul-Dec 2005	2,312	6.5
Jan-Jun 2006	2,281	9.3
Jul-Dec 2006	2,326	7.1
Jan-Jun 2007	3,003	7.6
Jul-Dec 2007	2,470	6.1

Tobacco Cessation Programs

The CDC Best Practice Guidelines (2007) stress cessation as a critical component of a tobacco control strategy. While preventive interventions are most important to keep youth from ever using tobacco products, cessation services are needed to address the health needs of current tobacco users. These types of services greatly reduce the risk of premature death due to tobacco use (Solberg et al, 2006; US DHHS, 2000). Both prevention and cessation are needed to achieve maximal impact on tobacco-related mortality rates.

The three components of the Tobacco Cessation Program are the statewide Quitline, the Cessation Network, and the SOSWorks fax-back referral program. All of these efforts are currently run by the Arkansas College of Public Health (COPH). The worksite assistance component of the Tobacco Cessation Program was not included in the most recent contract with COPH and was instead incorporated into ADH's Worksite Wellness Program.

SOSWorks is the fax-back referral program that links tobacco users to cessation services. Health care providers, worksites, or community grantees complete and fax referral forms to the centralized program. A SOSWorks counselor calls the tobacco user to discuss cessation program services, provide motivational counseling, and make referrals to treatment. The counselor follows up with the tobacco user one week and three months after the initial contact to check on the status of the referral and treatment.

The Quitline provides intensive, individualized treatment for tobacco dependence using a cognitive-behavioral approach. The treatment is provided by trained tobacco interventionists over six sessions and covers methods and techniques for quitting. The patients are assessed at three, six, and 12 months after discharge from treatment. ***The process indicator for this program tracked the number of smokers enrolled in the Quitline***. Table 3.4 presents the number of smokers who enrolled in the Quitline and the three- and six-month quit rates following discharge for each semiannual period through FY 2005. When the COPH took over the program, it began reporting on a fiscal year basis so the number and rates for July 1, 2005

and after are presented by fiscal year. Under COPH, the Quitline has increased enrollment from 5,619 callers in the 11 months of the FY 2006 contract to 6,764 callers for FY 2007.

The Quitline has also been yielding good cessation results, despite some decline in quit rates for Quitline participants since the COPH began providing services. For FY 2007, the three-month post-discharge rate of 19.8 percent reflects only those confirmed to have quit of those enrolled (i.e., whether they completed treatment or not). This "intent to treat" analysis is the most conservative depiction. Enrollees who could not be contacted were considered not to have quit, and rates were calculated by dividing the number contacted who reported they quit by the total number enrolled. Thus, the actual quit rates may be higher than the rate TPCP has been able to document. Several factors should be noted when interpreting these quit rates. First, at the time of measurement, not all those enrolled during each particular time period were eligible yet for their three- and six-month follow-up assessments, so the denominators are only those for whom three and six months have passed since discharge. Second, the programs were not able to contact all discharged participants to assess their quit status, since the participants may have moved or have limited telephone access.

Table 3.4
Enrollments and Quit Rates for Tobacco Cessation Programs

	Quitline			Cessation Network		
Time Period	**Enrolled**	**3-month quit rate[1]**	**6-month quit rate[1]**	**Enrolled**	**3-month quit rate[1]**	**6-month quit rate[1]**
Jan-Jun 2003	1,402	19.8%	NA[2]	785	NA[2]	—
Jul-Dec 2003	421	18.1	20.3%	878	20.0%	—
Jan-Jun 2004	329	30.0	22.6	761	18.7	—
Jul-Dec 2004	581	27.0	17.1	696	21.8	—
Jan-Jun 2005	749	25.9	21.9	560	21.8	—
FY 2006[3]	2,227	17.1	13.3	933	22.4	20.4
FY 2007	3,149	19.8	16.6	1,498	21.0	18.7

[1] This rate reflects only those confirmed to have quit of those contacted enrolled, the most conservative depiction.
[2] Participants were not eligible for their follow-up assessment at the time.
[3] Starting in July 2005, the College of Public Health took over the contract for the Quitline and the Cessation Network.

The Cessation Network is comprised of 16 sites distributed in eight regions across the state that provides intensive, in-person, individualized treatment for tobacco dependence. The treatment is provided by trained tobacco interventionists over six sessions and covers methods and techniques for quitting. The patients are assessed at three, six and 12 months after discharge from treatment. COPH also took over the contract for the Cessation Network in July 2005. ***The process indicator for this program tracked the number of smokers enrolled in the Cessation Network***. Table 3.4 presents enrollment and quit rates for the Cessation Network program. Under COPH, the Cessation Network has dramatically increased enrollment. During FY 2006, enrollment rose by 67 percent to 933 enrollees. For FY 2007, total enrollment was nearly 1,500 representing another 61 percent increase.

The Cessation Network has also yielded quit rates of 19 to 22 percent which are consistent with other smoking cessation programs. For example, results from several studies

(Fiore & Jaén, 2008) show that quit rates for nicotine replacement and other drug therapies alone range between 18 to 36 percent and that behavioral interventions range from 11 to 27 percent. It has also been established that higher quit rates are often achieved when individuals receive more treatment sessions for more minutes or when multiple formats are used together (e.g., nicotine replacement with a behavioral intervention).

Public Awareness and Health Promotion Campaign

Media campaigns have been documented to reduce smoking among current smokers and to prevent initiation among nonsmokers (Farrelly et al., 2005; Siegel and Biener, 2000; Sly et al., 2001). Such campaigns are even more effective when implemented along with other elements of an effective tobacco control strategy, such the other components of the ADH Tobacco Prevention and Cessation Program. Guidance from the U.S. Department of Health and Human Services states that media campaigns need to have sufficient reach, frequency, and duration to be effective, that all media should be pretested with the target audience, and that effects of the media campaign should be continuously monitored (US DHHS, 2000).

In response to RAND's recommendation to evaluate the output and focus of their statewide media campaign, TPCP conducted a series of media strategy meetings with partners and their advisory board. They developed a strategic plan to change the focus of their campaigns to one-third prevention, one-third cessation, and one-third secondhand smoke. The budget for media was cut back to $1.6 million for FY 2007, so it was important to be strategic about their activities. They did have an additional $150,000 for a minority media campaign.

TPCP continued to work with the media agency Cranford, Johnson, Robinson, Woods to reinforce initiatives on prevention and secondhand smoke through print, radio, and TV media, and partnerships, and by sponsoring local events around the state. It started cinema advertising to reach younger audiences. TPCP also started a campaign to target African-American males, ages 21 to 40, in central Arkansas. Many events have been held in partnership with the state fair, local sports teams, museums, festivals, concerts, and amusement parks.

One of the process indicators for this program tracked the number of public service announcements and community events to support tobacco prevention and cessation activities. Since its start, the media campaign has maintained a steady presence in local communities and has placed hundreds of paid advertisements across the state. As shown in Table 3.5, the community events increased slowly over time, peaking in 2004 and then declining. The public service announcements (PSAs) and media spots built momentum more quickly, peaking in 2002. They declined substantially after that, but have recently increased again with 283 in just the first half of 2007.

Table 3.5
Media and Community Events for Tobacco Prevention and Cessation

Year	Community Events	PSAs/Media Coverage
2002	8	635
2003	57	409
2004	109	332
2005	29	136
2006	34	194
2007	14	283*

* Data only available for the January-June 2007 time period

Another process indicator tracked the percentage of media ad funds leveraged as donated funds from the media companies. The media contractor has been successful in leveraging additional funding that has enabled it to provide additional media coverage beyond what the TPCP contract covered, as shown in Table 3.6. This includes free print and TV advertisements and public relations coverage of TPCP activities, sponsorships, and other partnerships that significantly enhanced the actual campaign budget. The amount of donated coverage has varied a great deal from a high of 2.03 times the amount of paid coverage in 2003 to the current low of 0.62 times the amount of paid coverage for 2007.

Table 3.6
Media Advertisement Costs Paid by the ADH and from Donated Funds

Year	Campaign paid by TPCP	Donated	Leverage ratio (donated/paid)*
2002	$448,723	$875,877	1.95
2003	$1,392,488	$2,827,935	2.03
2004	$1,994,826	$2,245,747	1.13
2005	$1,427,831	$1,658,041	1.16
2006	$1,329,405	$1,721,704	1.30
2007	$758,025	$470,787	0.62

* This leveraged amount is actually an underestimate because much of the spending is front-loaded and should increase as the campaign progresses.

A third process indicator examined the percentage of youth surveyed who recall the media campaigns. Each year, the media contractor works with a local survey research firm to assess its media penetration using representative statewide samples obtained through random-digit telephone sampling. As shown in Table 3.7, recall of the most recent media campaign was 89 percent for all teens and 93 percent for African-American teens in January 2007. Over time, the recall percentages have remained stable among teenagers. Recall has increased among adults, from 44 percent in 2002 to 83 percent in 2006.

Table 3.7
Percentage of Survey Respondents Who Reported They Recalled the Media Campaign

Time period		General Teens	African-American Teens	Adults
October-November 2002	Number surveyed	401	400	400
	Percentage recall	73%	73%	44%
August 2003	Number surveyed	400	404	400
	Percentage recall	87%	89%	63%
September 2004	Number surveyed	402	405	404
	Percentage recall	92%	91%	75%
January 2006	Number surveyed	150	80	600
	Percentage recall	91%	98%	76%
January 2007	Number surveyed	150	60	400
	Percentage recall	89%	93%	83%

Statewide Programs

The three statewide programs include the Coalition for a Tobacco Free Arkansas (CTFA), the Family Service Agency's Youth Leadership initiative and the Arkansas Cancer Coalition (ARCC). CTFA and the Youth Leadership initiative each receive $175,000 per year. ARCC is funded in the amount of $125,000 each fiscal year.

CTFA is a network of statewide organizations with a joint mission to prevent the use of tobacco in Arkansas. CTFA provides education and training to support community efforts, including an annual statewide conference with topics that range from community mobilization to methods for increasing public awareness of the negative effects of tobacco. CTFA also provides training on anti-tobacco practices and policies for the community-based grantees, distributes information on tobacco control issues in the state, and tracks tobacco policies and regulations. Since the passage of the Clean Indoor Air Act, CTFA has focused on training the community coalitions on the act's regulations and how to increase compliance. CTFA also convenes a forum of the community coalitions each year and holds an annual technical assistance conference. While CTFA currently reports its activities via the Web-based reporting system, TPCP is providing training on how to use objectives and indicators in developing a work plan and budget.

The Family Service Agency's Youth Leadership initiative is a statewide anti-tobacco youth movement committed to preventing the initiation of tobacco use among youth. A grant is provided to the Family Service Agency to support the Y.E.S! teams and the Tobacco Control Youth Board (TCYB) in tobacco control efforts. Y.E.S! uses advertisements and PSAs to communicate its antismoking messages, as well as powerful peer-to-peer or word-of-mouth campaigns. Arkansas teens speak at events throughout the state to declare that Y.E.S!—We Say No to Tobacco! Currently there are 55 Y.E.S! team leaders with more than 1,000 Y.E.S! team members throughout the state.

The Arkansas Cancer Coalition (ARCC) is a statewide network of organizations and individuals committed to reducing the cancer burden in Arkansas. ARCC serves as the partnership arm of ADH's Comprehensive Cancer Control Program (CCC). ARCC has grown

from fewer than ten people to over 400 individuals representing 150 organizations working on comprehensive cancer control at the local, state, and national levels. Building and sustaining this partnership is an ongoing goal of ARCC. ARCC informs professionals and the general public of the status of cancer control in the state, raises awareness and education levels among professionals and the public, assesses current resources for cancer control, identifies gaps, and attempts to fill those gaps. ARCC is also working to eliminate health disparities in cancer education, screening, treatment, and follow-up, and seek new resources for cancer care. ARCC is charged with ensuring the implementation of the Arkansas Cancer Plan. This statewide comprehensive cancer control plan is being implemented through the work of ARCC's interest groups and the collaborative efforts of ARCC partners. The Arkansas Cancer Plan serves as a framework for action for Arkansas individuals and organizations in the fight against cancer. Because lung cancer is the leading cause of cancer death among men and women in Arkansas, it is designated a top priority in the second edition of the Arkansas Cancer Plan.

Tobacco-Related Disease Prevention Programs

Tobacco use increases the risk for a number of chronic diseases such as cancer, heart disease, stroke, and asthma. Therefore, the CDC recommends that tobacco use be addressed in the context of chronic disease prevention. In other words, tobacco control activities should be linked with efforts to prevent chronic diseases that are tobacco related (CDC, 1999). TPCP supports two programs as part of this comprehensive strategy.

TPCP funds the Trails for Life Grant Program through a memorandum of agreement with the Department of Parks and Tourism to provide funding to construct walking trails. Act 1750 of 2001 established the Great Strides Program (later named Arkansas Trails for Life Grant Program) to be funded by TPCP's tobacco settlement funds. ***The process indicator related to this program tracked the number of miles of hiking trails constructed in the Trails for Life Grant Program***. In FY 2006, about two miles of trails were built with the $250,000 allotment provided to the Department of Parks and Recreations. These funds supported an additional 12.5 miles of trail in FY 2007.

TPCP provides $500,000 annually to the Breast Cancer Control Fund for the BreastCare Program that is also partially funded by cigarette tax revenues. The BreastCare Program's mission is to reduce death and disease from breast and cervical cancer by providing screening, diagnostic, and treatment services to low-income women and those with little or no health insurance.

Minority Initiatives

Minority populations traditionally have less access to prevention and treatment services, and there is clear evidence that the disproportionate tobacco-related disease burden experienced by minority communities requires specific attention. Funds from TPCP support the University of Arkansas at Pine Bluff (UAPB) to administer the Master of Science in Addiction program and the Minority Initiative Sub-Recipient Grant Office (MISRGO).

The Master's Program in Addiction Studies at UAPB includes a 36-hour Master of Science degree curriculum of classroom instruction and a supervised field experience. The curriculum helps prepare students for licensure or certification by boards such as the Arkansas State Board of Examiners of Alcoholism and Drug Abuse counselors, the Arkansas Prevention Certification Board, and the Arkansas Substance Abuse Certification Board.

The process indicator for this program tracked the percentage of graduates from the UAPB Addiction Studies program who obtained an addiction-related job within Arkansas. In spring 2006, the program graduated nine students. Out of this group, six (67 percent) obtained addiction jobs in Arkansas. In May 2007, the program graduated ten students, seven of whom have obtained jobs in health care/addiction areas in Arkansas (70 percent). UAPB continues to enhance its program by developing a human laboratory as well as a Web-based course. The Addiction Studies program is working to fill its faculty vacancies and continues to support faculty development by sponsoring attendance at national conferences.

The MISRGO awarded 19 minority community-based grants for FY 2007, for a total of $836,613. These grants provide education to minority communities on the detrimental effects of secondhand smoke and promote the use of cessation services such as the Quitline. The grants also serve to increase awareness within the minority community regarding laws restricting sales of tobacco products to minors and to reduce the impact of tobacco industry advertising and marketing on the minority community. UAPB has been working to connect the students in the addiction program with the grantees so that the students gain some field experience during the program. TPCP has been working to strengthen the planning and evaluation for these grantees.

Monitoring and Evaluation

In response to RAND's recommendation, TPCP adopted a formal quality management process and strengthened the monitoring and evaluation requirements on all its grantees and contractors. As part of TPCP's quality management process, each funded program is required to develop a work plan and budget and report progress quarterly. A quality management team reviews the progress reports and provides feedback to the contractee or grantee. This quality management process has moved them toward accountability and transparency across the programs but there is still work to be done. TPCP has recognized that the quality of the work plans varies across the programs and that there is a need to refine the review process and feedback mechanism. TPCP has provided more intensive training and technical assistance to all grantees on using the quality management Web-based reporting system. These efforts have helped TPCP strengthen current programs, plan future requests for proposals and applications, and guide the training and technical assistance efforts.

TPCP responded to a RAND recommendation to conduct an in-depth program evaluation by issuing a request for proposals (RFP) and then contracting with Battelle to provide program evaluation and technical assistance to their programs. While TPCP had a strong track record of building evaluation into all its program components, it needed to improve the collection and analysis of evaluation data. The new evaluation plan calls for an examination of each program's goals, objectives, and outcome measures. The program evaluator will also assess how the program activities address the relevant state and CDC goals.

In April 2008, TPCP underwent an external review by a panel of experts in tobacco control. The purpose of the review was to examine the tobacco prevention and cessation programs with an emphasis on the cessation activities in light of the updated CDC Best Practices in Tobacco Control that were published in fall 2007. TPCP plans to use the written feedback from the expert reviewers to realign its programs and activities.

Progress Toward Achieving Program Goals

In 2005, RAND staff met with TPCP leadership to establish programmatic goals that define the program's vision for their future scope of activities. Five such goals, many of which cross program components as described above, were identified. TPCP's progress in achieving these explicit goals is presented in Table 3.8. Overall, TPCP has accomplished four of the five programmatic goals and is on schedule with the fifth.

Analysis of Spending Trends

Act 1572 of 2001, Act 61 of 2003, Act 2310 of 2005, and Act 1282 of 2007 appropriated funds to TPCP for the first four biennium periods of the MSA funding. Table 3.9 details the appropriations by fiscal year.

Since July 2001, several legislative actions have affected TPCP's funding. The first was the creation of the Rainy Day fund (Act 2 of 2002) in a special legislative session. The distribution of MSA funds was changed on July 1, 2002, so that the portion of the payment going to the Prevention and Cessation program account would go into the Rainy Day fund account and allow the Prevention and Cessation program to receive loans from the budget Stabilization Trust Fund in amounts determined by the chief fiscal officer of the state. The loans could not exceed 31.6 percent of the amount estimated to be received in the Tobacco Settlement Program Fund during the current fiscal year. The legislation requires the loans to be repaid from the 31.6 percent of amounts received in the Tobacco Settlement Program Fund during the fiscal year in which the loans are made. Act 1872 of 2005 changed carryover requirements for TPCP. It allows "moneys remaining in the account at the end of each fiscal year shall be carried forward and used for the purposes provided by law." Funds remaining at the end of FY 2005 (second biennium) carried forward into FY 2006 (third biennium) under this new mechanism. The ability to carry funds forward permits TPCP to maintain a needed fund balance that prevents budget shortfalls in the event the amount received through the MSA payment is less than anticipated.

During the 2003 legislative session, Act 1220 was passed to create a health advisory committee to coordinate efforts to combat the effects of inadequate health care on the educational performance of children in the Arkansas school systems. This act allowed for the utilization of up to 5 percent of the ADH's annual MSA funds to be used to fund the salaries of programs created by this legislation.

The following analysis updates the prior report by describing the tobacco settlement expenditures by TPCP for FY 2006 through the first half of FY 2008. Table 3.10 presents the total annual tobacco settlement funds spent by TPCP from FY 2004 to FY 2008, using the spending categories delineated by the appropriations legislation. As shown in the table, TPCP may spend more than it receives in a given fiscal year, due to its ability to carry over funds from previous years.

In FY 2006, TPCP's total spending decreased approximately 9 percent from FY 2005; however, spending on tobacco prevention and cessation remained even. Professional fees decreased from $1.2 million in FY 2005 to $557,654 in FY 2006 because of two contracts that were not renewed—a contract with the Gallup Organization for program evaluation and a contract with the Mayo Clinic for the tobacco cessation Quitline. Cessation Quitline services were subsequently provided through UAMS and COPH. A contract for program evaluation was

awarded on January 1, 2007 to Battelle Centers for Health Research & Evaluation. FY 2007 spending increased 13 percent with increases in all categories of spending, as the amount received has also increased 5 percent.

A considerable amount of tobacco settlement funds for TPCP was allocated, primarily by legislative action, to programs that are not directly related to tobacco cessation and prevention, including the breast cancer control fund, the Trails for Life program, nutrition and physical activity promotion (Act 1220), and the Addiction Studies program at the University of Arkansas at Pine Bluff. The percentage of tobacco and cessation funds spent on non–tobacco related cessation and prevention activities has remained fairly consistent each fiscal year (about 9 percent).

Table 3.8
TPCP Program Goals and Status over the Last Two Years

Goals	Status
Goal 1: For the school programs, achieve at least a 75 percent compliance rate with the CDC guidelines for school programs on tobacco prevention and cessation.	ACCOMPLISHED. The CDC has seven guidelines for tobacco control in school programs. The guidelines are assessed by ADH nurses who work in the schools. The funded school programs in FY 06 achieved an average rate of compliance of 88 percent of these guidelines (range 57-100 percent). This is up from 75 percent in FY 05 (range 58-100 percent). *With the change in the school grants, this goal needs to be reconsidered.*
Goal 2: Establish a state network of smoking cessation programs across the state with coverage such that people do not have to travel more than one hour to access a program (provided that funding is available).	ON SCHEDULE. Together, the Quitline and the Cessation Network provide coverage of the state consistent with this goal. However, the intent was for the network of local programs to which people travel for services would provide this type of coverage. *In this regard, more sites need to be opened in order to achieve the intent of this goal. This goal should also be reconsidered in light of changes occurring within the cessation program and the new U.S. Smoking Cessation Guidelines.*
Goal 3: Establish and maintain a mix of ads in the media campaign that emphasizes restricting smoking in public places (i.e., clean air) and smoking cessation in a 2:1 ratio.	ACCOMPLISHED. TPCP accomplished this goal through their statewide media campaign and through their work with the community and statewide coalitions. *With the statewide smoking ban, this goal needs to be reconsidered.*
Goal 4: By 2008, 25 percent of all Arkansans will live in communities that have legislated smoke-free environments that exceed levels of bans established by state legislation.	ACCOMPLISHED. The intent of this goal was to increase the percent of Arkansans who live in a smoke-free environment when the state overall had weak or little statewide restrictions. *Now that a comprehensive statewide smoking ban is in place, this goal may no longer be needed or useful.*
Goal 5: By 2008, 75 percent of Arkansas workers will be in a worksite with a smoke-free policy as assessed by the Census Bureau's Current Population Survey (CPS).	ACCOMPLISHED. When the statewide workplace smoking ban took effect in July 2006, the percent of Arkansans working in a smoke-free workplace increased to 91.2 percent according to the 2006 Arkansas Adult Tobacco Survey. There are some exemptions to the ban, including racetracks, dogtracks, hotels with fewer than 25 rooms, and restaurants and bars that only serve and employ those over 21, so the rate has not reached 100 percent.

Table 3.9
Tobacco Settlement Funds Appropriated for the TPCP Program, by Fiscal Year

Item	Second Biennium		Third Biennium		Fourth Biennium	
	2004	2005	2006	2007	2008	2009
(1) Regular salaries	$1,362,742	$1,399,537	$1,482,421	$1,524,750	$1,511,322	$1,541,531
(2) Extra help	50,000	50,000	50,000	50,000	50,000	50,000
(3) Personal service matching	370,280	377,129	415,915	424,263	433,864	439,359
(4) Maintenance & operations						
(A) Operations	206,536	206,536	399,271	282,655	282,655	282,655
(B) Travel	40,030	40,030	31,957	31,957	31,957	31,957
(C) Professional fees	1,700,000	1,700,000	1,257,165	1,257,165	1,257,165	1,257,165
(D) Capital outlay	-	-	-	-	-	-
(E) Data processing	-	-	-	-	-	-
(5) Prevention and cessation programs	13,868,073	13,855,204	12,442,086	10,349,295	10,349,295	10,349,295
(6) Personal services and operating expenses for Nutrition & Physical Activity Program	881,000	893,869	872,569	758,951	739,798	744,822
(7) Transfer to Breast Cancer Control Fund	500,000	500,000	500,000	500,000	500,000	500,000
Annual Total	$18,978,661	$19,022,305	$17,451,384	$15,179,036	$15,156,056	$15,196,684
Biennium Total	$38,000,966		$32,630,420		$30,352,740	

Table 3.10
Tobacco Settlement Funds Spent by TPCP, by Fiscal Year

Line Item	2004	2005	2006	2007	2008*
(1) Regular Salaries	$1,246,702	$1,351,567	$1,100,578	$1,492,457	$668,791
(2) Extra Help	25,840	15,465	7,140	27,561	13,836
(3) Personal service matching	347,474	377,779	348,326	417,768	198,581
(4) Maintenance & operations					
(A) Operations	342,896	215,248	279,240	424,368	89,629
(B) Travel	38,105	12,576	5,824	8,810	14,050
(C) Professional fees	861,115	1,184,642	557,654	1,201,124	221,393
(D) Capital outlay	0	0	0	0	0
(E) Data processing	0	0	0	0	0
(5) Prevention and cessation programs**	13,178,096	10,189,268	10,177,436	10,456,376	4,237,116
(6) Nutrition & physical activity program	496,495	794,521	349,701	559,245	143,570
(7) Transfer to breast cancer control fund	500,000	500,000	500,000	500,000	500,000
Total Spent	$17,029,459	$14,641,067	$13,325,897	$15,087,707	$6,086,967
Total Received	$14,694,000	$16,984,867	$13,729,247	$14,444,148	$16,529,681
Carry Over Funds	$6,360,422	$4,226,343	$7,207,746	$6,836,885	

* Total spent through December 31, 2007.
** Includes amounts spent on minority initiatives.

In fall 2007, the CDC published updated recommendations for Best Practices in Tobacco Control that included guidelines for the amount of money each state should dedicate to each component of a tobacco prevention and cessation program (www.cdc.gov/tobacco). The recommendations for spending in tobacco control were increased substantially. The updated components with recommendations for minimum funding levels are presented in Table 3.11. The table highlights the recommended program components and compares the spending on these components in Arkansas in fiscal years 2006–2008 with the minimum level of funding criteria applied to Arkansas. In FY 2006 and FY 2007, Arkansas underfunded tobacco control relative to the prior CDC spending guidelines. The difference is more pronounced when compared to the new CDC recommendations.

Table 3.11
Tobacco Settlement Funds Spent on Tobacco Prevention Programs

CDC-Recommended Program Component*	Fiscal Year Spending			CDC 2007 Recommended Funding Level
	2006	2007	2008**	
State and Community Interventions	$5,687,063	$5,626,231	$2,632,359	$12,100,000
Health Communication Interventions	1,724,672	1,596,528	576,497	3,700,000
Cessation Interventions	2,855,793	4,258,077	1,142,980	6,400,000
Surveillance and Evaluation***	1,189,967	1,376,772	676,511	2,200,000
Administration and Management	699,320	841,582	142,858	1,100,000
Total spent on tobacco-related programs	12,156,815	13,699,189	5,171,205	
Total spent on non-tobacco areas	1,169,083	1,388,517	915,761	
Total	$13,325,897	$15,087,707	$6,086,967	$25,000,000

* CDC-recommended program element budgets for tobacco prevention activities, from www.cdc.gov/tobacco
** Total spent through December 31, 2007.
*** TPCP builds evaluation into all of its contracts and grants. Because there is no way to quantify that built-in amount, the values in this row are underestimates of the amount that TPCP actually spends on evaluation.

Summary and Recommendations

Overall, TPCP continues to actively pursue prevention and cessation efforts in accordance with the required components in the Initiated Act and recommendations by the CDC. The community coalitions TPCP funds are maintaining their efforts to effect changes in their communities through education and advocacy. The funding of CSH is an innovative approach to building infrastructure within schools to address youth tobacco use and other health issues. The ATCB continues to make needed compliance checks of tobacco outlets all across the state and to provide merchant education. Violation rates have been steadily declining since 2002. The two cessation programs—the Quitline and the Cessation Network—have increased enrollment since COPH took over operation of both. However, the quit rates for the Quitline have decreased. The media campaign has received less funding than when it was first initiated. Yet despite the decrease in intensity (i.e., fewer media and community events), the SOS campaign continues to show strong recall among Arkansans and attracts a large amount of free media contributions. TPCP continues to fund three statewide coalitions—CTFA, ARCC and the Family Service Agency Y.E.S! team. CTFA works with local community coalitions to provide education and support for their anti-tobacco efforts. ARCC combines the efforts of decreasing tobacco use

prevalence and cancer prevalence. The Y.E.S! team engages youth to promote smoke-free lifestyles through media and education. For its health-related prevention programs, TPCP continues to fund the Trails for Life program. The TPCP Minority Initiative works with the minority-community-based grantees to strengthen their planning and evaluation activities. Finally, TPCP has implemented a formal quality management process and requires that all programs, grantees, and contractors participate. Currently, TPCP is working to improve the quality of the grantee work plans and refine the feedback process. Overall, TPCP has greatly improved its quality management activities.

Below are six recommendations that come out of our most recent evaluation process. Four of them are continuations of recommendations in the previous evaluation report.

- **Develop new strategic goals in each program area, revisit the process indicators that track progress toward the goals, and integrate the tracking of process indicators into the Web-based reporting system.**

With its program activities now well established, TPCP should use the evaluation data to modify the program goals and process indicators. Several of the goals and process indicators are no longer relevant given changes in program direction and the overall maturation of the program over time. With new program goals, we also recommend that TPCP track progress toward these goals using its Web-based reporting system. For example, both the community coalitions and the school grantees track progress in their communities using the Web-based reporting system. However, the grantees need more concentrated and repeated training sessions and technical assistance on using the Web-based reporting system to ensure that their reporting accurately reflects what they are doing.

- **Strengthen the quality management process within TPCP and the communication of results to the advisory committee.**

TPCP adopted a formal quality management process and team based on a recommendation in the last evaluation report. With the basic structure of this process in place, TPCP needs to work with grantees to improve the quality of the work plans submitted by the TPCP programs, the tracking of progress toward the objectives in the work plans in the quarterly reports, and the feedback given by the quality management team based on the submitted quarterly progress reports. TPCP has recognized this need and the new associate branch chief has plans to modify the quality management process. We recommend that TPCP follow through with this plan to improve the reporting, feedback mechanism, and measurement of outcomes. TPCP should also help the programs integrate the data reported into the Web-based reporting system with the quarterly progress reporting process.

- **Raise funding for the nine components of a comprehensive statewide tobacco control strategy to the level recommended for Arkansas by the CDC through either additional funds over and above those provided by the MSA or reallocation of funds from non-tobacco programs (continuation of a recommendation in the previous evaluation report).**

We continue to recommend that the CDC recommendations for Arkansas be met. Currently, most TPCP program components are funded below the CDC guidelines. We recognize that this recommendation would require funds over and above those currently provided by the MSA. Yet, without sufficient funds to support the necessary programming, the TPCP program cannot be expected to have the impact on tobacco use that would be possible

with adequate funding. To the extent that additional funding is provided for other programming, that additional funding should count toward compliance with the CDC guidelines. Another option to at least partially raise the funding level toward the CDC guideline is to reallocate TPCP's support for non–tobacco related programs (e.g. breast cancer program, Trails for Life, Minority Initiatives) for their tobacco prevention and cessation programs as described in the recommendation below.

- **Reevaluate funded programs that are not within the scope of tobacco prevention and cessation programming, as defined by the CDC guidelines, for their value in contributing to reduction of smoking and tobacco-related disease (continuation of a recommendation in the previous evaluation report).**

We continue to recommend that programs that are not likely to have an impact on tobacco use (e.g. breast cancer program, Trails for Life, Minority Initiatives) be supported with other funds. While these programs are potentially valuable, using tobacco funds to support them weakens the anti-tobacco effort.

- **Change the process TPCP must use to budget its funds to be in line with the other tobacco settlement programs (continuation of a recommendation in the previous evaluation report).**

Because the legislature funded an Arkansas Rainy Day fund by shifting the first year of funds out of the Tobacco Prevention and Cessation Program account, budgeting is more complicated for TPCP than for the other programs receiving tobacco settlement funding. As a result of this shift in funds, TPCP was placed in the position of borrowing funds to support its tobacco prevention and cessation activities, which then are repaid in the next cycle of tobacco settlement funding. Therefore, TPCP has held a significant amount of money in reserve to guard against not having enough to meet all of its financial demands. While this money can be rolled over, this situation delays TPCP's ability to use funding, which contributes to weakening its impacts on smoking behaviors.

- **Strengthen communication between TPCP staff and the TPCP advisory committee (continuation of a recommendation in the previous evaluation report).**

TPCP meets quarterly with the advisory committee and presents useful information for advisory committee members to consider. However, the advisory committee has a great deal of expertise, which could be more fully utilized. For example, in addition to presenting reports that summarize performance across all programs, TPCP could present barriers and challenges that it is experiencing and engage advisory committee members to help it address those challenges. The advisory committee began to participate more actively in challenges during the past 18 months, including addressing methods used to measure quit rates for the cessation programs. We recommend that TPCP continue to seek ways to engage the advisory committee in actively participating with its programs. Advisory committee members could also be better used to educate state legislators about the benefits of the TPCP program, helping to preserve the MSA funding.

Chapter 4.
Fay W. Boozman College of Public Health

Program Description and Update

The Fay W. Boozman Public Health (hereafter referred to as the College of Public Health (COPH)) was established as part of the University of Arkansas for Medical Sciences to conduct "activities to improve the health and health care of the citizens of Arkansas." The Initiated Act called for faculty and course offerings in the core areas of public health, including health policy and management, epidemiology, biostatistics, health economics, maternal and child health, environmental health, and health services research.

COPH was intended to serve as a resource for the general assembly, the governor, and state agencies, as well as communities and community-based organizations. Services provided by COPH were meant to include (but are not limited to) consultation and analysis, development and dissemination of programs, acquisition of federal and philanthropic funding, and implementation of research and other scholarly activities.

COPH has made substantial progress and growth since its inception in its educational, research, and service activities. At the start of the evaluation, several process indicators were selected in each of these activity areas to track some of the key domains identified as important by both COPH and RAND. This report focuses on progress in the three activity areas since the last report, which covered through December 2005. The current status of each activity area and any associated process indicators are discussed below.

Educational Activities

COPH's primary education activity has been the establishment of graduate degree programs and continuing education programs. Since appropriation of funds by the Arkansas general assembly to begin operations on July 1, 2001, COPH has established

- an 18-hour post-baccalaureate certificate program
- a 42-hour Master of Public Health (MPH) program with a generalist track and one specialist track in each of COPH's five departments
- a combined MD/MPH degree program between UAMS College of Medicine and COPH
- a combined JD/MPH degree program between the William H. Bowen School of Law and COPH
- a combined PharmD/MPH degree program between the UAMS College of Pharmacy and COPH
- a combined Master of Public Service and MPH program (MPS/MPH) between the UA Clinton School of Public Service and COPH
- a DrPH program in public health leadership
- a PhD program in health systems research through the UAMS Graduate School
- a PhD program in health promotion and prevention research through the UAMS Graduate School.

In addition, two existing programs in related fields were successfully moved into COPH: the MS in occupational and environmental health, which formerly was in the Department of Pharmacology and Toxicology in the UAMS College of Medicine and continues to function within the UAMS Graduate School; and the Master of Health Services Administration, a program which had existed on the campus of the University of Arkansas at Little Rock campus for over 25 years.

The most substantial event for COPH since the last RAND evaluation report (Farley et al., 2007), is full reaccreditation of the college. The accreditation came after a lengthy process to meet the revised criteria set by the Council on Education for Public Health (CEPH). The revised criteria included the existence of three doctoral programs (the past requirement was one) with a minimum faculty requirement of five full-time equivalents (FTEs) for each core departmental area, with these five FTEs consisting minimally of five full-time faculty for departments offering doctoral degrees. COPH fully met or met with commentary (a category which still denotes that the college met the criterion) all criteria and received full accreditation in June 2007.

Along with the degree programs, COPH has several objectives related to enrollment, including increasing the number of communities in which citizens receive public health training, increasing the number of graduates entering the public health field, and increasing minority enrollment in the degree programs. ***One process indicator related to COPH's educational activities tracked the percentage of all enrolled students who originate from each of the AHEC regions.*** Since the fall of 2002, total enrollment has increased nearly threefold—from 93 enrolled students in 2002 to 262 in 2007, representing 36 of 75 counties in the State of Arkansas. COPH has recruited through a variety of efforts, including providing online information; advertising at relevant conferences, college fairs, and town hall meetings; presenting information to high school students; offering nondegree classes to encourage students to at least "sample" the college's courses without having to commit to applying for a degree program; and collaborating with other universities in the state. COPH offered a 70 percent tuition discount to full-time employees of the ADH, Department of Environmental Quality (DEQ), and the Arkansas Minority Health Commission (AMHC) from 2002 to 2005. A year-long training program designed to enhance the leadership and management skills of ADH employees was formed with the goals of educating participants in the development of solutions to issues typically confronting local health officers. Participants hailed from all parts of Arkansas.

Since 2005, student enrollment has increased consistently, although the number of counties represented has wavered (Table 4.1). In the fall of 2005, students represented 45 counties while in the fall of 2007 students represented 36 counties. One shortcoming of this indicator is that it is based on the students' birthplaces rather than their permanent address. Thus, the counties represented might not be the counties where the students have spent the majority of their lives.

Another process indicator for COPH's educational activities tracked the percentage of graduates pursuing employment in a public health–related field. As shown in Table 4.2, December 2003 marked the first student graduation from COPH. Since its inception, 104 students have graduated from COPH. In 2006, 84 percent of graduates were employed in a public health related field. In 2007, 80 percent of graduates were either employed in a public health field or advancing their studies in health related fields. We do note that the small decrease in the percentage of graduates employed in a public health related field from 2006 to 2007 may be because many of the public health employment opportunities are governmental. In that light,

there have been budget deficits and/or hiring freezes for the State of Arkansas (Arkansas Department of Finance and Administration and Personnel Management, 2008).

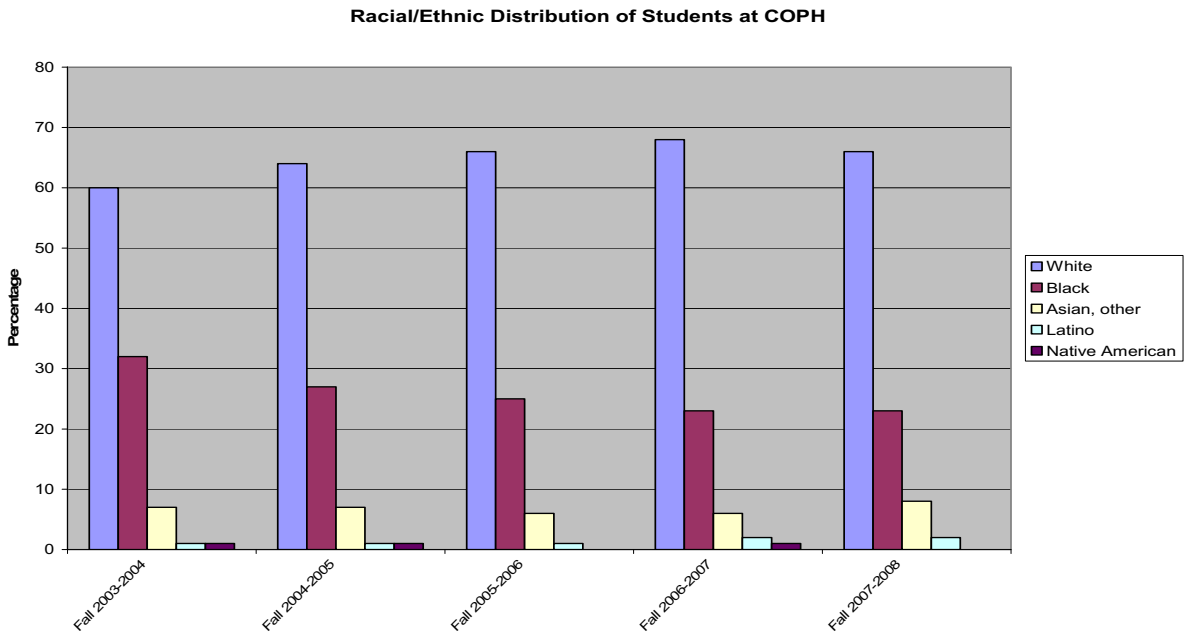
Table 4.1
COPH Enrollment

	Academic Year		
	2005-06	2006-07	2007-08
Total number of students	219	254	262
Counties Represented	45	39	36
Out of State	17	26	19
Out of Country	7	9	10

Table 4.2
Graduates Pursuing/Employed in a Public Health Related Field

	Graduation Year				
	2003	2004	2005	2006	2007
Number of COPH graduates	1	25	24	19	35
Number of graduates employed in a public health related field	1	20	23	16	28
Percentage of graduates employed in a public health related field	100%	80%	96%	84%	80%
Number of graduates unemployed	1	0	0	1	5
Number of graduates "other" (e.g., attending law school, deceased, etc.)	0	1	0	1	0
Number of graduates with employment information unknown	0	4	1	1	2

The third process indicator in this area tracked the percentage of all enrolled students who are Black, Latino, or Asian-American. Figure 4.1 shows the percentage of COPH students enrolled by race/ethnicity. COPH has been quite successful in recruiting a diverse population of students over the past several years, and although it is notable that the number of Black students has decreased over time, it is important to note that the Black student population still comprises 23 percent of the student body, which is higher than the Black population in the state of Arkansas and in the majority of schools of public health nationally. In fall 2005, there were 219 total enrolled students. In 2007, there were 262 total enrolled students. Thus, despite the decrease in proportion of the student population, the number of Black students increased from 54 students in fall 2005, to 60 students in fall 2007.



Note: Total enrollment for fall 2003-2004: 177 students; fall 2004-2005: 181 students; fall 2005-2006: 219 students; fall 2006-2007: 254 students; fall 2007-2008: 262 students

Figure 4.1
Enrolled COPH Students by Race/Ethnicity

Research Activities

COPH's research activities involve obtaining federal and philanthropic funding and conducting research. ***In terms of obtaining grant funding, the process indicators tracked the number of grants submitted for funding by all COPH faculty and the amount of grant funds awarded for all COPH faculty.*** We note that this indicator does not track the total number of proposals and/or projects on which faculty members contribute. For example, if a faculty member is a principal investigator (PI) on one grant but works on three others, this indicator tracks only the proposal for which he/she is the PI. Typically, faculty work on multiple grants at a time and are not the PI on all of them. That said, 2006 and 2007 were times of continued growth and productivity for COPH. Over this time period, 114 grants were submitted and 31 were awarded. Table 4.3 shows the grants awarded per full-time researcher (i.e., instructors or nonresearch faculty were not included as part of the denominator). The proportion of funded proposals to total research faculty has steadily increased despite an increasingly competitive funding environment .

Table 4.3
Number of Grants Awarded by Total Research Faculty

Six-month Time Period	Submitted Proposals/Total Research Faculty	Funded Proposals/Total Research Faculty	Projects/Total Research Faculty
Jan–June 2006	0.64	0.04	1.36
July–Dec 2006	1.03	0.16	1.23
Jan–June 2007	0.97	0.29	1.35
July–Dec 2007	1.06	0.50	1.31

Table 4.4 shows the amount of funding awarded during each six-month period from January 2006 through December 2007. Of note, July through December 2007 was an exceptional period of funding and included multiple large grants (e.g., Center for Minority Health Disparities). Despite the challenges in obtaining NIH funds during this period, the COPH has successfully managed the variability in available funding and maintained an upward trend in total grant dollars.

Table 4.5 shows the faculty grants and projects that were submitted, funded, pending, and ongoing. The number of submitted grants and ongoing projects has been steadily increasing since the inception of COPH.

In terms of conducting research, the process indicators tracked the number of peer-reviewed papers accepted for publication and the number of ongoing research projects conducted by all faculty. The successful conduct of research was measured by documenting the number of research projects conducted by COPH faculty and the number of peer-reviewed publications that are generated from their research. Table 4.6 shows that COPH has increased the number of publications each year. In 2002, there were 12 publications and in 2005 there were 78. While the total dipped to 50 in 2006, it rose again in 2007 to 74 publications.

Table 4.4
Amount of New Grants and Contracts Awarded

Six-month Time Period	Total Amount
Jul-Dec 2001	$79,342
Jan-Jun 2002	$1,097,414
Jul-Dec 2002	$803,835
Jan-Jun 2003	$1,045,450
July-Dec 2003	$858,090
Jan-Jun 2004	$1,710,549
July-Dec 2004	$1,280,921
Jan-Jun 2005	$4,362,106
Jul-Dec 2005	$2,187,244
Jan-Jun 2006	$418,576
Jul-Dec 2006	$2,567,667
Jan-Jun 2007	$3,685,658
Jul-Dec 2007	$18,618,740

Table 4.5
COPH Faculty Grants and Projects

Six-month Time Period	Grants Submitted	Grants Funded	Grants Pending	Ongoing Research Projects
Jan-Jun 2002	1	1	0	3
Jul-Dec 2002	11	11	0	12
Jan-Jun 2003	7	6	0	19
Jul-Dec 2003	8	6	2	20
Jan-Jun 2004	23	12	10	21
Jul-Dec 2004	24	14	10	35
Jan-Jun 2005	31	14	17	29
Jul-Dec 2005	27	21	9	34
Jan-Jun 2006	18	3	11	38
Jul-Dec 2006	32	5	14	38
Jan-Jun 2007	30	9	16	42
Jul-Dec 2007	34	16	14	42

Table 4.6
Papers Published by COPH Faculty

Year	Number of Publications	Number per FTE
2001	0	0
2002	12	0.8
2003	32	1.2
2004	43	1.3
2005	78	1.8
2006	50	1.1
2007	74	1.6

Service Activities

The third activity area for COPH involves serving as a policy and advisory resource for the general assembly, the governor, state of agencies, and communities. ***The process indicator related to this area tracked the number of service activities.*** As shown in Table 4.7, during 2006 faculty and staff worked frequently with the senate and house interim committees on Public Health, Welfare and Labor, as well as with individual legislators and other legislative committees. Faculty and staff also worked closely with city government and other communities. During 2007, faculty and staff from COPH were active participants in the legislative session of the Arkansas 86th general assembly. They spoke in support of a number of bills that included body mass index (BMI) legislation, physical education in schools, the use of candy as incentive in elementary schools, and exemptions to the Clean Air Act. Faculty and staff continue to work closely with city government and in communities across Arkansas.

Table 4.7
Service Activities by COPH Faculty to the State

Year	Talks and lectures	Legislative briefings	Special projects
2001*	16	6	12
2002	84	9	8
2003	188	8	10
2004	165	26	21
2005	83**	28	11
2006	128	8	4
2007	154	3	4

* Data for July-December only.
** This number does not accurately reflect the number of public talks/ lectures, as several faculty who normally have talks/lectures to report did not report during this period.

Progress Toward Achieving Program Goals

Since the last report, COPH has continued to progress in achieving the programmatic goals established in 2005, many of which related to reaccreditation of the college. Table 4.8 shows that COPH is doing well on goal attainment, having accomplished two goals and being on schedule or ahead of schedule on the other two. Some of the challenges that COPH has faced over this evaluation period, however, include space constraints with respect to faculty and staff offices and budget constraints concerning faculty hiring, including the need to hire an additional health economist, a faculty member in the Department of Health Behavior and Health Education, and an epidemiologist.

Analysis of Spending Trends

Act 1576 of 2001, H.B. 1717 of 2003, H.B. 1553 of 2005, and HB 1540 of 2007 appropriated funds to COPH for the first four biennium periods of the tobacco settlement fund allocation. Table 4.9 summarizes these appropriations by fiscal year. It is important to note, however, that the appropriation represents the maximum funding that can be received and that actual funding to COPH is fixed at 5 percent of the total funds received annually in Arkansas from the Master Settlement Agreement. The funding received by the college has always been less than the appropriated amount. The appropriation was the same for each fiscal year in the second and third biennia, then was reduced by about 30 percent in the fourth biennium. It is unclear whether COPH will be able to replace the potential loss of tobacco funding with its other sources of funds.

Table 4.10 presents the total tobacco settlement funds received and spent by COPH during the last four full fiscal years and the first half of FY 2008. In all fiscal years, COPH received less actual funding than what was appropriated. COPH expenditures in FY 2005 decreased approximately $25,000 compared to FY 2004. However, COPH spent $330,586 more than it received in FY 2005 and $318,977 more than it received in FY 2006. In addition to tobacco settlement funds, COPH is funded by (1) 30 percent of tuition, (2) 30 percent of indirect costs credited to COPH, (3) state funds from other sources allocated by the chancellor to the college to develop its programs, (4) philanthropy, and (5) direct costs from grants and contracts.

Table 4.8
COPH Program Goals and Status over the Last Two Years

Goal	Status
Goal 1: Establish doctoral programs in three areas by 2007–08	ACCOMPLISHED. In response to the changes in the CEPH accreditation criteria, requiring accredited schools of public health to offer at least three doctoral programs, COPH developed two new PhD programs. One of the programs is a PhD in Health Systems Research, co-administered by the UAMS Graduate School and COPH's Department of Health Policy and Management. The other is a PhD in Health Promotion and Prevention Research, co-administered by the UAMS Graduate School and COPH's Department of Health Behavior and Health Education. These two programs complement the Doctor of Public Health (DrPH) in Public Health Leadership.
Goal 2: Establish staffing of a minimum of five faculty for each of the three doctoral programs.	ACCOMPLISHED. COPH has established the five, full-time faculty positions needed to satisfy CEPH's requirements for all three doctoral programs. Recruitment of an additional health economist faculty member to help support the PhD program in Health Systems Research, as well as faculty members in both the Department of Health Behavior and Health Education and Epidemiology, are priorities for COPH, but resources to fund these positions have been insufficient.
Goal 3: Increase distance-accessible education.	ON SCHEDULE. Distance-accessible education continues to expand. A Director of the Office of Educational Technology was appointed during the 2004-2005 academic year and serves as a liaison between COPH faculty and the UAMS Office of Educational Development. A variety of distance education mechanisms were devised to comprise a Generalist MPH degree. In the fall of 2007, there were 6 courses offered by distance accessible means.
Goal 4: Increase outside grant funding for research by 20 percent above 2004–05.	AHEAD OF SCHEDULE. Outside grant funding continues to increase at a rate consistently above the 20 percent goal. Although there was a slight decrease in extramural funding during FY2006, there was an increase in FY2007. Notably, this amount does not include July through December 2007, when extramural funding reached an all-time high of over $18 million with a grant for a Center for Minority Health and Health Disparities.

These combined sources of funds are budgeted annually to cover COPH's expenses in addition to grant and contract direct costs. Tobacco funds were fully expended during FY 2005 and FY 2006, and the additional expenditures were covered by other sources, including carry-forward tobacco funds from FY 2004 and the other sources of state funds included in COPH's overall annual budget. Spending of tobacco funds in FY 2006 was lower than that in FY 2005, with reductions in all categories of spending. FY 2007 spending decreased slightly due to a reduction by half in operating expenses. COPH reports that *total* operating expenses did not decrease in 2007; rather they spent more of their other sources of funds for operations than in previous years.

Table 4.9
Tobacco Settlement Funds Appropriated for COPH, by Fiscal Year

Line Item	Second Biennium		Third Biennium		Fourth Biennium	
	2004	2005	2006	2007	2008	2009
(1) Regular salaries	$2,500,613	$2,500,613	$2,468,592	$2,468,592	$1,736,034	$1,770,755
(2) Personal service matching	484,316	484,316	596,229	596,229	341,615	348,448
(3) Maintenance & operations						
(A) Operations	196,784	196,784	233,610	233,610	253,110	253,110
(B) Travel	40,000	40,000	55,787	55,787	38,048	38,048
(C) Professional fees	100,000	100,000	76,708	76,708	0	0
(D) Capacity outlay	165,000	165,000	55,787	55,787	40,388	40,388
(E) Data processing	0	0	0	0	0	0
Annual Total	$3,486,713	$3,486,713	$3,486,713	$3,486,713	$2,409,195	$2,450,749
Biennium Total	$6,973,426		$6,973,426		$4,859,944	

Table 4.10
Tobacco Settlement Funds Received and Spent by COPH, by Fiscal Year

Line Item	2004	2005	2006	2007	2008**
(1) Regular salaries	$2,041,404	$2,034,480	$1,804,796	$1,827,918	$908,742
(2) Personal service matching	404,707	420,242	392,495	384,642	185,330
(3) Maintenance & operations					
(A) Operations	247,057	272,109	213,078	105,446	11,919
(B) Travel	33,024	41,228	27,992	10,749	0
(C) Professional fees	78,500	29,978			0
(D) Capacity outlay	37,224	19,052	2,787	3,430	0
(E) Data processing	0	0	0	0	0
Total Spent	$2,841,916	$2,817,089*	$2,441,148*	$2,332,185	$1,105,991
Total Received	$3,054,795	$2,486,503	$2,122,171	$2,651,162	$1,119,941
Total Appropriated	$3,486,713	$3,486,713	$3,486,713	$3,486,713	$2,409,195

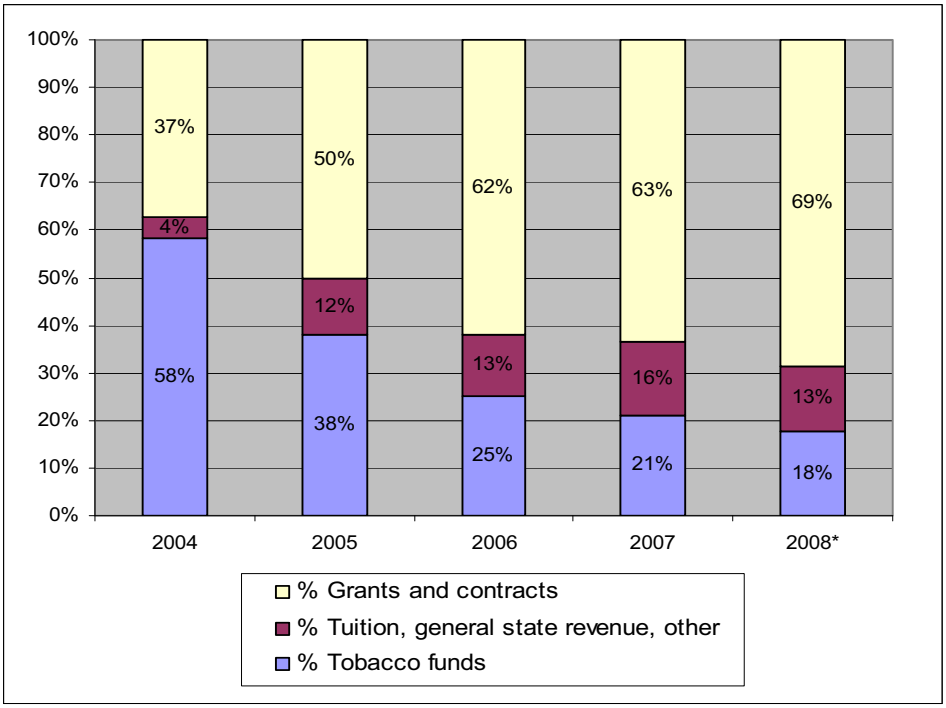
* Overspending in FY2005 and FY2006 was covered by leftover funds from FY2004 and other sources of state funds.
** Total spent through December 31, 2007.

Figure 4.2 presents the percentage shares, by fiscal year, of the total COPH expenditures funded by each of the six funding categories. With each fiscal year, COPH has increased funding from sources other than the tobacco settlement funds. Currently, more than two-thirds of the total COPH funding comes from grants and contracts obtained by COPH faculty.

Summary and Recommendations

Now in its seventh year, COPH has demonstrated steady growth in nearly all activities and has evolved into a fully-accredited College of Public Health. COPH's educational activities centered on receiving full accreditation from CEPH. It continued to increase enrollment through a variety of recruitment efforts. In terms of research activities, COPH has steadily increased the amount of grant funding, the number of submitted grants, and the number of ongoing projects. COPH also served as a policy and advisory resource to legislative committees and individual legislators.

COPH has continued to meet or exceed all criteria set forth by the process indicators and, partly because of the reaccreditation process, has been extremely successful in monitoring and examining its own growth. Future monitoring and evaluation should potentially include qualitative components to better capture the "bumps" and more thoroughly understand the growth and development of COPH. As this evaluation period moves into its next phase, the RAND evaluation team is planning to reconsider the process indicators currently used, potential future indicators, and evolution of the evaluation, particularly for the COPH given its growth since inception.



*Amounts spent through December 31, 2007.

Figure 4.2
Percentage of Spending from Tobacco Settlement Funds and Other Funds, by Fiscal Year

Below are four recommendations that come out of our most recent evaluation process.

- **Continue to think about innovative and sustainable ways to increase contributions to COPH for faculty recruitment.**

We recommend that COPH explore ways to increase contributions aimed at faculty recruitment. Even though philanthropy might not be a viable mechanism for raising large amounts of funds over the long term, finding and developing other mechanisms to raise contributions would be a worthwhile long-term goal. This might take additional funding and support from both the chancellor of UAMS and by the legislature. Continued investment in new faculty, with support for their research development, will help bring in additional funds and ultimately assist with recruitment and retention among faculty.

- **Conduct strategic planning to develop areas of expertise in which COPH can excel.**

We recommend that COPH work to solidify current areas of expertise, including health behavior and health education, health policy and management, and epidemiology (i.e., there are faculty positions in these areas that should be filled within the next few years). In addition, COPH should continue to develop and foster its existing foundation in content areas including health disparities, tobacco use, and obesity. By focusing on faculty recruitment and retention, the areas of expertise that COPH has begun to grow can solidify. The agreement that COPH has with the University of Arkansas Little Rock (UALR) Bowen School of Law to develop a collaborative Center for Public Health Law builds on this recommendation. While the vision for

this center will develop over time, it will be important to incorporate goals related to continued funding and sustainability of the center.

- **Continue to develop and support research, specifically grants and contracts.**

We recommend that COPH revisit the strategic planning that has been done and start to think about cost-effective ways to implement some of the goals related to development and support of faculty research trajectories. COPH should work to better understand what faculty and administrative staff might need to develop research capacity, develop training sessions for faculty on grant submission, and consider an incentive structure.

- **Measure the impact of COPH's community partnerships.**

We recommend that COPH move toward developing processes to measure the impact of its community collaborations. Because of the extensive efforts and relationships that COPH has developed with its community partners, it would be of mutual benefit to devise a long-term strategy that includes systematic documentation of the impact of these efforts. While it may be challenging to find a way to do this without creating burden for community partners, it is an important part of gauging the overall success of COPH.

Chapter 5.
Delta AHEC

Program Description and Update

The Initiated Act provided funding to UAMS to create the Delta Area Health Education Center (Delta AHEC) and designated it as one of the Targeted State Needs programs. The Initiated Act states that the Delta AHEC should be operated in the same fashion as the other facilities in the UAMS AHEC program including training students in the field of medicine, nursing, pharmacy and various allied health professions, and offering training to medical residents specializing in family practice. The training offered should emphasize primary care, covering general health education and basic medical care for the whole family.

There are eight AHEC areas across Arkansas including the newest—AHEC North Central. The Delta AHEC serves seven counties in eastern Arkansas: Crittenden, St. Francis, Lee, Phillips, Monroe, Desha, and Chicot. The Delta AHEC's main office is in Helena, and its satellite offices are in West Memphis (Delta AHEC North) and Lake Village (Delta AHEC South).

Since its inception, the Delta AHEC has worked in three primary areas: (1) increase access to health care; (2) provide services to communities and clients throughout the Delta region; and (3) educate health care professionals. In 2001, three process indicators were selected to track the overall progress of Delta AHEC's efforts to fulfill the mandates in the Initiated Act. The current status of each activity area and any associated process indicators are discussed below.

Increase Access to Health Care

The Delta AHEC continues to focus on increasing access to primary care providers in underserved communities. However, in 2004, funding ended for a Delta recruiter position on staff. The grant, funded by the Robert Wood Johnson Foundation, sponsored a staff member whose job was to recruit new primary care providers to the Delta. This position was terminated after the grant ended. Without a staff person dedicated to this task, recruiting to the region has been a challenge and recruitment programs have had little success. ***The process indicator for this area involved tracking the number of new primary care providers recruited to serve the Delta region.*** As shown in Table 5.1, a total of 94 primary care providers were recruited between 2001 and 2007, most of these before 2005. This group includes nurses (70), allied health professionals (12), and physicians (12). During this six-year time period, the 12 physicians recruited to the Helena/West Helena area included seven physicians recruited to the Delta AHEC North area under J-1 Visas. One African-American dentist was hired at the Marvell Medical Clinic. The Delta AHEC director played a key role in starting the Marvell Medical Clinic. Records for 2003 to 2005 do not include minority status of those recruited. Records for 2006 and 2007 indicate that four of the recruited nurses in 2006 and three in 2007 were Black. During the same period, no pharmacists were recruited.

Table 5.1
Primary Care Providers Recruited by the Delta AHEC

	2002	2003	2004	2005	2006	2007
Recruitment for:						
Allied health professionals	7	0	0	5	0	0
Nurses	28	3	28	4	4	3
Physicians	0	1	6	1	1	3
Pharmacists	0	0	0	0	0	0
Total recruited	*35*	*4*	*34*	*10*	*5*	*6*
Program participants:						
Community MATCH	5	1	2	3	0	0
Preceptorships	10	11	4	1	1	0
Senior Selective rotations	3	3	5	7	2	1
Residents in OB/GYN rotations	4	12	6	0	0	0
Total program participants	*22*	*27*	*17*	*11*	*3*	*1*

One strategy for recruiting health professionals to the region was to develop a residency program that would rotate physicians to the region on a regular basis for an extended period of time. Unfortunately, the Delta AHEC has been unable to establish a residency program for two reasons. First, there is a lack of infrastructure for such a program in Helena primarily because of the lack of specialists needed for a family practice residency. The second problem is the shortage of physicians going into family medicine. This translates into few potential applicants to fill the programs currently available, much less to open up new programs.

Although the residency program did not prove to be a viable option, the Delta AHEC engages in other activities to bring health care professionals to the region and increase access to health care. For example, each summer, physicians in the Delta AHEC area host first- and second-year medical students for rural preceptorships. As seen in Table 5.1, most of the preceptors participated in 2003 and 2004 with only a few in recent years. This decrease in preceptorships is due to a change in the population requirements for preceptorship sites. Towns of 20,000 can now host preceptorships. Therefore, most students choose to stay in Little Rock and do preceptorships in larger towns that are near the city rather than move into the more rural areas. Records for 2006 and 2007 indicate that none of the preceptors were Black or Hispanic.

Fourth-year medical students can complete their senior selective rotation in the Delta counties under the supervision of a board-certified physician. Again the numbers for 2006 and 2007 were small, and none of the medical students were Black or Hispanic.

In 2005, the Delta AHEC and the UAMS Department of Family Medicine were forced to close their one month Ob/Gyn rotation in Helena due to a lack of funds for stipends and because there were too few births at the Helena Regional Medical Center for residents to get the training they needed.

The Delta AHEC's final strategy for increasing primary care health professionals in the Delta is a program that works to increase the number of high school students interested in the health profession. The Medical Application of Science in Health (MASH) program is a two week summer program for students in grades 9-12. Students learn CPR and first aid, shadow

health care professionals during their workday, suture, dissect, learn how to determine blood types, and go on a field trip to UAMS (see Table 5.2).

Provide Services

The Delta AHEC administrative staff work to make its new fitness center facilities accessible by offering a wide array of services for a range of ages at a price that is affordable to most residents. The encounter rate per 1,000 Delta residents for each program is presented in Table 5.2. The Delta AHEC has demonstrated a steady increase each year in its encounter rates both overall and for some of the programs. The overall session encounter rate increased from 255 per 1,000 in 2005 to 424 per 1,000 in 2007. In addition to reaching all residents of the Delta, a primary goal of the Delta AHEC is to increase participation in culturally sensitive health promotion and health education programs. Minority participation was reported to be 55 percent for 2006 and 49 percent for 2007. In the rest of this section, we highlight some of the Delta AHEC programs detailed in Table 5.2.

Through the Delta AHEC's exercise programs, members have unlimited access to the equipment and exercise classes including yoga, aerobics, Tai Chi, PEPPI (Peer Exercise Program Promotes Independence), and Pilates. Membership costs range from $5 to $25 a month, based on a sliding scale. They also offer a free walking trail membership. They are currently planning construction on an outdoor walking trail that will have two playgrounds available for children during summer 2008. During the summer, children's gymnastic classes and a healthy living camp are also available. Exercise classes offered to seniors include PEPPI (co-sponsored by the Arkansas Department of Health and the Delta Center on Aging), Tai Chi, Silver Sneakers, and an afternoon dance class. Participants report benefits ranging from improved blood pressure to better performance in the activities of daily living. Working with the Arkansas Aging Initiative, Delta AHEC staff members are trained to assist in developing age- and ability-appropriate workout programs. Body Battle competitions, conducted at church and industry sites, offer a six-week weight loss competition that encourages teams to achieve a healthier mind and body by changing their lifestyle. Delta AHEC tracks weight loss as an indicator for the exercise programs as well as to encourage and support members in their lifestyle changes.

Construction of the fitness center significantly increased encounter rates for many of Delta AHEC's exercise programs that are now held in their new facility. For example, rates per 1,000 Delta residents increased by almost 400 percent after the center opened. Interestingly, while Black exercisers increased from pre-center rates of 18.38 per 1,000 in 2005 to rates of 132.54 per 1,000 and 192.63 per 1,000 in 2006 and 2007, respectively, Hispanic participation in exercise program initially increased from 2005 to 2006 from a rate of 0.46 per 1,000 to 29.3 per 1,000, but then fell significantly to a rate of 16.1 per 1,000 in 2007. Program staff members believe that the Hispanic population may be hard to reach because most are seasonal workers on farms, and it may be hard for them to participate in exercise activities outside of their communities and their daily work.

Table 5.2
Session Encounter Rates per 1,000 Delta Residents for Delta AHEC Programs

	2001*	2002	2003	2004	2005	2006	2007
Asthma Education	0.96	6.68	1.57	0.05	1.03	2.76	1.58
CPR for Consumers	0.15	0.53	5.38	3.53	3.57	3.08	2.47
Exercise Programs/Fitness Center	0.99	7.22	13.22	44.89	51.82	169.07	232.53
Geriatric Education	0.41	1.11	9.30	11.09	22.69	3.99	0.07
Health Screenings	0.69	2.98	31.57	30.06	30.85	24.85	9.24
Kids for Health	0.00	6.57	7.00	48.04	34.88	58.21	74.16
MASH	0.08	0.37	0.13	0.18	0.48	0.08	0.07
Medical Library Services/Consumers	0.13	0.36	6.72	4.39	8.22	1.92	3.39
Sickle Cell Project	0.19	1.35	7.91	6.78	4.14	5.08	8.35
Teen Pregnancy Program	0.17	4.85	19.98	8.01	13.67	8.54	6.69
Tobacco Prevention and Cessation Program	2.86	9.54	18.74	37.50	59.48	12.37	11.94
CHAMPS	NA	0.14	0.09	0.09	0.24	0.04	0.00
How Healthy is Your Faculty?	NA	3.88	8.87	2.30	2.11	2.46	3.08
How Healthy is Your Industry?	NA	0.75	1.61	9.29	13.57	1.40	5.35
Mentoring Program for Minority/Disadvantaged Youth	NA	0.15	1.16	6.97	0.65	NA	NA
Diabetes Education	NA	NA	1.53	7.69	7.71	5.63	13.85
Prescription Assistance	NA	NA	NA	NA	4.21	0.23	3.09
Prenatal/Healthy and Teen Parenting	NA	NA	NA	NA	14.40	18.00	11.34
Sexually Transmitted Infection Education	NA	NA	NA	NA	0.71	0.04	5.66
Comprehensive Health & Nutrition Education for Adults	NA	NA	NA	NA	38.62	4.07	2.71
Comprehensive Health Education for Adolescents	NA	NA	NA	NA	NA	0.59	0.14
Substance Abuse Prevention	NA	NA	NA	NA	2.35	43.20	31.02
Total Encounter Rates	6.63	46.48	134.78	220.86	315.40	363.86	423.46

* Data are for July-December only.
** The rates for Kids for Health are number of participants per 1,000 Delta residents, rather than number of encounters.
NA Data not available.

The Delta AHEC prescription assistance program, funded by the Helena Health Foundation, helps uninsured and low-income patients to obtain their medicines at low or no cost. This program serves over 300 people on a continuing basis. The emergency medicine component of the program provides vouchers to local pharmacies to pay for medicines for clients who are in immediate need. Long-term assistance is provided to qualifying clients by

pharmaceutical companies. The Delta AHEC staff members act as advocates to assist with paperwork and enrollment. A new component of the prescription assistance program provides support for patients who are in the Delta AHEC's smoking cessation program. This component represents a collaboration among the Delta AHEC's smoking cessation interventions, pharmaceutical companies, and physicians who prescribe the smoking replacement medications individual clients need to quit smoking. Because the program experienced the loss of its primary staff person in 2006, participation rates decreased from a high of 4.21 per 1,000 in 2005 to 0.23 per 1,000 in 2006 before recovering in 2007 when new staff members were put in place. Black participation followed this same pattern with a steep decline in 2006 before returning to higher rates in 2007 (Table 5.3). Hispanic participation in the prescription assistance program increased from no participants to a rate of 1.79 per 1,000 in 2007. Although the rate for Hispanics who take advantage of this program is still small, this is an important increase for a cultural group characterized by limited participation in community-based programs where providers and participants are predominantly Caucasian and English speaking.

The Delta AHEC's Diabetes Education Clinic has been recognized by the American Diabetes Association for Quality Self-Management Education. The Diabetes Education Clinic is staffed by an advanced practice nurse, a registered dietician, a registered nurse, and an administrative assistant. In the spring of 2007, Delta AHEC received a $480,000 grant from the Delta Regional Authority to expand the clinic. Through this funding, Delta AHEC has increased its patient load and added ancillary services including several support groups led by a social worker, a registered dietitian, a pharmacist, and a mental health worker. This increase in funding is reflected in the increase in the encounter rate for this program. Participation in the diabetes education program has grown each year save 2006, the year the Delta AHEC was in transition to its new building. During 2007, almost 14 residents per 1,000 Arkansans living in the Delta participated in the Diabetes Education Clinic (Table 5.2). Individuals were seen in formal groups or one-on-one education sessions. Black and Hispanic participation has also increased annually except for 2006 (Table 5.3). However, the increase in the rate of Black participation dramatically increased from 7.67 per 1,000 in 2005 to 11.59 per 1,000 in 2007. Clients may be referred to the Delta AHEC's Diabetes Education Clinic from any health care professional or be self-referred. There is no charge to the client for these educational programs. In September, Delta AHEC began going into the schools and, with parental permission and assistance from the school nurses, tested elementary and junior high students for diabetes. Children found to have diabetes were referred to their physicians. The Delta AHEC has been collecting outcomes data for the Diabetes Education Clinic with positive findings including a recent test of patients' A1C levels, which found that 85 percent had decreased their levels. The Delta AHEC also screens for high blood pressure.

Table 5.3
Session Encounter Rates per 1,000 for Delta AHEC Programs by Race

Delta AHEC Program	2004*		2005		2006		2007	
	Black	Hispanic	Black	Hispanic	Black	Hispanic	Black	Hispanic
Asthma Education	0.00	0.00	1.57	0.00	2.86	0.00	2.08	0.00
CPR for Consumers	1.83	0.00	4.11	0.00	3.26	0.46	2.87	0.22
Exercise Programs/Fitness Center	10.29	0.00	18.38	0.46	132.54	29.25	192.63	16.12
Geriatric Education	9.30	3.33	22.82	24.82	2.21	0.00	0.11	0.00
Health Screenings	21.68	5.71	34.42	6.96	33.98	29.71	12.64	1.12
Kids for Health	65.73	12.86	44.94	8.82	50.60	132.08	54.73	80.37
MASH	0.01	0.00	0.34	0.00	0.10	0.00	0.09	0.00
Medical Library Services/Consumers	0.42	0.71	12.83	0.46	6.97	NA	15.98	0.00
Sickle Cell Project	7.75	0.00	8.03	0.00	7.79	0.00	12.97	2.91
Teen Pregnancy Program	4.98	0.95	25.83	0.00	15.63	0.00	12.20	0.00
Tobacco Prevention and Cessation Program (TPCP)	37.42	2.14	74.71	24.59	18.18	0.23	17.71	0.45
CHAMPS	0.00	0.00	0.12	0.00	0.03	0.91	0.00	0.00
How Healthy is Your Faculty?	0.00	0.00	2.55	0.70	3.20	0.69	3.55	0.45
How Healthy is Your Industry?	9.32	0.00	15.41	0.00	1.36	0.46	6.96	1.12
Mentoring Program for Minority/Disadvantaged Youth	9.64	0.00	1.03	0.00	NA	NA	NA	NA
Diabetes Education	7.53	0.24	7.76	1.16	5.22	0.00	11.59	1.12
Prescription Assistance	1.08	0.00	4.54	0.00	0.30	0.00	4.00	1.79
Prenatal/Healthy and Teen Parenting	8.96	0.00	22.23	1.86	0.00	0.00	16.06	2.01
Sexually Transmitted Infection Education	0.51	0.00	0.98	0.00	0.08	0.00	9.99	0.00
Comprehensive Health & Nutrition Education for Adults	NA	NA	0.00	0.00	17.60	0.46	4.01	0.67
Comprehensive Health Education for Adolescents	2.04	1.90	55.66	40.37	4.04	16.22	53.78	2.24
Substance Abuse Prevention	2.91	0.71	3.72	0.00	0.89	0.00	0.00	0.00
Total Encounter Rates	185.92	25.95	274.86	67.99	299.86	210.47	418.12	110.59

* Data are for July to December only.

Participation in the Tobacco Prevention and Cessation Program decreased between 2005 and 2006, when the rate fell from a program high of 59.48 per 1,000 to 12.37 per 1,000. This overall decrease included substantial drops in African-American and Hispanic participation. To counteract these losses, the Delta AHEC hired a tobacco interventionist in the summer of 2007. The interventionist developed a model that uses a ten-week approach to treating tobacco use with two components: (1) medication management, which reduces symptoms of withdrawal; and (2) behavioral modification that provides support and reinforcement of coping skills. Approximately, 215 clients have entered tobacco treatment since the middle of 2007, most of whom reported suffering from emphysema, bronchitis, and/or other tobacco-related illnesses. More than 40 percent are minorities and many also have other substance abuse problems or mental illness. At the time of this report, there were 43 graduates of the program, all of whom will receive a three-, six-, and 12-month follow-up for evaluation purposes. The Delta AHEC is also working closely with the Helena Regional Medical Center to gain referrals from its inpatient population. Other recruitment efforts include visits to physicians' offices, Hometown Health Improvement, faith-based entities, and local businesses to inform them about the program. Referrals are also coming from within the Delta AHEC through its Fitness Center and Diabetes Clinic. Delta AHEC is are also working with several local community-based/faith-based prevention youth programs. Several of these are funded through the UAPB tobacco prevention grants.

Medical library services**,** available to health professionals, students, and the community, are a valuable resource for health consumers. Usage across all categories of library patrons increased steadily until 2006 when it declined during the four months that the library was being moved to the new building and was temporarily closed. Library usage increased again in 2007. Black library users surpassed their pre-move rates, while only three Hispanic users were recorded for 2007. Though the overall number of library users has increased, the resources in the library reach even farther than simply to visitors who come to the Delta AHEC facility. Lectures are transmitted via compressed video to support other Delta AHEC programs, including the diabetes support group and the Alzheimer's disease support group.

The Delta AHEC's How Healthy Is Your (HHIY) Industry/Church/Faculty programs offer health education and include free health screening for glucose, blood pressure, and body fat analysis as well as monthly health education sessions in area companies, schools, and churches. Sessions include CPR and first aid training, teen programs, baby sitting, nutrition, and education classes. After initial health screenings, each participant is counseled by staff of the Delta AHEC and provided with information about strategies to control cholesterol, weight, and blood pressure. Participants are also informed of other services provided by the Delta AHEC, such as smoking cessation and the diabetes clinic. The Delta AHEC has conducted this program in several minority churches to provide health education for African American youth and adults. Some of these are collaborations with churches that are recipients of the commission's community grants and community-based grants. The Delta AHEC North site in West Memphis and the Delta AHEC South in Lake Village have similar programs. Other types of programs offered in AHEC North include a partnership with Crittenden Regional Hospital to host a community baby shower where pregnant women are given information about various aspects of childbirth, and to provide innovative parenting programs within the county jail. Since peaking at 13.57 per 1,000 in 2005, participation in the HHIY Industry program fell to 1.40 per 1,000 in 2006 and 5.35 per 1,000 in 2007. Trends in the program's Black and Hispanic participants mirror the program's cycle of a high rate of participation in 2005 followed by a low rate in 2006

that is trending up in 2007. In the fall of 2007, the Delta AHEC South hired a new director. Since that time, the programs and activities in the Delta South have greatly increased.

Educate Health Care Professionals

A third area of focus is to provide education to health care professionals with an emphasis on primary care. ***In the area of training health care professionals, the process indicator tracked the number of primary care and family practice training session encounters for students and health care personnel in the fields of medicine, nursing, pharmacy, and allied health professions, and the number of students supported by the Delta AHEC***. Table 5.4 shows training encounters for health care and nursing students and personnel. During 2006 and 2007, Delta AHEC had over 3,000 training encounters for health care professionals. For example, Delta AHEC facilitated a connection between health professionals and continuing education through UAMS via the Internet or interactive video. Through established relationships with county health units and other agencies providing in-home services to older clients, the Delta Center on Aging–Helena Outreach provided 47 in-service education sessions to independent living aides. Through a grant from ADH's Heart Disease and Stroke Prevention branch, over 65 nurses received continuing education from the Arkansas Geriatric Education Center. Delta AHEC North is providing training for emergency responders. In 2007, it also hosted a three-hour class for more than 25 pharmacists, nurses, and physicians. Delta AHEC South provided training on advanced cardiac life support and pediatric advanced life support to their staff. Without the Delta AHEC, participation in these workshops would have required travel to Little Rock.

Working in partnership with the UAMS College of Nursing, the Delta AHEC offers an Internet-based registered nurse (RN) to Bachelor of Science in Nursing (BSN) completion program. Clinical rotations are done locally under the supervision of an advanced practice nurse. Students taking advantage of this program can continue working in their home towns, needing only to travel to Little Rock for graduation. Nurses can receive their Master of Science in Nursing (MSN) degree through UAMS and Delta AHEC. Classes for this program are primarily provided through the Internet and interactive video, both of which are accessible on-site at the Delta AHEC in Helena. As shown in Table 5.4, a total of 106 students participated in the BSN and MSN programs between 2001 and 2007. The Delta AHEC had 16 students in its Master program at the end of 2007. Interestingly, four of the Masters-level students were faculty at Phillips Community College RN and licensed practical nurse (LPN) programs. These faculty members would not have been able to leave the area to work toward their degree, and subsequently would not have had their faculty positions without the Delta AHEC program. According to Delta AHEC administration, the chancellor of Phillips College has stated publicly that if the AHEC were not here, they would have to close down their nursing program because they would have been unable to find qualified staff members. Records indicate that four of the 18 students in 2006 and five of the 16 students in 2007 were Black, while none of the students was Hispanic.

Recruiting qualified education professionals is also a challenge for the Delta AHEC itself and for the surrounding communities. The fourth quarter of 2007, the Delta AHEC reported having trouble recruiting staff for several positions. It was in need a certified health education specialist in spite of many advertisements for the position. Without additional employees, the administration reported that it was difficult to expand their health education programs. For example, in 2004-2005, the Delta AHEC was helping to support the Phillips Community College

LPN and certified nurse assistant (CNA) programs with funds from the federal Health Education Training Centers grant. This grant was defunded, nationwide, so support from the Delta AHEC was no longer available.

Table 5.4
Delta AHEC Training Encounters for Health Care Professionals and Nursing Students Supported by the AHEC

	2001	2002	2003	2004	2005	2006	2007
Continuing Medical Education	74	0	0	2,184	1,175	673	434
CPR for Health Professionals	23	0	0	220	310	15	81
Medical Library Services/Professionals	42	0	0	1,202	1,867	690	1,116
Total Session Encounters	139	0	0	3,606	3,352	1,378	1,631
Nursing Education Program (number of students):							
BSN and MSN	2	0	0	27	31	18	16
LPN Program	NA	NA	0	11	0	NA	NA
CNA Program	NA	NA	0	335	483	NA	NA
Total Students Participating	2	0	0	373	514	18	16

* Data are for July-December only

Progress Toward Achieving Program Goals

The last report chronicled a set of programmatic goals established by the Delta AHEC and RAND in the spring of 2005. Some of these goals are still relevant and are reported in Table 5.5 below. Overall, Delta AHEC has achieved four of its goals and is making progress on three others.

Analysis of Spending Trends

Act 1580 of 2001, H.B. 1717 of 2003, H.B. 1553 of 2005, and HB 1540 of 2007 appropriated funds for the Delta AHEC for the first four biennium periods of the tobacco settlement fund allocation. Table 5.6 details the appropriations by fiscal year.

Table 5.7 presents the total annual tobacco settlement funds spent by the Delta AHEC from FY 2004 through the first half of FY 2008. Spending was down nearly 30 percent in FY 2006 due to reductions in expenditures for salaries, capital and operating expenses. There was a 76 percent decrease in operating costs from FY 2005 to FY 2006 because 2005 was the year in which the new facility was built and outfitted with furniture and supplies. In 2006 the building opened and there was not a large additional outlay of funds. Additionally, the Delta AHEC administration determined that it should hold off on additional spending in anticipation of unexpected needs in the second half of the biennium.

In FY 2007, spending increased nearly to 2005 levels due to an increase in operating costs from $91,609 to $585,724. Spending for the first half of FY 2008 appears to be similar to FY 2007 levels.

Table 5.5
Delta AHEC Program Goals and Status over the Last Two Years

Goals	Status
Goal 1a: Operate programs out of the new Delta AHEC building by Spring 2006.	ACCOMPLISHED. In the spring of 2006, the Delta AHEC opened its 31,000-square-foot facility (Dr. P. Vasudevan Wellness Center) owned by the Helena Health Foundation. Delta AHEC leases space at a cost of $350,000 per year. This building houses a wellness/fitness center, with an indoor track, a medical library, four classrooms, a 100-seat auditorium/multipurpose room, a four-room clinic, a kitchen, a conference room, and 25 offices. This facility has provided a stable facility that draws Delta residents to health education and fitness activities.
Goals 1b. Expand consumer health education services 20 percent by 2010.	ON SCHEDULE. Several of the Delta AHEC's education services have exceeded the goal of expanding their participation by 20 percent over 2005 participation rates (e.g., Diabetes Education, Sexually Transmitted Infection Education, and Substance Abuse Prevention). However, other education programs have more work to do to either recoup decreases in encounter rates or to gain momentum to reach this goal by 2010.
Goal 2a. Automate data collection and analyses by Spring 2007.	ACCOMPLISHED. The Delta AHEC uses scannable surveys for evaluation of consumer education activities. It also collects usage data through scanning membership cards to track fitness center use. Both of these automated data collection efforts are used to track encounters and make improvements on programming.
Goal 2b. Conduct annual program improvement processes, including monitoring programs for culturally appropriate content, through 2010.	ACCOMPLISHED. Early in 2007, the Delta AHEC initiated a strategic planning and quality improvement process. Each program developed a Quality Improvement plan that focuses on the program description and goals, learning objectives, assessment measures, expected outcomes, actual outcomes, action plan, and collaboration partners. Each program has also implemented a system for collecting all protocols and forms necessary to ensure its institutional knowledge and program consistency.
Goal 3a. Establish a marketing committee	NO LONGER RELEVANT. A marketing committee was not needed because the Delta AHEC has the funds to hire a staff member for this role.
Goal 3b. Identify a staff person to implement and support the marketing program	ACCOMPLISHED. There are two persons on staff responsible for implementing the marketing program. One serves as a part-time public relations and fundraiser while the other is a full-time staff member. The Delta AHEC's media outreach efforts during 2007 included sponsoring TV advertisements and cable broadcasts that focused on the weight loss challenge "Body Battle," and its diabetes programs; updating the Delta AHEC website; producing a new Delta AHEC brochure; holding a Fundraiser Gala with over 200 attendees; promoting the Wellness Facility through after-hours business tours; and mailing written materials to churches and schools promoting Delta AHEC's events.
Goal 3c. Develop strategies to recruit health professional students	ON SCHEDULE. The Delta AHEC hired a person for this position and plans to hire another Delta recruiter. Their plans also include introducing programs that interest students in health careers earlier in their academic careers. These programs will assist with ACT and SAT tests, provide mentorship, and focus on the skills developed through mentoring.
Goal 3d. Engage and educate health care professionals	ON SCHEDULE. Although the Delta AHEC tracks the number of educational encounters, there is currently not a survey of knowledge gained in the training sessions.

Table 5.6
Tobacco Settlement Funds Appropriated to the Delta AHEC, by Fiscal Year

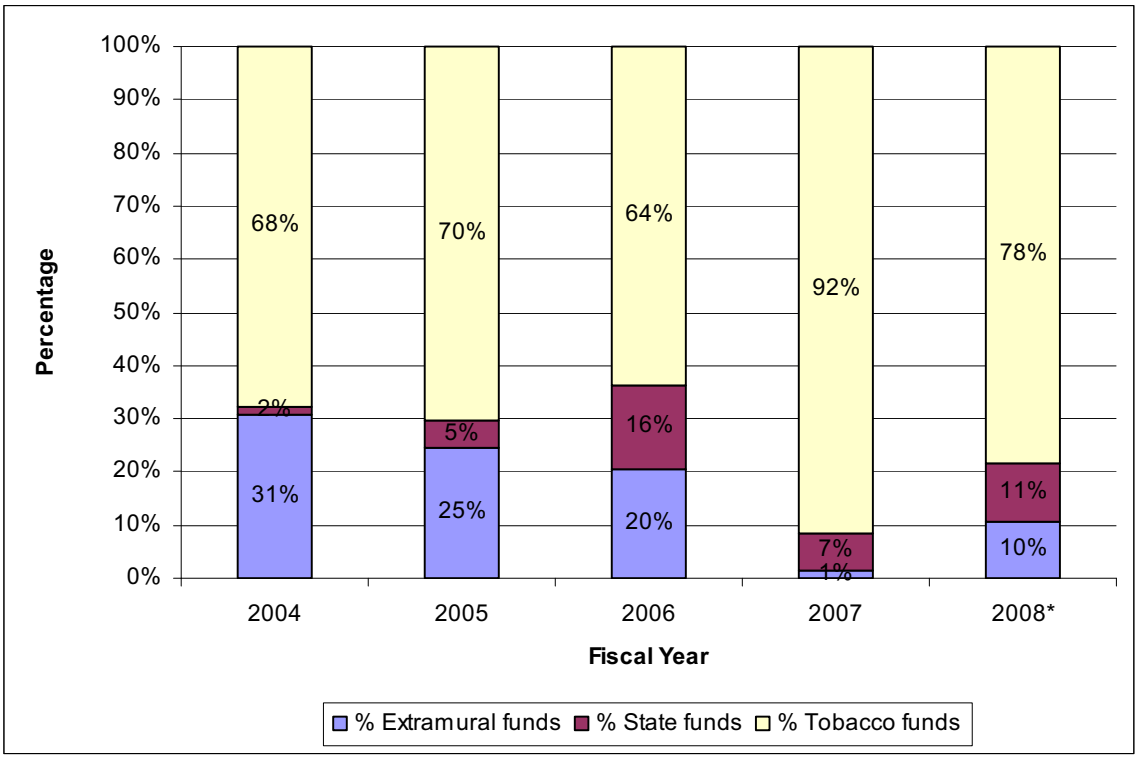
Line Item	Second Biennium		Third Biennium		Fourth Biennium	
	2004	2005	2006	2007	2008	2009
(1) Regular salaries	$1,347,405	$1,195,000	$1,201,754	$1,201,754	$1,131,657	$1,154,291
(2) Personal service matching	245,270	280,000	271,964	271,964	287,167	292,910
(3) Maintenance & operations						
(A) Operations	340,800	539,475	820,540	820,540	385,938	385,938
(B) Travel	41,000	25,000	9,298	9,298	18,160	18,160
(C) Professional fees	0	85,000	0	0	0	0
(D) Capacity outlay	350,000	200,000	20,920	20,920	22,420	22,420
(E) Data processing	0	0	0	0	0	0
Annual Total	$2,324,475	$2,324,475	$2,324,476	$2,324,476	$1,845,342	$1,873,719
Biennium Total	$4,648,950		$4,648,952		$3,719,061	

Table 5.7
Tobacco Settlement Funds Spent by the Delta AHEC, by Fiscal Year

Line Item	2004	2005	2006	2007	2008*
(1) Regular salaries	$1,132,323	$1,118,850	$990,676	$939,399	$519,626
(2) Personal service matching	250,530	280,010	253,675	240,362	132,367
(3) Maintenance & operations					
(A) Operations	415,422	383,178	91,609	595,724	248,321
(B) Travel	26,589	9,706	8,479	6,458	7,839
(C) Professional fees	7,700	0			
(D) Capacity outlay	12,326	124,365	20,261	35,579	2,974
(E) Data processing	0	0			
Annual Total	$1,844,890	$1,916,109	$1,364,700	$1,817,522	$911,128

* Total spent through December 31, 2007.

The Delta AHEC has three streams of funding: (1) tobacco settlement funds, (2) grants and donations, and (3) general state funds. Figure 5.1 shows the percentage of Delta AHEC spending attributed to each of these sources from FY 2004 through the first half of FY 2008. Tobacco settlement funds account for the largest amount of spending, representing 68 to 92 percent of the AHEC's overall spending. The Delta AHEC continues to try to use these funds to leverage funding from grants and donations. The percentage of the Delta AHEC's spending from grants and donations has declined, however, from a high of 31 percent in FY 2004 to a low of one percent in 2007. One reason for the decline is a cut in funding for a federal health education grant from the Health Resources and Services Administration. Further, the responsibility for grant writing fell to the executive director who had other responsibilities. While the Delta AHEC did hire a grant writer in 2007, that position was recently vacated. For the first half of FY 2008, tobacco settlement funds accounted for 78 percent of the spending while grants and donations accounted for 10 percent. General state funding ranges between 2 and 16 percent each year.



* Amounts through December 31, 2007.

Figure 5.1
Percentage of Delta AHEC Budget from Tobacco Settlement Funds and Other Funds, by Fiscal Year

Summary and Recommendations

Overall, the Delta AHEC has continued to serve the region through its efforts to improve access to health care, provide services, and educate health care professionals. While it has been

challenging to recruit primary care providers, it has had more success recruiting nurses. After some initial success, participation in the physician programs tapered off in 2006 and 2007. For its service provision efforts, Delta AHEC has steadily increased its encounter rates both overall and across several of its programs. The Delta AHEC continues to offer a wide range of health education services to residents of the region. In educating health care professionals, the total number of session encounters decreased in 2006 and 2007, in part due to staffing issues.

Below are three recommendations that come out of our most recent evaluation process. One recommendation is a continuation of a recommendation in the previous evaluation report.

- **Increase efforts to recruit health students.**

Recruiting health professionals to the region is a challenge that should be high on the radar for all tobacco programs. We recognize the Delta AHEC administration's challenges in recruiting health professionals to the region and wish to encourage them in their efforts to pursue students interested in the health professions. We recommend that the Delta AHEC hire staff to focus on this important work as well as on increasing the number of potential health professionals through programs for students early in their careers. Further, Delta AHEC should consider spearheading a committee of health-related institutions, including hospitals and colleges/universities, that have a vested interest in recruiting physicians. By joining forces with other health-related institutions, Delta AHEC may be able to offer joint appointments or other incentives to recruit health care professionals to the Delta region.

- **Continue to increase resources for conducting program evaluation activities.**

Delta AHEC has responded to past recommendations by building evaluation into most of its services and programs. (Delta AHEC wrote up a "Service Profit Chain" documenting the link between employee satisfaction and client satisfaction. This document also lists of indicators that can be collected to assist in program evaluation.) The Delta AHEC's evaluation components include process and outcome indicators collected from multiple data sources that have been institutionalized into the everyday workings of the program. Data sources include scannable participant surveys, automated participant data (i.e., scannable identification cards that feed into a participant database), and program-based outcomes that support evaluation of programs (e.g., weight, blood pressure, etc.). Delta AHEC has a useful data system that is utilized by each site to track participant numbers consistently. It has also instituted quality management processes that demonstrate an understanding that consistency over time is something that must be planned. Preparing for potential staff changes by creating a series of manuals that hold all of the necessary information needed to run each program is a wonderful model that has been shared with AAI and MHI. We recommend that Delta AHEC continue on its current path toward building its evaluation capacity.

- **Conduct a survey of knowledge gained in training sessions as part of its evaluation efforts.**

We recommend that Delta AHEC conduct knowledge surveys as part of its training sessions to track the response to the education opportunities and incorporate the information into its continuous quality improvement efforts. Surveys do not have to be a part of every training session given by each site. However, a strategic sampling of training sessions geared toward various groups of professionals would provide information that could help the Delta AHEC better gauge the effectiveness of its education efforts.

Chapter 6.
Arkansas Aging Initiative

Program Description and Update

As defined in the Initiated Act, the goal of the Arkansas Aging Initiative (AAI) is to "establish health care programs statewide that offer interdisciplinary educational programs to better equip local health care professionals in preventive care, early diagnosis, and effective treatment for the elderly population and that provide access through satellite centers to dependable health care, education resource and support programs for the elderly" (Arkansas State Legislature, 2000). AAI has provided education and health care treatment through its Centers on Aging (COAs) and the senior health clinics (SHCs), which are all co-located within the COA locations, with the exception of Texarkana. AAI is proactively working to co-locate the Texarkana COA. AAI has been active during this reporting period developing its five-year strategic goals, creating a COA site-based performance review process, expanding access to health care and education by planning COAs in Hot Springs and Mountain Home, supporting the growth and reach of the regional advisory committees, and reestablishing the Arkansas Geriatric Education Center (AGEC), which had lost its federal funding for one year.

Since its inception, AAI has developed long-term goals in six areas to achieve its mission. These goals are updated as AAI reaches its yearly objectives or is afforded new opportunities to expand its reach. During the summer of 2006, AAI's leadership held a retreat with the COA directors and education directors to establish an updated plan with long-term goals for the program. The result was a five-year plan for FY 2007 through FY 2011 with the following goals:

1. *Clinical Services:* Older Arkansans will receive evidence- /consensus-based health care by an interdisciplinary team of geriatric providers.
2. *Education:* The AAI will be a primary provider of quality education for the state of Arkansas.
3. *Promotion:* The AAI will employ marketing strategies to build program awareness.
4. *Policy:* The AAI will inform aging policies at the local, state, and/or national levels.
5. *Sustainability:* The AAI will have permanent funding sufficient to continue implementation of its programs.
6. *Research:* The AAI will evaluate selected health, education, and cost outcomes for older adults who are provided services.

Each of these goals is supported by specific strategies and a set of outcomes, which will be used to track AAI's progress into the future. From September 2006 to January 2007, AAI's leadership, the COA directors, and the education directors worked intensively with their staff members and program evaluator to develop the goals, strategies, and outcomes that reflect AAI's mission of improving access to high-quality interdisciplinary geriatric health care for older adults, educating professionals and older adults and their families about issues important to older populations, and influencing health and social policy. For each area, we provide an update on the specific strategies and outcomes AAI developed to monitor its progress. The following

description of activities is not meant to be exhaustive. Instead, it is illustrative of the major initiatives and the types of activities that have been reported in this evaluation period.

Clinical Services

In the area of clinical services, one of the objectives is to increase access to interdisciplinary geriatric team health care. AAI addresses this objective with strategies to expand the work of the COAs, increase service capacity, and reach the minority community. Each of these is discussed briefly below.

Similar to prior reporting periods, AAI continued to expand activities during 2006 and 2007 through the COAs[2] and satellite centers across the state.[3] For example, AAI has focused on increasing access to geriatric interdisciplinary care to within a 60-mile radius of all Arkansans by establishing SHCs in each COA and by establishing new COAs in Hot Springs and Mountain Home. AAI expects to have the Hot Springs site up and running in the fall of 2008, three years ahead of the planned opening date of FY 2011. The Oaklawn Foundation for the Future of Hot Springs provided the initial funds to develop the COA in Hot Springs. Additionally, the Baxter Regional Medical Center donated a home for the new Baxter County Regional COA in Mountain Home. Both of these new sites will expand access to geriatric interdisciplinary care. As of February 2007, 90 percent of older Arkansans were reported to have access to clinical geriatric care within a 60-mile radius. One hundred percent of older Arkansans have access to geriatric education. The additions of the Hot Spring and Baxter County COAs are expected to have a moderate impact on the current gap in clinical care coverage for the senior population in Arkansas. However, the largest coverage gap remains in the Mountain Home area, where the COA is expected to open by 2011. Once these sites are operational, it is predicted that 98 percent of older Arkansans will have access to interdisciplinary geriatric health care. However, a critical factor that hampers increased access to care for older Arkansans is the limited availability of geriatricians in the state. So, despite AAI's success in strategically placing COAs and SHCs across the state, there are other limits besides geography on how many older Arkansans can access services.

Though the SHCs provided over 32,504 clinic encounters in 2006 and 32,286 in 2007, these numbers were down 10 percent from 2005. This drop may be explained by the fact that AAI lost 33 percent of its funding during this time period. As a result, all sites had to either eliminate outreach coordinators or cut outreach coordinator positions to half time. Concomitantly, at various times throughout this reporting period, the Schmieding Center lost up to half of its providers and closed a clinic in Bentenville. Jonesboro has had a lapse of almost a year when it did not have a geriatrician. During that time patients were seen by a retired internist and a nurse practitioner. The Schmieding partner hospital, Northwest Health System, changed ownership during this time from Triad to Community Health Centers. All of these factors may have contributed to the drop in SHC visits.

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[2] The eight COAs are Springdale–Schmieding Center (Northwest COA), El Dorado–South Arkansas COA (SACOA), Texarkana Regional COA (TRCOA), Jonesboro–Northeast COA (NECOA), Pine Bluff–South Central COA (SCCOA), West Memphis–Delta COA, Forth Smith COA, and West Central COA (WCCOA).

[3] Three of the four satellite COAs are affiliated with the Schmieding Center (Bella Vista, Mountain Home, and Harrison) and the fourth satellite COA is affiliated with the Delta COA (Helena).

To increase service capacity, AAI is working to recruit geriatricians, social workers, nurses, and other professionals who specialize in geriatric care. According to AAI, there are 9,000 practicing geriatricians and 38 million older adults in the United States. Although Arkansas has a higher ratio of geriatricians to older adults than other states, the need is still great because the SHCs have a limited number of slots in their patient panel, which are at capacity for most sites. To add to this challenge, changes in hospital ownership create an additional burden to reeducate each new owner on the value of supporting geriatric centers. This challenge of reestablishing an understanding of the value of geriatric centers from one owner to another is likely to continue well into the future. Part of AAI's charge is to provide educational opportunities that increase health professionals' exposure and knowledge of geriatric care. In order to develop programs that target the educational needs of health professionals in Arkansas, AGEC conducted a needs assessment survey in fall 2006. AGEC invited a random selection of health professionals as well as participants in the educational programs to complete the survey. A total of 501 health professionals responded. There are plans to continue this activity every two years starting in the fall of 2008.

In April of 2007, the Schmieding Center for Senior Health and Education was given a grant for $100,000 from the Care Foundation of Springdale to develop a certificate program in geriatric nursing for Northwest Arkansas RNs and LPNs. According to AAI, this program will provide nurses a geriatric-specific curriculum that prepares them to seek national certification as geriatric nurses. As such, this program supports AAI's clinical services and education goals, discussed more below. Even with this additional support, more geriatric health professionals are required to meet the state's need.

As a third strategy related to increasing services to Arkansas seniors, several AAI sites have worked to augment activities in communities heavily populated by minorities. During 2006 and 2007, AAI reported that between 21 and 24 percent of the overall attendees at education programs were minorities, with the exception of the third quarter of 2006, when only 16 percent were minority participants. For each quarter, approximately 90 percent of the minority participants were Black, with a smaller percentage of Hispanic and Asian participants. AAI minority population initiatives have included sustained conversations beginning in 2006 with the AMHC to collaborate on strategies for effectively reaching African-American and Hispanic residents. In particular, the AAI South Arkansas COA (SACOA) has taken the lead on this effort. In 2006, the AAI reported that the AMHC could not assist the SACOA with culturally sensitive aging issues in south Arkansas due to funding limitations. However, it was determined that the SACOA would partner with the AMHC to plan the Black Health Fair presented in the spring each year. This is still a desirable option for both the AAI leadership and the newly installed MHC director. The two programs are continuing their plans to find opportunities to work together. AAI also reported other collaborations that focus on minority populations, such as a health seminar held in June 2007 by the West Central COA in partnership with Healthy Congregations and Sparks Medical Center. Also as a result of the AAI/AMHC collaboration, executive directors from AAI and AMHC met in West Memphis to talk with ministers of Black congregations in an effort to raise awareness of the COA in that area. Though considered a success, the meeting was attended by fewer ministers than anticipated due to their work schedules. AAI plans to continue to work within African-American communities by using COAs to host events and services that target minorities. Concomitantly, AAI has submitted six professional service contracts to MHI and plans to use those funds to expand its services with the minority population. Their plans include targeting education programs that focus on the most prevalent Black health issues and increasing AAI's visibility through screenings at health fairs

targeting minorities. Other collaborative efforts to increase access to care to the wider population of Arkansans include the Delta Center on Aging (DCOA) and the Delta AHEC. Prior to budget cuts, co-location of these two entities in the Community Center in Helena facilitated a host of educational training sessions, support groups, and screenings for seniors co-sponsored by AHEC and COA.

A second objective within the clinical services area is to implement evidence-/consensus-based protocols in the partner SHCs. This objective is currently being prepared for rollout. In June 2007, plans were made to begin implementation of evidence-based protocols for diabetes in the partner SHCs. Subsequent to that decision, AAI produced an extensive literature search on the implementation of clinically based practices and has discussed this topic at its journal club, a book club-style discussion among practitioners and AAI leaders of issues germane to the care of older Arkansans. In the meantime, Medicare has initiated pay-for-performance protocols for diabetes and falls prevention. This development has served as an incentive for implementation of these protocols. Though not all the sites will be using these protocols by the summer, they are expected to come on line soon. Some sites are hampered by their lack of electronic medical records to track patients in their care.

A third objective is for AAI to be a catalyst for changing the course of care in Arkansas nursing homes. AAI is taking a leading role in the National Advancing Excellence campaign, with the purpose of enrolling all U.S. nursing homes to commit to at least three of eight standards of care best practices. In Arkansas, the Local Area Network for Excellence (LANE) Coalition for Nursing Home Excellence (Medicaid, regulatory advocates, etc.) has awarded $8,000 to each AAI regional center to assist nursing homes in their region to successfully achieve these three standards of care.

Education

In the area of education, AAI developed three objectives. The first objective is to foster health behaviors through evidence-based education of older adults. AAI, in partnership with the Area Agency on Aging, ADH, and the Division on Aging and Adult Services, is offering Active Living Every Day (ALED) and diabetes education for participants at each site. ALED is an evidence-based program that teaches lifestyle skills such as setting realistic goals, identifies and addresses barriers to physical activity, and develops a social support system that helps people become and stay physically active. The ALED approach addresses the root causes of physical inactivity and helps older adults overcome those challenges. AAI believes that the course will significantly improve the quality of physical activity currently offered at senior centers. The team will collect evaluation data to track ALED's progress and use the information to continuously improve the program.

The process indicator for community education tracked the number of educational encounters at classes offered for community members. As shown in Table 6.1, education encounters dipped in 2006 before increasing again in 2007. Encounters for 2007 were near the high point experienced in 2005 prior to funding cuts. In previous reports, we also tracked the educational encounter rate for seniors at each SHC. This process indicator will no longer be collected, since it was determined that the data were not consistently recorded across sites, making it an unreliable indicator of AAI's educational encounters in the context of the SHCs. If a more reliable accounting system can be developed, this measure can be revived in the future.

Table 6.1
Total AAI Education Encounters for Each Population

	2002	2003	2004	2005	2006	2007
Encounters at AAI classes for community members	1,666	10,321	21,144	42,375	30,728	41,261
Encounters at geriatric education center programs for health care professionals	31	433	987	863	956	998
Encounters for health care professionals (non-GEC programs)	NR*	1899	4,440	4,444	3,006	6,651
Education encounters for health and social service students (medical, nursing, social work)	62	820	756	1,157	1,011	1,696
Educational encounters for paraprofessionals (including in-services)	70	1,257	2,687	2,403	4,205	4,254

* NR = Not recorded.

The second objective within the area of education is to provide geriatric education opportunities, in partnership with the AGEC, for health care professionals and students. AGEC, which generates the professional education programs for AAI, had been discontinued due to a lack of funding in June 2006; however, with a new grant awarded in September 2007, AGEC has now been reestablished. In order to develop programs that target the continuing education and training needs relevant to geriatric patients in Arkansas, AGEC conducted a survey to assess the need for such events in fall 2007. The survey was mailed to academic and practicing health professionals in Arkansas, and invitations were sent to prior AGEC event attendees. A total of 501 invitees participated in the needs assessment, which found that a minimum of three geriatric educational events was needed by regional health care professionals and health students. AAI has met its outcome goal by broadcasting two live interactive video teleconferences on exercise and aging and on depression in older adults. Six COAs were receiver sites for these conferences, which were viewed by 364 health professionals. A third event was a grand rounds focusing on geriatric issues.

One of the process indicators for professional education tracked the number of educational encounters for health care professionals participating in AGEC programs. Table 6.1 indicates that there have been strong and steady increases in educational encounters with health care professionals. Overall, AAI has experienced a steady increase in the reach of its programming since 2002, despite funding gaps spanning 2006 and 2007.

Another process indicator for professional education tracked the number of educational encounters for health care professionals (non-AGEC programs). As seen in Table 6.1, the encounters from 2003, when this indicator was first reported, through 2007 trends in a positive direction overall, with a dip in 2006 that was more than recouped in 2007.

The process indicator for students tracked the number of educational encounters for health and social services students. Table 6.1 shows that the education encounters for health and social services students have shown positive growth with slight fluctuations in a couple of years due to particularities in programs offered.

The process indicator for paraprofessionals tracked the number of educational encounters for active paraprofessionals and paraprofessional students. Table 6.1 shows yearly growth since the program's inception. Though 2005 showed a slight decrease in encounters, 2006 showed considerable growth and 2007 maintained this increase.

The third objective in this area is to implement an evaluation plan for a subset of educational programs. Development of an AAI evaluation plan is currently under way. For maximum effectiveness, Dr. Virginia Johnson is designing the plan to align with the existing AAI strategic plan so that there is a global plan for the program with individual versions for each of the sites. The plan targets indicators and objectives already established by AAI and seeks to promote continuous program improvement. To that end, an important feature of the plan is a storage and retrieval system facilitating timely production of accurate and up-to-date fact sheets and reports using templates designed for the purpose of sharing information on outcomes and long-range impact. The plan will focus on three types of documentation that can be used separately or collectively. First, the current collection of quantitative data will be extended to facilitate comparison with national figures. Second, qualitative data will be collected to provide models, examples, and illustrations of what the numbers mean. Third, a comprehensive process audit will document the details of program implementation using efficient traditional methods (e.g., meeting minutes, reports) to track who is doing what, where, when, and how. At this time, a review is in progress to identify private for-profit ventures, such as the Commonwealth Fund's State Scorecard on Health System Performance. Once incorporated into AAI's overall evaluation plan, the review will allow AAI to compare Arkansas performance with those of other states across the key indicators. This addition to the AAI evaluation plan will provide AAI with achievable targets for improvement by assessing how Arkansas' performance compares with that of other states. AAI's evaluation plan is being designed to enable AAI to achieve benchmark levels of health system performance by improving access and quality of care while reducing unnecessary spending.

Promotion

For the promotion area, AAI's primary objective is to develop marketing strategies to build program awareness and establish clear brand recognition. AAI's strategies to build program awareness include developing a marketing plan for each site, providing sites with quality media materials, publishing in top journals and medical outlets, and leveraging the human resources on its community advisory committees. Several sites have new brochures, news releases, and fliers, and all of the COAs have new site logos that are being used on media and communication materials. The COAs' strategic plans, sites' budgets, and marketing plans are reviewed by AAI each year.

AAI reported using a wide variety of media over this reporting period including PSAs, newspaper articles, radio broadcasts, television appearances, and magazine articles. AAI also disseminates news of its progress through its biannual report. The high quality of AAI's promotion materials have been recognized by the Printing Industry Association of the South, which awarded AAI's FY 2005 annual report an Award for Excellence and Best in Category. The 2005 AAI brochure also received an Award of Excellence.

The Community Advisory Committees have also been a focus of AAI's promotion efforts; and AAI has officially stated that each COA's advisory committee will advocate on behalf of its COA as well as AAI. Each committee is comprised of a chairperson, who is well

known in his/her community, and six to ten members. Their role as COA and AAI advocates involves talking to people within their spheres of influence about the COA facility and its program offerings. Each committee meets quarterly. Additionally, AAI reported that all seven regions are represented on the Reynolds Institute community advisory board. All seven serve on a subcommittee for the purpose of setting policy and advising the COAs; and three are also chairs of the regional advisory committees, a first for AAI. This affiliation affords AAI a seat at the table among potential donors and an even wider and more diverse area of exposure in the Arkansas philanthropic community.

Policy

For its policy efforts, AAI's objective is to implement and/or develop a plan to influence policy at local, state, and/or national levels. As part of meeting its policy goal, AAI also reported that its education directors met in Little Rock early in 2008 to identify state agencies and legislative committees whose policies impact senior services. AAI leaders created a list of agencies and legislative members with whom AAI will work to build future relationships. In addition to identifying agencies and legislative members, AAI has established relationships with the ADH, Arkansas Division on Aging, Public Health and Welfare Committee, AARP, Cooperative Extension services, the Area Agency on Aging (AAA), and Arkansas Partners in Planning. The central administrators, directors, and education directors of the COAs meet regularly with these agencies to help set policies and guidelines for senior health in Arkansas. They also meet regularly with the legislative committee to request additional funding for the COAs. AAI's leadership staff are playing a major role in Partners in Planning, a group charged with convening senior leaders from across the state to develop a master plan for healthy aging for Arkansas seniors. Its mission statement is "Older Arkansans will lead healthy, vibrant lives."

The AAI also reported the following visits and discussions with the following Arkansas policymakers:

- Asa Hutchison, Republican candidate for governor
- Mike Beebe, Democratic candidate for governor
- Congressman Mike Ross
- Senator Barbara Horn
- Representative Steve Harrelson
- Representative Jon Woods
- Representative Eric Harris
- Representative Sandra Prater
- Representative Tracy Pennartz.

Sustainability

For AAI's effort related to sustainability, the first objective is to implement strategies to build its financial stability. Regional COAs invite area legislators to attend community advisory committee meetings and programs within their legislative districts. Legislators receive timely requests for assistance on policy issues and for financial support for AAI programs and services. Recently, AAI leadership staff worked with the UAMS vice chancellor for Administration and Governmental Affairs to acquire $250,000 from UAMS's share of the Arkansas General

Improvement Fund for each year of the biennium for a total of $500,000 over FY 2008 and FY 2009. This money is distributed equally among the sites and central leadership, allowing AAI to hire back some of the outreach coordinators who had been released due to the 33 percent cut in funding for FY 2008. AAI also maintains a master table to track its current and potential funding sources of the grants that have been received, been declined, and are pending.

A second objective is to secure AGEC funding. As mentioned earlier, AGEC was awarded funding in September 2007 and has been providing programs in coordination with AAI COA sites. The Donald W. Reynolds Institute on Aging was awarded a three-year $1.3 million grant to re-establish AGEC. Since the program was cut from the FY 2009 budget, the Institute is currently lobbying for reinstatement of funds for FY 2009.

Research

AAI has been steadily working on its research efforts. Thus far, it has analyzed data from two hospitals housing three SHCs. One of the reported challenges is the lack of electronic medical records (EMR) from which to draw comparable data. AAI reported that there are only three SHCs with EMR and no two sites with the same data or data entered in a similar manner. Additionally, hospitals have been somewhat reluctant to release their data for external analysis. Still, AAI has successfully evaluated the Fall Prevention Educational Program with Rural Older Adults and the Arthritis Self-Help Program and has conducted a study of dementia treatment.

Progress Toward Achieving Program Goals

As described above, AAI has developed long-term goals in the six areas to achieve its mission. Rather than focus on the individual sites as has been done in the past, we highlight the combined progress of AAI's SHCs, COAs, and satellite centers for 2006 and 2007 in relation to each 2007–2011 program goal. Table 6.2 describes each goal and its status through the end of 2007. Overall, AAI is on schedule with all six of its programmatic goals.

Analysis of Spending Trends

Funds were appropriated for the Arkansas Aging Initiative by Act 1575 of 2001, H.B. 1717 of 2003, H.B. 1553 of 2005, and H.B. 1540 of 2007 for the first four biennia of the tobacco settlement fund allocation. Total appropriations for AAI remained at nearly the same level from FY 2004 to FY 2007 with some adjustments to the various categories of spending. In FY 2008 and FY 2009, the appropriations decreased by about 28 percent. Table 6.3 details the appropriations by fiscal year.

Tables 6.4 and 6.5 present the total tobacco settlement funds received and spent by AAI for FY 2004–FY 2007 and the first half of FY 2008. The spending is reported by individual COA in Table 6.4 and by appropriation line item in Table 6.5. Each year, AAI received less money than was specified in the appropriations. As an example, for FY 2007 the AAI was appropriated $2,324,476 and received a total of $1,645,129, of which $1,410,960 was allocated to the regional COAs (i.e., the total for all COAs minus funds for central administration). The available funding for each COA's management and operations is further reduced by the overhead fee of 4 percent paid by the COAs to the AHECs for their administrative role.

In the second biennium, tobacco settlement funds that were not spent in the first year of the biennium were carried over to the second year. The carryover funds were reallocated to the

individual COAs and to the evaluation. Of the $265,504 available, $135,000 was allocated to evaluation and the remaining $130,504 was primarily allocated to operating expenses for the COAs. The funds were particularly important for evaluation, as only 7 percent of the funds received for evaluation in FY 2004 were spent in that year, and no funds were originally budgeted for this purpose for FY 2005. The AAI has spent $311,203 from FY 2003 through the first half of FY 2008 to support the evaluation of the program.

Total AAI spending decreased 23 percent in 2006 compared to a 9 percent reduction in the total funds received. Reductions occurred within all categories of spending, with the largest reduction in operating costs. In FY 2007, spending increased 9 percent over the previous year and slightly exceeded that year's funding. Excess funds were carried over from the previous year and were primarily allocated to Central Administration. The proportion of spending on salaries and fringe benefits hit a low point of 70 percent in 2007 compared to a range of 77–81 percent over the prior three years.

Summary and Recommendations

In summary, the past two years (2006–2008) have been successful for AAI. AAI consistently reported facing challenges related to the instability of tobacco funding for programmatic activities and the lack of funding for research and evaluation to promote AAI's activities and outcomes. However, despite these challenges AAI has been successful in its adherence to the Initiated Act and its mission, as reflected in its reported activities and services. AAI has demonstrated its commitment to quality improvement and self-study as reflected in its focus on program appraisal and continuous improvement through its strategic planning, performance review, and evaluation planning and data collection efforts. AAI's progress appears to range from adequate to exceptional in each of its goal areas. Most important, the AAI appears to consistently provide access to quality and evidence-based education and clinical services to older Arkansans. One notable strength of AAI is its wide base of collaborators. Not only does AAI collaborate with other agencies, it also collaborates with other tobacco funding initiatives including Delta AHEC, MHI, COPH, and ABI.

The toughest challenge AAI faces is the shortage of geriatricians with the expertise to serve older Arkansans. As mentioned earlier in this report, SHCs are at capacity, yet only a small portion of older Arkansans are served in their clinics. AAI has requested assistance and guidance on how to leverage its funds to make the type of impact that it feels is expected based on expectations that its services will be measurable through statewide health outcome rates.

Table 6.2
AAI Program Goals and Status over the Last Two Years

Goals	Status
Goal 1: Older Arkansans will receive evidence- /consensus-based health care by an interdisciplinary team of geriatric providers.	ON SCHEDULE. As of February 2007, 90 percent of older Arkansans were reported to have access to clinical geriatric care within 60 mile radius and 100% have access to geriatric education.
Goal 2: The AAI will be a primary provider of quality education for the state of Arkansas.	ON SCHEDULE. While AAI experienced some ups and downs that presented challenges to maintaining its trend of increasing education encounters, the overall trend shows a high level of educational encounters for community, provider, student, and paraprofessional populations. After declining in 2006, the COAs provided over 54,860 educational encounters for these groups in 2007. Additionally, AAI consistently demonstrates its commitment to providing educational opportunities for residents across the state by achieving participation from most of its 75 counties in its various educational programs.
Goal 3: The AAI will employ marketing strategies to build program awareness.	ON SCHEDULE. AAI is developing marketing strategies and promotion materials for each site. Several sites have new brochures, news releases, fliers, etc., and AAI reported that all of the COAs have new logos for their sites that are being used on media and communication materials. Additionally, AAI is demonstrating its emphasis on marketing through its focus on promotion efforts discussed and documented in each site's annual strategic plan.
Goal 4: The AAI will inform aging policies at the local, state, and/or national levels.	ON SCHEDULE. AAI leaders created a list that targets agencies and legislative members with whom AAI will work, and AAI has also established relationships with regional and national policy agencies and organizations. AAI staff meet with these agencies to help set policies and guidelines for senior health in Arkansas.
Goal 5: The AAI will have permanent funding sufficient to continue implementation of its programs.	ON SCHEDULE. It appears that AAI is on a trajectory toward garnering funding needed to sustain its activities into the future. This trajectory includes developing a track record of external funding and building the human resources for raising funds through its advisory committees.
Goal 6: The AAI will evaluate selected health, education and cost outcomes for older adults who are provided services.	ON SCHEDULE. AAI has demonstrated a commitment to studying outcomes related to older adult health issues. Staff have reported that this line of work has been challenging because of a lack of data for analyses. Even still, they have successfully analyzed and written up several articles that are in various stages of dissemination.

Table 6.3
Tobacco Settlement Funds Appropriated for AAI, by Fiscal Year

Appropriation Item	Second Biennium		Third Biennium		Fourth Biennium	
	2004	2005*	2006	2007	2008	2009
(1) Regular salaries	$1,278,528	$1,175,000	$1,345,756	$1,345,756	$917,984	$936,343
(2) Personal service matching	232,733	300,000	295,383	295,383	218,972	223,351
(3) Maintenance & operations						
(A) Operating expense	198,525	604,475	606,636	606,636	481,413	481,413
(B) Conference & travel	56,500	20,000	51,134	51,134	42,242	42,242
(C) Professional fees	0	150,000	0	0	0	0
(D) Capacity outlay	558,200	75,000	25,567	25,567	6,812	6,812
(E) Data processing	0	0	0	0	0	0
Annual Total	$2,324,476	$2,324,475	$2,324,476	$2,324,476	$1,667,423	$1,690,161
Biennium Total	$4,648,951		$4,648,952		$3,357,584	

* The Legislative Peer Review Committee adjusted the original FY2005 allocations to better meet program needs. These numbers reflect the reallocated appropriation.

Table 6.4
Tobacco Settlement Funds Received and Spent by AAI, by Each Center on Aging, by Fiscal Year

Center on Aging	2004		2005		2006		2007		2008*	
	Received	Spent	Received	Spent	Received	Spent	Received	Spent	Received	Spent
Central Admin.	$250,000	$259,448	$276,804	$267,349	$293,790	$277,518	$234,169	$245,171	$194,399	$160,961
Schmieding	250,000	229,838	209,000	229,162	193,264	193,264	173,204	173,204	65,516	65,516
SACOA	250,000	210,609	208,194	247,605	165,865	165,865	190,008	190,008	89,693	89,693
COA NE	250,000	250,001	202,640	202,639	166,001	166,001	205,640	205,640	85,444	85,444
TX COA	250,000	204,982	209,000	254,018	178,395	178,395	189,357	189,357	73,626	73,626
Helena	125,000	112,556	152,644	165,088	136,297	136,297	169,660	174,161	72,959	72,959
SCCOA	250,000	243,933	208,990	215,067	152,050	152,050	215,317	215,736	109,240	109,240
Fort Smith	234,152	189,343	205,286	250,095	174,883	174,883	192,457	192,807	98,158	98,158
Evaluation	140,848	9,443	20,490	151,895	76,548	76,548	75,317	75,317	21,694	21,694
Annual Total	$2,000,000	$1,710,153	$1,693,068	$1,982,918	$1,537,093	$1,520,821	$1,645,129	$1,661,401	$810,729	$777,291

* Total received and spent through December 31, 2007.

Table 6.5
Tobacco Settlement Funds Spent by AAI, by Fiscal Year

Line Item	2004	2005	2006	2007	2008*
Regular salaries, personal matching	$1,362,046	$1,425,301	1,234,639	1,168,784	609,305
Maintenance & Operations:					
Operating expense	280,496	385,747	256,034	461,347	153,512
Conference, travel	25,283	26,168	26,059	28,671	14,475
Professional fees	449	125,000	0	0	0
Capacity outlay	35,894	20,702	4,089	2,599	0
Data processing.	5,985	0	0	0	0
Total Spent	$1,710,153	$1,982,918	$1,520,821	$1,661,401	$777,291
Total Received	$2,000,000	$1,693,068	$1,537,093	$1,645,129	$810,729
Annual Total Appropriation**	$2,324,476	$2,324,475	$2,324,476	$2,324,476	$1,667,423

* Total spent through December 31, 2007.

** The Annual Total Appropriation is for the full year.

Below are four recommendations that result from our most recent evaluation process. Two of them are continuations of recommendations in the previous evaluation report.

- **Ensure that each COA establishes and maintains a formal quality improvement process to monitor, assess, and improve performance, and establish a strategic plan for evaluation in which AAI's central administration assesses COA performance on a periodic basis (continuation of a recommendation in the previous evaluation report).**

We recommend that AAI continue to refine its management and strategic planning process. In response to RAND's previous recommendation, AAI developed a performance review process for its COAs in January 2007. This performance review process was developed within the context of AAI's concentrated efforts to update and align the five-year plan for the overall initiative. AAI reported that each COA's individual plan is linked in mission and objectives to AAI's overall plan. In order to stay in regular contact with each site, address any concerns the COA directors and education directors may have, and monitor each site's progress, AAI established a schedule for regular meetings with the directors and education directors from each site. This is no small task given the distances between the various sites and AAI's central office in Little Rock. The AAI leadership team recognized the burden travel placed on its education directors and directors and has been working on various strategies to address the travel time required for adequate contact with each site. The plan is two-pronged: (1) a site visit to each COA, to be held between August and October, during which the conversation focuses on the previous year's progress; and (2) one-on-one meetings during the first quarter of each year with the director and education director for each COA and Drs. McAtee and Beverly, during which the budget and strategic and marketing plans are the foci of interest. These meetings are held either on site at the Little Rock location or via teleconference. Additionally, there are two annual retreats during which the COA directors and education directors meet in a central location. These retreats are held in January (one-day retreat) and June (two-day retreat). There is a monthly meeting between the AAI administration and either the directors or education directors. The activities presented here are not an exhaustive list of AAI's efforts. Quarterly meetings are skipped in months when there are retreats. Additionally, Journal Clubs are held on conference calls bimonthly. SHC manager meetings are held either face-to-face or via conference call. This regular communication plan is supplemented with daily individual phone calls and emails, as needed. On another note, the advisory committees have become very active and began to meet regularly in 2007. Based on the plan AAI has developed, they are now at the point to work with each COA to develop individual site plans.

- **Set more specific fundraising goals for each COA including identifying a short list of funding opportunities through the state and federal governments, foundations, and the private sector for each site and setting financial goals for each year (continuation of a recommendation in the previous evaluation report).**

In response to RAND's recommendation in the last evaluation report, the AAI sites in each region have been pursuing funding. AAI tracks their efforts on a master grant activity sheet through its regular communications with its site directors and education directors. Through its strategic planning process, AAI has established strategic goals, objectives, strategies, and outcomes for each COA. Although each site has a sustainability goal that typically specifies a minimum number of proposals to be written, the goals do not suggest an amount that the sites should work to receive. This amount could be based on the total funding for that site or on the number of clients it serves.

- **Continue to push forward on collaborative efforts with the other tobacco funding programs.**

AAI is to be commended for its partnerships with the other tobacco funding programs. We recommend that AAI continue its efforts to partner particularly with Delta AHEC and MHI. We recognize that many SHCs are at capacity for providing health services because of the limited number of geriatricians and health professionals trained to treat the aging population. However, partnerships with MHI's and Delta AHEC programs can help to increase utilization of MHI and Delta AHEC's services in addition to keeping the dockets full for the SHCs. Additionally, further exposure across the state through partnerships with Delta AHEC and MHI can increase utilization of AAI's other services, particularly its education programs.

- **Build on AAI's strategic plan to present a set of outcome measures that are representative of its work given its funding levels.**

AAI administrators are aware that they need to study AAI's impact on older Arkansans. However, it is costly to do this type of study and they are not able to take money away from the education initiative. If AAI is to be replicated nationally, these data are going to be needed. AAI needs guidance on how to do such studies given its financial constraints. Arkansas gets a report card on health from the Commonwealth Foundation, which could be leveraged to access those data. AAI has requested RAND's assistance in developing an appropriate set of outcome measures.

Chapter 7.
Minority Health Initiative

Program Description and Update

The Initiated Act mandates that the Minority Health Initiative (MHI) be implemented by the Arkansas Minority Health Commission. The act specifies that the initiative (1) increase awareness of hypertension, strokes, and other disorders disproportionately critical to minorities by utilizing different approaches that include but are not limited to the following: advertisements, distributing educational materials, and providing medications for high-risk minority populations; (2) provide screening or access to screening for hypertension, strokes, and other disorders disproportionately critical to minorities (but also provide this service to any citizen within the state regardless of racial/ethnic group); (3) develop the following intervention strategies to decrease hypertension, strokes, and other disorders noted above, as well as associated complications: educational programs, modification of risk factors by smoking cessation programs, weight loss, promoting healthy lifestyles, treatment of hypertension with cost-effective, well-tolerated medications, and case management for patients in these programs; and (4) develop and maintain a database that will include biographical data, screening data, costs, and outcomes.

The act specifies two short-term goals for MHI: prioritize the list of health problems and planned intervention for minority population(s) and increase the number of Arkansans screened and treated for tobacco-related illnesses. The long-term goal for MHI is to reduce death/disability due to tobacco-related illnesses of Arkansans. In 2005, an amendment was passed to change the line item in the appropriations regarding funds for the provision of "drugs and medicine" to "screening, monitoring, treatment, and outreach" (SB 80).

As noted in past reports, five process indicators were developed in 2002 to track delivery of MHI's activities in the following areas: awareness, health screenings for minorities, screening and enrollment into MHI-supported intervention activities, creation of a prioritized list of health priorities, and development of a biographical database (Farley et al., 2005a; Farley et al., 2007). RAND has provided regular updates on these indicators to AMHC as well as to its governing body. These updates have included evaluations of AMHC's implementation of MHI and recommendations that would, in RAND's opinion, improve that work. Recommendations were made based on MHI's adherence to the Initiated Act and its execution of its mandates.

Interim Review, Program-Specific Recommendations and Response

In response to a request from the ATSC, RAND conducted an interim review of MHI and made a series of recommendations suggesting that MHI suffered from (1) high per-unit spending; (2) inadequate quality management, accountability, and financial consequences for direct service provision in the hypertension initiative; and (3) low overall spending of available funds. RAND also suggested a set of criteria to measure progress on these recommendations, which the ATSC accepted and set forth for AMHC. AMHC was given approximately six months to respond to the recommendations. Following this period, RAND evaluated AMHC's progress and reported back to the ATSC, which gave final approval of AMHC's satisfactory progress.

The recommendations and success criteria developed by RAND to address the financial issues AMHC was facing in 2006 are detailed below. RAND gathered information to determine AMHC's progress from its semiannual reporting call held on January 8, 2007; the AMHC hypertension program report to RAND for the period July 2006–December 2006; and personal communications with AMHC staff. At the end of the probationary period, AMHC was given a favorable review. Since that time AMHC has been developing programming with obvious consciousness of the recommendations that were made.

Recommendation 1. AMHC should strengthen MHI's programming, with technical support as appropriate by the ATSC, so that its funding resources are used for cost-effective programming for the health needs of minority populations.

Recommendation 2. As stated last year, if AMHC continues to underspend its tobacco settlement funding through FY 2005, its funding share should be reduced to the level it is spending and the unused resources should be applied to other programming that addresses the health needs of minorities.

Recommendation 3. If the hypertension initiative cannot achieve appropriate service volume, quality, and costs, alternative service delivery organizations and contracting mechanisms should be considered to replace its current contract with the community health centers.

Regarding Recommendation 1, RAND suggested that AMHC develop a selection of potential programs that address the needs of minority health populations. These potential programs would be judged on cost-effectiveness (including value versus cost for direct service delivery), responsiveness to community needs, and their ability to improve access to quality care. This list of potential programs would be evaluated by MHI administrators to determine which would be implemented. The number of programs ultimately chosen for implementation would be dictated by the level of funding available.

In response to concerns that the hypertension program was not cost-effective (Recommendations 1 and 3), AMHC held a brainstorming retreat in August 2006, as well as other planning sessions with the goal of restructuring future hypertension projects with an emphasis on increasing access to care through networked opportunities rather than spending the majority of funds to directly ensure participant treatment. The decision was also made to terminate the hypertension screening and treatment program at Community Health Centers (CHCs) on Oct 31, 2006.

Regarding Recommendation 2, RAND suggested that MHI utilize a minimum of 90 percent of its funding for programs that address the health needs of minorities and that the costs for these programs be reported in a standardized format on a quarterly basis.

In response, AMHC reported a significant improvement in spending its available funding in FY 2006. Specifically, MHI was reported to have underspent its committed funds by less than $200,000 (see Table 7.4). This amount is approximately 20 percent of its total budget and is prudent given the uncertainty of predicting shortfalls between the projected and actual allocation AMHC receives for a given fiscal year. AMHC also reminded RAND in personal communications that it does not have access to the total amount it is reported to receive, since some of the funding is blocked by the Department of Finance and Administration until the funding projections are actually realized. Additionally, AMHC reported that it could specify costs for the different activities separately—outreach, treatment, etc.—but that this activity needs

to be improved so that the process is easier. AMHC has implemented the use of cost centers that appear to be making a positive difference in their accounting practices.

More recently, spending for FY 2007 was 56 percent of MHI's total received budget and so far in FY 2008 it was approximately 32 percent of its received budget. These issues will be discussed further later in the chapter.

On May 15, 2007, Dr. Wynona Bryant-Williams became the new executive director of AMHC. Under her leadership, MHI retooled its programming efforts to its current slate of programmatic offerings. The rest of this section describes MHI's programs and services, collaboration, sustainability, and monitoring and evaluation efforts.

Programs and Services

Following RAND's recommendation, MHI is at the early stages of implementing a cadre of programs that are consistent with the Initiated Act. Since the hypertension screening and treatment program was terminated in FY 2006, other programs have been developed that focus on connecting individuals to already existing health resources, facilitating the development of policies to increase access to treatment, increasing prevention activities in the state, and facilitating the implementation and translation of research that can inform the development of public health programs. Some programs have been spawned from original MHI programs while others have resulted from newly developed sources. The programs and services are discussed briefly below.

Northwest Arkansas Blood Pressure Screening Study. The Northwest Arkansas Blood Pressure Screening Study is being conducted in northwest Arkansas. The study was designed to screen 4th and 10th grade students' blood pressure levels and provide students at risk for high blood pressure with health education materials to lower their risk. This study uses a collaborative approach by including school district personnel and health providers to provide a more comprehensive health education program. Legislators have been included at the ground level of this program and are routinely updated on its progress and outcomes. The goals of the program are to

- increase the knowledge of the family and child about making healthy choices
- increase the percentage of healthy snacks consumed by the children in the program
- increase the percentage of fruits and vegetables eaten by the children in the program
- increase the percentage of time the child spends participating in some type of physical activity.

The idea for the Northwest Arkansas Blood Pressure Screening Study developed in response to results of other studies that highlighted elevated blood pressure levels in Black youths. MHI wanted to expand the study of hypertension into the Hispanic and Marshallese populations, so it chose Springdale to host the program. (This area has a larger population of these groups in comparison to the rest of the state.) During the course of the program, a total of 81 4th and 10th graders were screened for high blood pressure. Three students had elevated blood pressure levels.

After School Childhood Nutrition Education and Exercise Program (ASCNEEP). ASCNEEP was also a pilot program that evolved from the Marianna Children's blood pressure project. ASCNEEP focuses on low income, Black youth in Little Rock and is designed to

address prevention issues based on the premise that healthy children grow up to become healthy adults. Through ASCNEEP, MHI is leveraging its resources by expanding an existing after-school tutoring program and hiring a nutrition specialist and an exercise trainer to work with the participants. The program is being administered in two schools with high Hispanic and Black student populations (N = 65 at Geyer Spring and N = 265 at Chocot).

ASCNEEP provides a comprehensive approach to fitness focusing on the physical and academic facets of its participants. At the same time, ASCNEEP includes a parent component supporting parents' critical role in providing their children with adequate opportunities for exercise and access to healthy foods. ASCNEEP includes tutorial sessions, nutrition education, exercise time, healthy snacks, and parent education. The parent sessions take place once a month, during which time parents receive the same nutrition education as their children. Parents will also be escorted on field trips to the supermarket, health food stores, and food demonstrations highlighting healthy cooking, shopping for quality foods, and "stretching the food dollar."

After results from the initial pilot group are examined, MHI plans to expand the program to other schools, if it is found to be successful. Program effectiveness will be measured both quantitatively and qualitatively, based on pre- and post-intervention glucose, cholesterol, and blood pressure screenings. At the time of this report, the post-intervention screenings and analysis were still to be completed. In the future, MHI plans to include weight loss as an outcome measure for the program and to conduct a longitudinal study tracking participants through high school. The longitudinal study will include measures of nutrition education, weight loss and activity levels. MHI plans to use these data to support a suggestion to the legislature for a policy recommendation for longer and more frequent exercise periods within the school week.

The New and Improved Southern Ain't Fried Sunday (SAFS) Program. Originally, the SAFS program was designed to encourage participants to modify their eating habits one day a week, at Sunday dinner. Historically, Sunday dinner in the Black community has been filled with rich and high-fat dishes like macaroni and cheese, buttery mashed potatoes, and ham-hock flavored collard greens. Based on these historical and cultural staples, a reduction in the fat and sodium content for this meal is a culturally relevant start. However, this modification provides only a once-a-week behavior change, which the AMHC desired to increase to more regular changes in Arkansans' diets. Further, MHI desired to enhance the program by expanding from churches to other organizations, adding an exercise component, and holding food demonstrations using recipes from the SAFS cookbook. The new program will include sites at other locations (e.g., community centers, senior citizens centers, and other community group locations). The program was also enhanced by incorporating these new features:

- Nutrition education. This component will address all of the health issues that have been identified as impacting minorities disproportionately (e.g., hypertension, obesity, stroke, and breast and prostate cancer).
- Exercise. This component will go beyond merely discussing the advantages of exercising. The program will hire a certified exercise trainer to spend 30–40 minutes during each session to conduct a group exercise class.
- Snack. A healthy snack and/or meal will be served to the students. The snack or meal is planned to coincide with the nutrition lesson for the day. All snacks and/or meals will come from the SAFS cookbook and food demonstrations will be part of the class period.

- Celebration. A celebration will be the culminating activity for each group participating in the SAFS program. Each participate will be encouraged to bring a guest to the celebration. MHI hopes that use of this strategy will be successful in building the next class of participants.

The American Cancer Society has partnered with AMHC to promote its "Body and Soul" program. This program has similar components to those built into the new SAFS program and is expected to be a good partnership for MHI. MHI has a commitment from 16 facilitators, each with a minimum of ten committed participants. Those facilitators have been trained on the SAFS program. SAFS includes a pre- and post-assessment of process and outcome indicators.

In support of the SAFS program and to build awareness of the obesity issue, MHI planned and found sponsors for a luncheon hosting 500 attendees and Dr. Ian Smith. Dr. Smith is a nationally renowned physician and developer of the 50 Million Pound Challenge, a national effort to raise awareness within the Black community concerning obesity and to support weight loss. The next step will be to convene a meeting with the state surgeon general to identify the perspective partners who are already addressing obesity issues within the state. This partnership will be leveraged to develop a strategy to address obesity in the state.

Health Fair Screenings. MHI participated in over 58 health fairs in 2006 and 55 in 2007, reaching thousands of Arkansans for screenings across a number of health issues. Table 7.1 presents the number of residents who participated and the diseases for which they received screening. Rates for cardiovascular and diabetes screenings increased significantly in 2006 and 2007 over past years.

Collaboration

In response to RAND's recommendation, AAI and MHI have joined forces in an effort to increase utilization of AAI services in the minority population in south Arkansas. The strategy at this point is to gain an understanding of why minorities have not used the established COAs (e.g., Texarkana, El Dorado, Pine Bluff, Helena–West Helena, West Memphis) and to learn more about what is needed to mobilize Black participants. In October 2007, AAI and MHI staff traveled to West Memphis to meet with local stakeholders to set up a strategy for engaging the minority aging population (see Chapter 6 for more details). Transportation in rural communities was one barrier to access that was discussed at the meeting. According to AAI and MHI, there are plans to continue these discussions to develop a plan of action.

Table 7.1
Total Number of Screenings and Screening Rates, by Type of Screening

	2002	2003	2004	2005	2006	2007
Number of screenings						
Cardiovascular*	1310	1835	2659	1479	4607	7013
Diabetes	514	758	1218	649	2119	3074
Cancer**	112	164	295	86	644	1030
Depression	60	40	10	0	NA	NA
HIV	255	82	140	255	414	1170
Other***	65	69	205	295	655	580
Screening rate (per 1,000 minorities)						
Cardiovascular*	2.2	3.0	4.2	2.3	8.0	12.0
Diabetes	0.8	1.3	2.0	1.1	3.7	5.2
Cancer**	0.2	0.3	0.5	0.1	1.1	1.8
Depression	0.1	0.1	0.0	0.0	NA	NA
HIV	0.4	0.1	0.2	0.4	0.7	2.0
Other***	0.1	0.1	0.3	0.5	1.1	1.0

\+ Values presented in tables are estimates because they may include non-minorities and may represent duplicated counts.
* Cardiovascular includes screenings for blood pressure, cholesterol, and body mass index.
** Cancer includes screenings for mammography/breast, and prostate.
*** Other includes child ID, flu, dental, and vision screenings.
NA = Not available.

Sustainability

To address sustainability, RAND recommended that MHI systematically track new funding opportunities quarterly and strategically submit proposals that directly relate to its programming goals. In response, AMHC has recognized the importance of supplementing the tobacco settlement funds and has committed to aggressively submit proposals to seek funding. In support, AMHC reported the following actions during 2006 and 2007.

- AMHC submitted a grant for $75,000 to Pfizer for support of its programs that was not funded. However, AMHC continues to communicate with Pfizer, which has granted $40,000 for MHI's SAFS program.
- AMHC submitted a grant for $200,000 to the Robert Wood Johnson Foundation in support of programming that was not funded.
- AMHC submitted a R21 grant for $275,000 in direct funds over two years to NIH for research in racial/ethnic discrimination in health care.
- AMHC sought support from Senator Mark Pryor for the Eating and Moving for Life initiative. However, this request was not granted. Other efforts for funding the initiative were also unsuccessful. The original plan for the initiative was for it to be a one-year pilot program that would be picked up by a partner agency. The thought was that the Cooperative Extension Service would take up the project. However, no partner organization was found to continue its funding and operation and the program was discontinued in October 2007 after almost five years of operation.

Another relevant development related to sustainability is that Dr. Bryant-Williams and another staff member recently attended two grant-writing seminars to develop AMHC's capacity for garnering funds. In the past, MHI has had challenges in generating successful grants. However, it appears that the recent emphasis on obesity has resonated with funders. Specifically, MHI received grants totaling $45,000 in money, materials, and hardware supporting its recent programming for SAFS and the 50 Million Pound Challenge from the governor's office, ADH's Heart Disease and Stroke Prevention branch, State Farm Insurance, Pfizer, and the Cancer Coalition. Additionally, MHI is considering hiring a grant writer, who may be a valuable asset as AMHC seeks additional partners and collaborators.

Monitoring and Evaluation

AMHC has placed a great deal of emphasis on MHI's financial management issues, Dr. Bryant-Williams conducts regular reviews of MHI's financial status. She and the financial personnel work closely using cost centers to monitor the gap between the allocation and actual spending for program budgets as well as the time elapsed according to the fiscal calendar. The cost centers use five-digit codes to track spending for each specific program. Each time a charge is made to a cost center, the service bureau that monitors those data sends an Excel cost sheet report with each cost center code and spending to date. This information is monitored regularly to compare the funds spent to date with the time elapsed in the fiscal year.

In response to RAND's recommendation, AMHC began developing an internal staff quality management tracking process for monitoring staff members' task completion during 2007. This process includes tracking staff meeting minutes and the outcomes from those meetings. AMHC also reported the development of a logic model for staff task accountability. MHI has also developed a preliminary tool for monitoring task progress for staff members, which was discussed in a call with the RAND evaluation team. While more work was needed on this tool, MHI's work on it indicated the staff's commitment to developing a formal quality management program. Since these initial efforts, progress on those particular measures was put on hold while the new executive director became familiar with AMHC and MHI. As part of her orientation, Dr. Bryant-Williams continued MHI's weekly reporting meetings at which staff gave oral updates to the rest of the team. These meetings have been transcribed in meeting notes.

Dr. Bryant-Williams has also been working with her team to develop a strategic plan for MHI and has received encouragement to develop a quality management program that supports her planning and execution of the strategic plan.

In addition to developing the strategic plan, MHI holds weekly staff meetings during which staff give individual reports on their progress. Based on her observation, the executive director expressed a desire to hire two program managers to lead MHI's programs. These program managers would be in the field conducting site visits and program observations, providing technical assistance, managing the data, identify areas of need, locating and providing in-service training to build capacity, developing evaluation plans for the initiatives, and encouraging and supporting utilization of the evaluation information for quality improvement. With the transition in leadership, MHI is behind schedule for the expected completion date of FY 2007. However, MHI appears to be taking steps to accomplish those markers by the end of FY 2008.

In terms of evaluation, each of the programs outlined here has an evaluation plan complete with process and outcomes indicators. The capacities to collect, manage, and analyze treatment and research data have all been issues for MHI in the past. In response to RAND's

recommendations, AMHC has made the following progress in developing treatment and research databases.

Treatment Databases. Programming for the hypertension program Web-based database is completed, with the exception of programming for automatically generated reports and queries. Before the end of the Memorandum of Agreement in October 2006, the CHC coordinators had access to the database for beta testing and gave their comments. Individuals' CHC data from 2003–2006 were formatted into a uniform database. AMHC reported that the process was lengthy because each CHC maintained monthly files that needed to be cleaned, reformatted to a single format, and then concatenated into a master CHC database. Further, the data collection forms changed several times during the implementation of the project. The master CHC databases for two of the three CHCs are now complete, and the third one is almost complete. With the assistance of a master-level statistician, preliminary data analyses for outcomes were performed for the data from the Lee County Community Clinic and East Arkansas Family Health Center. Final data analyses will be prepared when the master databases are complete for all three CHCs. The database has been designed to allow entry of new locations.

Research Databases. MHI has developed two research databases. First, the Marianna Examination Study on Hypertension (MESH) is a population-based representative examination survey focusing on hypertension and cardiovascular disease risk factors. MESH is being conducted in the city of Marianna, Lee County, Arkansas. The study was primarily funded by AMHC, using hypertension program funds. A portion of the study (approximately $25,000) was funded by Abbott through the UAMS Nephrology Division to measure cystatin C. MHI reported significant in-kind participation and support by organizations and institutions in Marianna, including the Marianna Housing Authority (MESH office space), the Lee County local health unit, and the Lee County Cooperative Clinic (phlebotomy location and personnel).

The research protocol was submitted and cleared by the UAMS Institutional Review Board in 2005, and is subjected to yearly continuing review each April. The VA Hospital also reviewed the protocol. The primary goal of the study is to determine the prevalence of diagnosed and undiagnosed hypertension, the proportion of persons with diagnosed hypertension who are receiving antihypertensive medications, and the proportion of persons with diagnosed hypertension whose blood pressure is controlled to goal levels. Secondary goals include determining the prevalence of other cardiovascular disease risk factors and developing baseline data that could support a longitudinal study in this community. Implementation of this survey began in June 2005, and participant enrollment was concluded in December 2006.

The participants were selected by a multistage random sample. The first stage was a random sample of 1,200 addresses from a sampling frame of all residential addresses in Marianna. For each address, one adult was randomly selected to participate. If that adult refused, the interviewer went to the next address. The final sample included 452 households; at the time of this report the participation rates had not been calculated. However, the number of households is reported to represent more than 10 percent of the adult population of Marianna. MHI reports that the survey methodology was conducted according to standard principles for population-based representative samples, including a procedure for random selection of participants and weighting of participant's responses according to population characteristics.

The data collection involved an interviewer-administered questionnaire and a brief physical examination. Blood and urine samples were obtained from 221 of the participants; MHI

continues to schedule appointments to complete the blood test collections. Their goal is to use the current study as the basis for a longitudinal study and to return to the same community in the future to conduct follow-up surveys and examinations.

This survey is expected to give important information about the health status of adults in rural eastern Arkansas. When data collection is complete, MHI plans to publish a fact sheet with the primary descriptive data analyses. MHI will also give feedback to the Marianna community through a town meeting in Marianna. The data will be made available for use by other investigators. Preliminary data were presented at a poster session at the American Society of Nephrology annual meeting in 2006, comparing measures of kidney dysfunction in the first 160 MESH participants for whom lab test results were available.

The second research database is the Arkansas Cardiovascular Health Survey (ARCHES). MHI has continued its support for the ARCHES study, as part of its mandate to develop databases on hypertension. ARCHES is a state-wide representative examination survey funded in 2005 by a grant from the CDC to Dr. Namvar Zohoori in the ADH. The purpose of the survey is to estimate critical cardiovascular variables in Arkansas, to obtain adequate estimates in the Black population, and to compare rates for Blacks and Whites for as many variables as possible, within the limits of the sample size. ARCHES consists of a detailed questionnaire, an examination, and a large battery of blood and urine tests that will be conducted on samples from 1,500 randomly selected Arkansas adults.

AMHC provides 25 percent salary support for Dr. Namvar Zohoori, the ARCHES study PI. Up until Dr. Camille Jones' departure, AMHC also provided in-kind salary support for the Co-PI's participation in the study. The AMHC also lent the ARCHES study personnel use of 13 OMRON 607 XL monitors for determination of blood pressure.

At the time of the writing of this report, ARCHES had recently completed the field work components of its data collection. The next step for ARCHES will be to complete data entry in preparation for analysis and reporting. This study will provide critical information about the prevalence of cardiovascular disease risk factors throughout the state, with an emphasis on comparing prevalence rates between Blacks and Whites. Although MHI is no longer providing direct services focusing on hypertension, the ARCHES data will be used for a myriad of other purposes. For example, programs focusing on heart disease and stroke prevention, diabetes, oral health, and tobacco prevention will use data from ARCHES to assess the magnitude of health problems in the state and to design their programs and interventions accordingly.

Progress Toward Achieving Program Goals

MHI is in the process of developing a series of long-term goals with corresponding indicators, which are slated to be completed during FY 2008. Until those goals and indicators are completed, we are using MHI's progress on its original program goals as measures of progress during this evaluation period. Table 7.2 describes each goal and its status through the end of 2007. Overall, MHI is on schedule with each of its programmatic goals. However, suggestions for challenging MHI to raise its expectations for the next evaluation period can be found in the recommendations section later in this chapter.

Table 7.2
MHI Program Goals and Status over the Last Two Years

Goals	Status
Improve screening rate for minority Arkansans for disorders disproportionately critical to minorities at MHI-sponsored events and recorded in the MHI database	ON SCHEDULE. Rates of minorities screened per 1,000 Arkansans dramatically increased during this period by as much as 500% for particular types of screenings.
Increase treatment program registration for minority Arkansans for disorders disproportionately critical to minorities	ON SCHEDULE. Since discontinuing the Hypertension Initiative and the Eating and Moving for Life, MHI has developed new programs to address health issues in the minority community. The evaluations of those programs are in process.
Develop a prioritized list of health problems for minority populations	ON SCHEDULE. A prioritized list of health concerns for the Black population was distributed in July 2004. While the list for the Hispanic population has not been developed, a list of prioritized health concerns was started during a community forum to engage the Marshallese community. Many of the concerns articulated paralleled those in the Black community.
Develop and maintain a database that will include biographical data, screening data, costs, and outcome	ON SCHEDULE. The Marianna Examination Survey on Hypertension and the Arkansas Cardiovascular Health Examination Survey have been completed and are in the process of analysis.

Analysis of Spending Trends

Act 1571 of 2001, S.B. 2 Screening, Monitoring, Treating and Outreach 85 of 2003, S.B. 80 of 2005, and S.B. 131 of 2007 appropriated funds for the Minority Health Commission for the first four biennium periods of the tobacco settlement fund allocation. Table 7.3 details the appropriations by fiscal year.

The following analysis describes the expenditures of the AMHC for FY 2006, FY 2007 and the first half of FY 2008. Table 7.4 presents the total annual tobacco settlement funds received and spent by AMHC from FY 2004 through the first half of FY 2008. Because underspending was a significant issue in past reports on the MHI, we have requested that MHI submit the most current spending information that was available at the time of the writing of this report so that the current trend in spending could be presented.

Total spending declined 11 percent in FY 2006 with reductions in operating costs and professional fees and increases for the screening, monitoring, treating and outreach line item and for salaries and fringe. In FY 2007, spending also declined 11 percent, primarily as a result of a large reduction in the screening line item. This reduction was due to the discontinuation of the hypertension program and the fact that the contract with the CHCs was rescinded. Salaries and fringe grew about 5 percent over the prior year.

Spending on professional fees has ranged from a high of 73 percent of total spending in FY 2004 to a low of 28 percent in the first half of FY 2008. In FY 2005, AMHC began reporting spending under the CHC contract under the screening line item rather than under professional fees, which explains the large decrease in professional fees in FY 2005 presented in Table 7.4. Since that change, professional fees have averaged 36 percent of total spending.

Table 7.5 documents spending for each professional contract for FY 2005 through the first half of FY 2008. In FY 2005 and FY 2006 the difference between professional fees in Table 7.4 and the annual contract total spending in Table 7.5, minus the CHC spending, is non-contract spending. Examples of these expenses are design work, hosting for weekly shows, speaker and conference fees, consulting fees, moderating/hosting for quarterly health fairs, and radio personality fees. In FY 2007 and FY 2008, the difference between the contract spending total and professional fees line item is smaller, due to the absence of the CHC contract, and consists of the same type of noncontract expenses.

At the time of the writing of this report, AMHC had spent a total of $133,148 of its allocated $421,888 or approximately 32 percent of its total for screening, monitoring, treating, and outreach. MHI's executive director reports a cautious approach to spending during the first year of the current biennium (FY 2008), choosing to test the strength of new pilot programs prior to making a substantial investment. This approach has led to underspending in the first half of FY 2008, while programs were being developed and put into place. The remaining funds allocated to screening, monitoring, treating, and outreach are reportedly being leveraged through an opportunity for AMHC to develop a series of professional contract grants to health promotion and prevention agencies, including some to other tobacco settlement programs. The MHI board plans to fund a series of grants to utilize the remaining screening appropriation. These grants will be judged on its ability to capitalize on grantees' existing capability to serve clients with services consistent with the Initiated Act, while drawing on MHI's understanding, experience, and credibility with the minority population to increase access to services within the minority population. As a result of these efforts, MHI appears to be on schedule to spend its funding for screening and outreach for FY 2008. This should be reflected in MHI's fiscal year-end reports.

The contracts and spending in 2007 and the first half of 2008 reflect the programmatic changes within AMHC. The medical director for the hypertension program is no longer with AMHC but had a remaining contract of $15,778 in FY 2008 to complete the final phase of the MESH project. This is reflected in the combined medical director and nurse contract with the UAMS College of Medicine. The nurse is still under contract to assist the current medical director. The largest contract historically, the CHC contract, was not renewed in FY 2007, resulting in a nearly 50-percent reduction in total contract spending.

Table 7.3
Tobacco Settlement Funds Appropriated for MHI, by Fiscal Year

Item	Second Biennium		Third Biennium		Fourth Biennium	
	2004	2005	2006	2007	2008	2009
(1) Regular salaries	$139,369	$143,132	$136,458	$140,568	$171,226	$174,648
(2) Personal service matching	41,482	42,149	49,030	49,927	58,598	59,348
(3) Maintenance and operations						
(A) Operations	425,000	425,000	374,873	374,873	333,643	333,643
(B) Travel	3,000	3,000	3,000	3,000	3,000	3,000
(C) Professional fees	739,508	739,508	739,508	739,508	498,559	498,559
(D) Capacity outlay	0	0	0	0	0	0
(E) Data processing	0	0	0	0	0	0
(4) Screening, monitoring, treating and outreach*	663,646	663,646	663,646	663,646	421,888	421,888
Annual total	$2,012,005	$2,016,435	$1,966,515	$1,971,522	$1,486,914	$1,491,086
Biennium total	$4,028,440		$3,938,037		$2,978,000	

* This line item was renamed in FY2005. It was formerly entitled "Drugs and medicine."

Table 7.4
Tobacco Settlement Funds Spent by MHI, by Fiscal Year

Item	2004	2005	2006	2007	2008*	Start FY 2008 To May 19, 2008
(1) Regular salaries	$128,441	$125,474	$135,824	$142,416	$66,854	$108,728
(2) PSM	43,504	47,637	50,312	48,089	25,892	42,128
(3) Maintenance and operations						
(A) Operations	279,304	659,611	300,681	340,900	177,348	264,337
(B) Travel	16,236	4,092	731	5098	0	907
(C) Professional fees	1,302,009	632,584	567,923	577,185	127,913	286,066
(D) Capacity outlay	0	0	0	14,838	0	-
(E) Data processing	0	0	0	0	0	-
(4) Screening, monitoring, treating and outreach**	0	307,338	507,056	260,927	53,289	133,148
Total spent	$1,772,572	$1,777,005	$1,562,527	$1,389,453	$451,297	835,316
Total received	$2,129,100	$1,733,017	$1,732,999	$1,578,863	$1,486,914	$1,486,914
Total appropriated	$2,012,005	$2,016,435	$1,966,515	$1,971,522	$1,486,914	$1,486,914

* Total spent through December 31, 2007.

** The AMHC did not break out drugs and medicine AKA Screening, Monitoring, Treating and Outreach out as a separate line item in its accounting system until FY2005. Funds for drugs and medicine appear under the professional fees and services line item until FY2005 when they were included in this line item. Other CHC costs for the Hypertension program and the MESH project costs are also included in this line item.

Table 7.5
MHI Spending on Professional Contracts, By Fiscal Year

Contract	Contract Description	2005 Contract	2005 Spending	2006 Contract	2006 Spending	2007 Contract	2007 Spending	2008 Contract	2008[1] Spending
UAMS College of Public Health	Health Disparities Study	$104,187	$79,447	$81,910	$67,565	$56,041[2]	$57,719	$64,962	$27,077
Community Health Center of AR	Implementing of Hypertension Program	530,400	463,663	381,888	361,922	-	-	-	-
UAMS College of Medicine	Medical Director-Hypertension Initiative[3]	192,500	185,196	271,250[3]	259,573	274,130	264,936	99,453	35,854
UAMS College of Public Health	Medical Director[4]	-	-	-	-	-	-	187,750	-
Univ of AR Coop. Ext. Service	Implementing Eating and Moving Program	156,453	156,452	174,667	130,141	99,941	117,872[5]	121,408	30,352
Arkansas Dept. of Health	Epidemiologic and Statistical Service	32,380	0	32,380	32,380	32,380	32,380	32,380	32,380
UAMS IT Dept.	Hypertension Database	12,000	0	-	-	-	-	-	-
UAMS College of Medicine	Nurse for Hypertension Projects[3]	NA	23,310	-	-	-	-	-	-
CWS	Grant Writer	-	-	65,000	-	-	-	-	-
	Total amount	$1,027,920	$908,068	$1,007,095	$851,581	$462,492	$472,907	$505,953	$125,663

[1] Total spent through December 31, 2007.
[2] Contract was increased by $7029 to cover additional work by Dr. Ochoa.
[3] In 2006, the contracts for the medical director and the nurse for the Hypertension Program were combined.
[4] A new Medical Director was hired in September 2007, but no funds were paid under the contract until February 2008.
[5] Includes $17,931 of unused funds from previous year.

A new medical director joined the organization in September 2008; her $187,750 annual salary is split between AMHC and COPH. Her duties include developing and facilitating collaborations with organizations to implement interventions to eliminate racial and ethnic disparities, continuing consultation and work on an internal research agenda to identify policy recommendations to improve the health of communities of color, consulting on organizational strategy with the executive director, facilitating evaluation procedures for organizational programs, increasing awareness of AMHC, and eliminating racial and ethnic disparities in Arkansas through community activities such as health fairs and presentations. She is also in charge of coordinating the Springdale project. AMHC hopes to again combine the contracts of the medical director and nurse in a single contract with UAMS College of Medicine.

Summary and Recommendations

In summary, the past two years have been successful for MHI. Screening rates were up dramatically. Programmatic approaches that were not cost-effective have been eliminated, while new programs are in development. Changes in leadership have transpired smoothly. While MHI is not at the point one might expect for a five-year old initiative, it is progressing well given the course corrections and changes it has undergone. We expect that the next one to three years will be a time of steady growth. Below are ten recommendations that come out of our most recent evaluation process.

- **Finalize strategic plan for FY 2008–FY 2011.**

We recommend that MHI finalize its five-year strategic plan. As mentioned earlier, MHI is well-into the process of developing its five-year strategic plan. We feel that this plan should be finalized within MHI and then vetted by the ATSC so that there would be a clear understanding of MHI's direction. The finalized plan should include goals, objectives, specific tasks for achieving the stated objectives, expected time to completion, and the person responsible for the task.

- **Narrow MHI's focus to one or two health concerns.**

We recommend that MHI narrow its focus to one or two health areas. MHI appears to have momentum in its programming around obesity. We feel that it would be wise to develop a critical mass in this area by continuing to fine-tune the types of programming to serve as a demonstration that can be duplicated by other operators and providers to reach larger segments of the population. We feel that this approach is better than trying to cover the landscape of diseases and illness that disproportionately impact minorities.

- **Examine the professional contract process and outcomes.**

We recommend that MHI revisit its professional contract process during FY 2008. MHI should institute a system for monitoring the success of funded projects, their impact on the minority community, and their success as a method for leveraging MHI funds to reach a larger population of participants.

- **Diversify the AMHC Board.**

We recommend that AMHC diversity its board to be more representative of Arkansas' minority population, including Hispanic and perhaps Asian representatives.

- **Expand the ASCNEEP.**

We recommend that MHI investigate the interaction between exercise and the educational components of ASCNEEP.

- **Improve program monitoring and evaluation.**

We recommend that by the end of the FY 2008, MHI should have in place:

a. a documented formal quality management program that includes explicit criteria for quality performance
b. information on measures of technical and perceived quality
c. analysis plans for addressing the measures
d. recommendations on what actions are necessary
e. an annual report that includes
    - results of quality analyses
    - a set of internal recommendations
    - a statement of actions on previous years' recommendations.

- **Seek supplemental funding for programs and services.**

We recommend that MHI continue to aggressively seek funding to supplement the tobacco settlement funds.

- **Strategically fund pilot and demonstration programs.**

We recommend that MHI continue its approach to fund strategic pilot programs that can serve as demonstration programs with the potential to have impact beyond the direct participants.

- **Collaborate with other tobacco settlement programs.**

We recommend that MHI schedule regular meetings of the executive directors for each of the other programs funded through Arkansas' tobacco settlement funds to develop collaborative partnerships around specific activities. MHI should also systematically track its collaborations with the other tobacco settlement programs and compile this information for its quarterly progress reports.

Chapter 8.
Arkansas Biosciences Institute

Program Description and Update

The Initiated Act of 2000 provides that 22.8 percent of the tobacco settlement program funds be used to support bioscience and tobacco-related research. The Act provided funding to establish the Arkansas Biosciences Institute (ABI).

The Act structured ABI to foster the conduct of research through its member institutions—the University of Arkansas for Medical Sciences (UAMS), University of Arkansas, Division of Agriculture (UA-Ag), University of Arkansas, Fayetteville (UAF), Arkansas Sate University (ASU), and Arkansas Children's Hospital (ACH). Separate tobacco settlement funds were appropriated to each of these five institutions. The Initiated Act charged ABI to encourage and foster the conduct of research and pursue the following:

1. Agricultural research with medical implications
2. Bioengineering research focused on the expansion of genetic knowledge and new potential applications in the agricultural-medical fields
3. Tobacco-related research that focuses on the identification and applications of behavioral, diagnostic, and therapeutic research addressing the high level of tobacco-related illnesses in the state of Arkansas
4. Nutritional and other research focusing on prevention or treatment of cancer, congenital or hereditary conditions or other related conditions
5. Other research identified by the primary educational and research institutions involved in ABI…which is reasonably related, or complementary to research identified in points 1–4.

The ABI board oversees ABI and was created to "…provide overall coordination of the program, develop procedures for recruitment and supervision of member institution research review panels, provide for systematic dissemination of research results to the public and the health care community, develop policies and procedures to facilitate the translation of research results into commercial alternate technological, and other applications wherever appropriate and consistent with state and federal law, and transmit a report to the general assembly and the governor."

Since its inception, ABI has leveraged tobacco funding to work in three main domains: (1) development of targeted research programs in each of the five areas specified by the Initiated Act; (2) encouragement and conduct of research through the five member institutions; and (3) systematic dissemination of research results to the public and the health care community so these findings may be applied to planning, implementation, and evaluation of any other programs of this state. During the 2006–2008 fiscal years, ABI institutions brought in approximately five dollars for every ABI dollar received. Extramural funding increased from approximately $12 million across the five institutions in 2002 to almost $40 million in FY 2007. In addition, the number of extramural projects on which the institutions collaborated has increased. ABI also continued to increase the dissemination of its results, with 269 publications for FY 2006 and 367 publications for FY 2007.

As ABI developed its program activities, three process indicators were selected to gauge the growth of its efforts to fulfill the mandates in the Initiated Act. These indicators are used to track progress and the current status of each activity area. Each activity area and any associated process indicators are discussed below.

Targeted Research Programs

ABI faculty are encouraged to develop and embark upon research within each of the five targeted areas. This is one of the primary goals of ABI and has been measured on an annual basis since its inception. The purpose of measuring this was to ensure that ABI conducted research in areas that were relevant to the problems occurring in the state of Arkansas due to tobacco-related diseases.

The process indicator related to ABI's targeted research programs tracked the number and amount of funding for ABI-supported research projects, by institution and category of research as specified in the Initiated Act. This process indicator documents ABI-conducted research in areas relevant to tobacco related disease in the state of Arkansas. Table 8.1 shows the number of projects in each of the research areas for each institution and the total amount of funding for each project. Total funding is the sum of ABI-allocated monies and extramural funding. As indicated in Table 8.1, ABI has continued along a successful trajectory in the conduct of research in its relevant domains. Notably, tobacco-related research amounted to nearly $22 million in FY 2006 and nearly $19 million in FY 2007. Tobacco-related research comprises the bulk of ABI-supported research projects, with prevention or treatment of cancer-related research next, followed by bioengineering research. Much of the research falls into the "other" category despite also falling into bioengineering, nutritional, or agricultural research. For example, a project such as "Sampling of Shorebirds that are Potential Carriers of H5N1 Avian Influenza in Arkansas," fits into both agricultural/medical research and "other."

Both extramural funding and ABI funding, as shown in Figure 8.1, have seen a steady increase from early on, with an incremental decline in ABI funding over the past three fiscal years (note that data from FY 2008 is not shown, as data collection is limited through December 31, 2007). Except for ACH, each of the institutions has reported a decline in total extramural and ABI funding over the past two years. The decline in extramural funding reflects a larger trend because total available NIH grant dollars have continued to decrease over the last five to six years. Yet, as demonstrated by Figure 8.1, there is still strong representation of extramural funding in comparison to the ABI funding of ABI-related research.

Table 8.1
ABI-Supported Research, by Institution and Category of Research, by Fiscal Year

	2004		2005		2006		2007		2008**	
	# of Projects	Total Funding	# of Projects	Total Funding	# of Projects	Total Funding	# of Projects	Total Funding	# of Projects	Total Funding
Category 1: To conduct agricultural research with medical implications										
ACH	0	$0	0	$0	1	$335,440	3	$276,487	3	$460,588
ASU	4	164,357	16	1,284,585	10	791,974	10	827,545	12	1,259,181
UA-Ag	17	1,971,638	15	3,214,412	15	3,437,221	10	2,421,260	9	1,056,492
UAMS	0	0	0	0	0	0	0	0	0	0
UAF	12	6,174,018	16	4,564,881	10	3,560,649	19	2,787,399	15	1,212,143
Total	33	$8,310,013	47	$9,063,878	36	$8,125,284	42	$6,312,691	39	$3,988,394
Category 2: To conduct bioengineering research focused on the expansion of genetic knowledge and new potential applications in the agricultural-medical fields										
ACH	0	0	0	0	2	98,988	0	0	0	0
ASU	3	606,302	2	100,000	7	443,952	9	515,872	8	319,934
UA-Ag	2	405,241	2	375,360	7	2,892,601	4	1,050,319	4	693,716
UAMS	0	0	0	0	0	0	0	0	0	0
UAF	1	76,000	1	239,775	8	3,500,217	5	761,467	4	258,210
Total	6	$1,087,543	5	$715,135	24	$6,935,758	18	$2,327,658	16	$1,271,860
Category 3: To conduct tobacco-related research										
ACH	0	0	2	498,925	4	1,011,878	3	1,326,329	3	552,622
ASU	8	2,101,483	21	901,607	12	638,442	7	753,697	9	818,851
UA-Ag	1	120,709	1	115,567	2	155,569	2	201,572	2	79,975
UAMS	23	5,511,850	45	17,943,403	38	17,688,119	42	15,534,504	8	1,391,847
UAF	0	0	1	25,000	5	2,293,952	9	940,945	11	1,593,605
Total	32	$7,734,042	70	$19,484,502	66	$21,787,960	63	$18,757,047	33	$4,436,900
Category 4: To conduct nutritional and other research focusing on prevention or treatment of cancer, congenital or hereditary conditions or other related conditions										
ACH	5	3,127,589	3	2,368,262	7	2,301,923	4	2,637,317	5	1,711,869
ASU	0	0	0	0	4	418,625	6	272,979	1	10,000
UA-Ag	0	0	0	0	9	844,458	3	1,286,241	3	528,882
UAMS	22	5,889,784	20	4,633,910	35	13,453,887	18	8,463,395	7	463,888
UAF	0	0	1	340,200	2	114,434	1	47,950	2	55,493
Total	27	$9,017,373	24	$7,342,372	57	$17,133,333	32	$12,707,882	18	$2,770,132

Table 8.1
ABI-Supported Research, by Institution and Category of Research, by Fiscal Year (continued)

	2004		2005		2006		2007		2008**	
	# of Projects	Total Funding	# of Projects	Total Funding	# of Projects	Total Funding	# of Projects	Total Funding	# of Projects	Total Funding
Category 5: To conduct other research identified by the primary educational and research institutions involved in ABI										
ACH	6	3,072,743	7	2,622,256	12	4,848,905	11	5,027,005	19	4,143,319
ASU	3	912,696	4	132,669	18	3,715,146	8	2,374,413	3	119,237
UA-Ag	0	0	0	0	0	0	0	0	0	0
UAMS	7	7,460,421	10	4,532,011	33	13,508,445	28	14,422,974	10	3,101,450
UAF	1	1,131,531	2	683,029	8	831,256	16	2,353,503	12	1,217,543
Total	17	$12,577,391	23	$7,969,965	74	$22,903,752	63	$24,677,895	44	$8,581,549

* Projects may fall into multiple research categories.
** Totals number and funding through December 31, 2007.

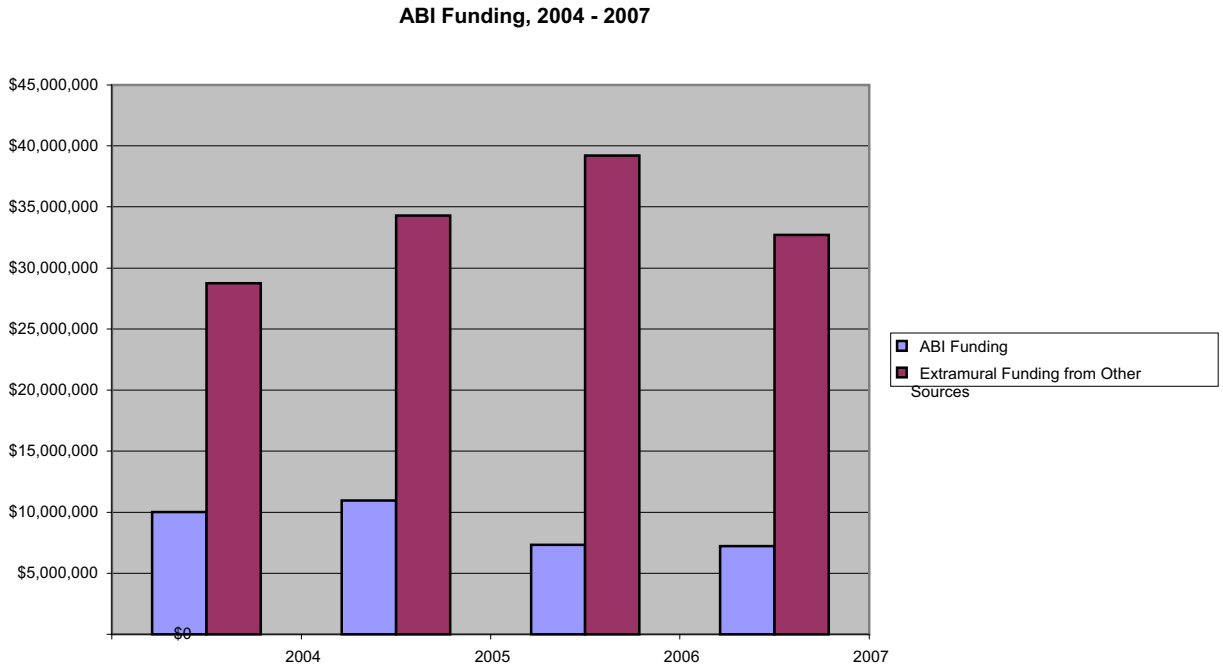

Figure 8.1
ABI Funding, 2004–2007

Collaboration Among the Member Institutions

The second major aim of ABI is collaborative research and endeavors among its member institutions. Since its establishment, collaborative research has been counted annually by the projects that involve researchers from more than one of the member ABI institutions.

The process indicator related to collaboration among the member institutions tracked the number of collaborative ABI research projects that involve researchers at more than one participating institution. The five institutions that make up ABI have continued to work collaboratively on many different projects. The data in Table 8.2 show that collaborative projects across institutions more than tripled since 2002. The data in Table 8.2 also demonstrate how the collaborative process provides support to all research institutions, and particularly those with a lesser research infrastructure, so that they are able to lead projects and partner with more established institutions. Table 8.2 indicates that the number of collaborative research projects went from six in 2002 to 28 in 2007. ACH continues to demonstrate exceptional ability in developing collaborative projects.

Table 8.3 shows that the percent of total ABI funding for collaborative research, especially for FY 2006–FY 2007, has steadily increased. In particular, ACH has demonstrated strong collaborative efforts.

In Table 8.4, we see that the ratio of total extramural to ABI funding has consistently increased, having gone from 2.9:1 in FY 2004 to 4.5:1 in FY 2007. In FY 2007, UAMS stood out with a ratio of $10 of extramural funding for each dollar of ABI funding. ABI funding consists of mainly tobacco funds.

Table 8.2
ABI Institutions Collaborating on Projects

		ABI Institutions Collaborating on Projects					
Sponsoring Institution	Collaborative Projects Led	ACH	ASU	UA-Ag	UAMS	UAF	Other Collaborators
July 2001 – June 2002							
ACH	2				2		1
ASU	1				1		0
UA-Ag	1	1			1		1
UAMS	1	1					0
UAF	1				1		0
Total ABI-funded	6	2	0	0	5	0	2
July 2002-June 2003							
ACH	2				2	1	1
ASU	4	1			3		0
UA-Ag	3	1			3		1
UAMS	1	1					0
UAF	3			2	2		2
Total ABI-funded	13	3	0	2	10	1	4
July 2003-June 2004							
ACH	3				3	1	1
ASU	5	2			5		2
UA-Ag	7	3			5	0	
UAMS	1	1					0
UAF	4			1	4		2
Total ABI-funded	20	6	0	1	17	1	5
July 2004-June 2005							
ACH	7				7	1	0
ASU	6			1	5	0	2
UA-Ag	6	3			4		1
UAMS	6	2	1			3	
UAF	1				1		3
Total ABI funded	26	5	1	1	17	4	6

Table 8.2
ABI Institutions Collaborating on Projects (continued)

July 2005-June 2006							
ACH	10				10	1	0
ASU	5			1	4		7
UA-Ag	4	1			3		2
UAMS	5	1	1			3	1
UAF	0						6
Total ABI funded	24	2	1	1	17	4	16
July 2006-June 2007							
ACH	14				14	1	0
ASU	3	1		1	1		1
UA-Ag	6	1			4	2	4
UAMS	3		1			2	0
UAF	2			2			0
Total ABI funded	28	2	1	3	19	5	5
July 2007-Dec 2007							
ACH	12				12	1	
ASU	4			1	2	2	2
UA-Ag	6	1			3	4	1
UAMS	0						
UAF	0						
Total ABI funded	22	1	0	1	17	7	3

Table 8.3
Portions of ABI and Extramural Funding Being Used for Collaborative Research Projects, by Fiscal Year

Year		Percentage of Research Funding by Institution for Collaborations					
		ACH	ASU	UA-Ag	UAMS	UAF	% of Total Funding for Collaborative Research
2004	Funds from ABI	73.6%	38.5%	35.1%	2.2%	21.9%	29.5%
	Extramural Funds	62.0	64.7	46.1	1.2	53.7	26.8
2005	Funds from ABI	92.6	14.0	30.7	4.9	12.7	21.1
	Extramural Funds	79.9	70.3	31.7	0.3	12.4	15.0
2006	Funds from ABI	62.3	9.8	19.5	9.0	0	16.3
	Extramural Funds	76.1	7.5	0	14.6	0	17.8
2007	Funds from ABI	72.1	25.4	45.6	5.9	16.8	29.9
	Extramural Funds	79.2	3.2	53.6	16.5	9.8	26.3
2008*	Funds from ABI	31.1	7.8	46.4	0	0	9.8
	Extramural Funds	66.5	27.8	75.6	0	0	39.3

* Totals through December 31, 2007.

Table 8.4
Amounts of Funding Awarded for ABI Research, by Fiscal Year

	ACH	ASU	UA-Ag	UAMS	UAF	ABI total
2004						
ABI Funding	$1,495,240	$2,158,636	$1,897,962	$3,147,700	$1,312,963	$10,012,500
Total Funding*	$6,200,332	$3,784,838	$2,548,396	$18,862,055	$7,381,549	$38,777,170
Ratio of extramural to ABI	3.1	0.8	0.3	5.0	4.6	2.9
2005						
ABI Funding	$1,180,257	$2,148,743	$1,678,851	$4,422,353	$1,540,000	$10,970,204
Total Funding*	$5,489,443	$2,418,861	$3,705,337	$27,812,768	$5,852,885	$45,279,294
Ratio of extramural to ABI	3.6	.12	1.2	5.3	2.8	3.1
2006						
ABI Funding	$822,053	$661,179	$1,687,828	$3,266,930	$906,076	$7,344,066
Total Funding*	$5,584,022	$5,094,812	$4,136,880	$27,823,102	$3,915,688	$46,554,504
Ratio of extramural to ABI	5.8	6.7	1.5	7.5	3.3	5.3
2007						
ABI Funding	$1,179,185	$1,011,677	$1,524,520	$2,129,200	$1,390,742	$7,235,324
Total Funding*	6,329,994	3,916,024	2,914,579	23,376,831	3,427,697	39,965,125
Ratio of extramural to ABI	4.4	2.9	0.9	10.0	1.5	4.5
*2008***						
ABI Funding	$914,451	$535,185	$657,086	$2,740,644	$1,625,415	$6,472,781
Total Funding*	$4,872,635	$2,123,976	$1,620,611	$4,968,495	$2,551,886	$16,137,603
Ratio of extramural to ABI	4.3	3.0	1.5	0.8	0.6	1.5

* Total funding is the sum of ABI funding and related extramural funding from other sources.
** Totals awarded through December 31, 2007.

Dissemination of Research Results

In response to its third major aim, ABI focuses on the dissemination of research results. Since the beginning of ABI, information on publications, lectures and seminars, media contacts, and press releases has been collected.

The process indicator in this area tracked the number of each type of service and promotional activity conducted by ABI researchers both inside and outside of the university community.[4] The data in Table 8.5 indicate that ABI has generated numerous publications and has also worked to present information to the community through lectures and seminars, in-

[4] The activities counted for this indicator are only counted for the first person listed. For example, if a newspaper article is about three different researchers, only one researcher is counted. In order to be counted as a published article for ABI, the article must be (1) the direct result of ABI-supported research; and (2) published or in press in a peer reviewed journal. If the research is ABI funded but the first author is *not* ABI funded, then the article should be counted for the first ABI-funded author.

person media contacts, and press releases. There has been a consistent rise in almost all aspects of these activities and encounters since the inception of ABI. Not surprisingly, the more established and larger of the institutions have demonstrated more activity in this area.

Table 8.5
Service and Promotional Activity Encounters by Institution, by Fiscal Year

	ACH	ASU	UA-Ag	UAMS	UAF	ABI total
2003						
Publications	13	3	11	38	16	81
Lectures and seminars	3	0	3	6	5	17
In-person media contacts	2	3	8	4	2	19
Press releases	0	0	0	5	5	10
2004						
Publications	29	24	15	53	24	145
Lectures and seminars	12	12	15	9	7	55
In-person media contacts	1	6	5	0	1	13
Press releases	0	1	1	0	1	3
2005						
Publications	77	25	31	87	70	290
Lectures and seminars	7	9	5	25	6	52
In-person media contacts	24	26	5	12	3	70
Press releases	4	2	2	3	2	13
2006						
Publications	92	15	29	96	37	269
Lectures and seminars	18	22	4	29	3	76
In-person media contacts	7	53	1	8	0	69
Press releases	3	4	0	10	1	18
2007						
Publications	90	43	32	134	68	367
Lectures and seminars	16	31	8	41	22	118
In-person media contacts	7	17	2	8	0	34
Press releases	8	8	0	16	3	35

Note: In-person media contacts include newspaper articles and conferences.

Importantly, there are a large number of ABI investigators who are involved in community and educational outreach programs throughout the state. Although most of the programs are not directly funded with ABI funds, the investigators are presenting seminars on their work and giving elementary students, secondary students, and community organizations an opportunity to learn about ABI-supported research through both didactic and hands-on experiences. These activities serve a critical role in educating Arkansans about the ABI and its research mission.

Progress Toward Achieving Program Goals

In 2005, RAND staff met with ABI leadership to specify long-term programmatic goals that define the programs' vision for their future scope of activities. Three long-term goals were identified, and the ABI progress in achieving these goals is presented here. Overall, ABI accomplished one of the goals and is on schedule with the other two.

Table 8.6
ABI Program Goals and Status over the Last Two Years

Goals	Status
Goal 1: Maintain at least the current level of total grant funding.	ACCOMPLISHED. The amount of extramural funding received by ABI scientists during FY2006 and FY2007 continued to exceed funding received in past years. The ratio of extramural funding to ABI monies remained fairly steady at 5.3:1 in FY2006 and 4.5:1 in FY2007.
Goal 2: Increase applied research that will have community impacts and increase collaboration with local businesses.	ON SCHEDULE. The work of ABI in research with community impacts has continued to develop and grow as indicated by the number of research projects that work with community partners.
Goal 3: Bring ABI scientific and research capabilities to pilot or community-based programs.	ON SCHEDULE. ABI has continued to support several community outreach programs as indicated by the number of collaborative efforts.

Analysis of Spending Trends

Table 8.7 details the legislation appropriating funds to the individual institutions making up ABI for the first four biennia.

Table 8.7
Legislation Appropriating Funds to ABI Institutions, by Fiscal Year

Institution	2001	2003	2005	2007
ASU	Act 1569	Act 1056	Act 1402	Act 1303
UAMS, ACH	Act 1577	Act 1320	Act 1403	Act 1293
UAF	Act 1578	Act 376	Act 425	Act 1292
UA-Ag	Act 1579	Act 376	Act 425	Act 1292

Table 8.8 details the appropriations by institution and fiscal year. Appropriations for the fourth biennium (FY 2008 and FY 2009) generally remained at similar levels to prior years; however, ACH's appropriation decreased from $2.1 million in each year of the third biennium to $1.3 million for each year in the fourth. However, the appropriation included a contingency line of funding which covered the ACH funding. Continuing the trend from prior years, ABI received less money than the amount appropriated in FY 2006 and in FY 2007, since

appropriations represent not the actual dollars received but the maximum that may be expended by category as revenues are received.

Table 8.9 presents the total tobacco settlement funds received and spent by ABI from July 1, 2004, through the first half of FY 2008. This spending analysis only provides information for the total expenditures since providing amounts spent in different categories would have unduly burdened the institutions without adding value to the evaluation. A percentage of the funds received by each institution supports the ABI central administration, totaling $250,000 each year.

Funds that were received in FY 2004, the first half of the biennium, could be held over for spending in FY 2005, the second half of the biennium. The table shows that over $3 million were received but not spent in the FY 2004/2005 biennium. However, all institutions fully spent the funds received in the most recent biennium (FY 2006/2007) with the exception of ACH, which spent 84 percent of its funds. We note here that the Arkansas Children's Hospital Research Institute is not obliged to spend all funds received during the biennium but it has committed all funds.[5]

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[5] Personal communication with the director of ABI, June 3, 2008.

Table 8.8
Tobacco Settlement Funds Appropriated to ABI Institutions, by Fiscal Year

Appropriation Item	Second Biennium		Third Biennium		Fourth Biennium	
	2004	2005	2006	2007	2008	2009
Arkansas State University						
Annual Total	$4,915,202	$4,915,202	$4,915,202	$4,915,202	$4,915,202[1]	$4,680,724[1]
Biennium Total	$9,830,404		$9,830,404		$9,595,926	
UA for Medical Sciences						
Arkansas Children's Hospital[2]	$1,994,772	$1,994,772	$2,052,205	$2,052,205	$1,333,336	$1,333,336
Annual Total	$6,156,676	$6,156,676	$6,156,676	$6,156,676	$6,156,676[3]	$6,160,957[3]
Biennium Total	$12,313,352		$12,313,352		$12,317,633	
University of Arkansas-Fayetteville						
Annual Total	$2,346,490	$2,346,490	$2,346,490	$2,346,490	$2,360,882	$2,375,593
Biennium Total	$4,692,980		$4,692,980		$4,736,475	
UA Division of Agriculture						
Annual Total	$2,346,490	$2,346,490	$2,346,490	$2,346,490	$2,380,619	$2,415,432
Biennium Total	$4,692,980		$4,692,980		$4,796,051	
ABI Annual Total	$15,764,858	$15,764,858	$15,764,858	$15,764,858	$15,813,379	$15,632,706
ABI Biennium Total	$31,529,716		$31,529,716		$31,446,085	

[1] Includes contingency for any appropriation line item of $1,966,921 for 2008 and $1,690,199 for 2009.

[2] The Arkansas Children's Hospital appropriation is included in the UAMS total appropriation.

[3] Includes contingency for any appropriation line item of $1,690,199 for both 2008 and 2009.

Table 8.9
Tobacco Settlement Funds Received and Spent by the Arkansas Biosciences Institute, by Fiscal Year

	2004		2005		2006		2007		2008**	
Institution	Received	Spent	Received	Spent	Received	Spent	Received	Spent	Received	Spent
ASU	$3,852,488	$2,728,273	$3,616,124	$3,089,744	$3,162,896	$2,376,662	$2,856,865	$3,696,310	$1,522,968	$1,308,469
UAMS	3,319,412	1,875,428	3,041,360	4,485,344	2,478,800	2,478,009	3,128,279	3,129,070	1,335,302	1,289,071
ACHRI	1,798,006	780,932	1,463,517	1,251,679	1,476,165	1,214,803	1,333,336	1,139,698	701,382	683,555
UAF	2,055,818	820,828	1,673,368	2,644,296	1,687,828	930,183	1,524,001	2,281,646	812,707	393,891
UA-Ag	2,055,818	1,943,079	1,673,368	1,786,107	1,687,828	1,687,828	1,524,520	1,524,520	812,707	657,086
Total	$13,081,542	$8,148,540	$11,467,737	$13,257,170	$10,493,517	$8,687,485	$10,367,001	$11,771,244	$5,185,006	$4,332,072
ABI Central*	$250,000	$196,001	$250,000	$302,245	$250,000	$212,536	$250,000	$268,952	$125,000	$118,373

* This amount is included in the expenditures of the individual institutions and therefore is not included in the annual total.

** Totals received and spent through December 31, 2007.

Note: ABI is able to carry over unspent funds from one year to the next within a biennium period. This explains cases where spending exceeds received dollar amount.

Summary and Recommendations

ABI has continued to fulfill the expectations set forth by its mandate. Measurement of the process indicators has demonstrated that ABI continues to achieve its programmatic goals. For their targeted research programs, ABI has increased research activities both overall and in three of the five research categories. ABI has also maintained a steady level of collaboration among research institutions during 2006 and 2007, as seen in the number of collaborative projects. The amount of funding being used for collaborative research projects has increased to almost 40 percent of the total funding. In terms of dissemination of research results, ABI increased the number of publications, lectures and seminars, media contacts, and press releases. As demonstrated by many of the institutes, community outreach activities have been steadily increasing. As the next phase of the evaluation is designed, the community outreach activities should be more systematically followed.

Below are three recommendations that come out of our most recent evaluation process.

- **Continue to foster collaborations that provide support especially to institutions with a lesser research infrastructure, so that they are able to lead projects and partner with more established institutions.**

We recommend that ABI continue to foster collaborations with other institutions, especially those with less of a research infrastructure. Collaboration among the five member organizations—Arkansas Children's Hospital; Arkansas State University; the University of Arkansas Division of Agriculture; the University of Arkansas, Fayetteville; and the University of Arkansas for Medical Sciences—has shown growth and potential since ABI's inception. These collaborations should continue, with focused opportunity for those member organizations with less developed research portfolios.

- **Begin to focus and document collaborations that lead to partnerships with, or service toward, industry, such as biotechnology companies, health insurance companies, pharmaceutical companies, and medical service providers.**

We recommend that ABI continue to focus on and document collaborations with other organizations that lead to future partnerships with, or service toward, industry. Such collaborations also may lead to increased and continued patent activity.

- **Continue to obtain grant funding at a level that can support the infrastructure that has been established at the different institutions.**

We recommend that ABI continue to aggressively seek out grant funding at a level that can support a higher infrastructure at all five of its member institutions. The existence of ABI has benefited all of the member institutions. Continued funding for research will contribute toward the growth of individual member institutions and ABI as a whole.

Chapter 9.
Medicaid Expansion Program

Program Description and Update

The goal of the Department of Human Services (DHS) Medicaid Expansion Program is to "expand access to health care through targeted Medicaid expansions, thereby improving the health of eligible Arkansans." The Medicaid Expansion Programs (MEP) include the following four efforts:

1) **Pregnant Women's Expansion Program**: This program expands Medicaid coverage and benefits to pregnant women.
2) **AR-Seniors Program**: This program expands noninstitutional coverage and benefits to Medicare beneficiaries age 65 and over.
3) **Medicaid-Reimbursed Hospital Care Program**: This program provides expanded inpatient and outpatient hospital reimbursements and benefits to adults ages 19 to 64.
4) **ARHealthNetworks Program**: This program provides a limited benefits package to adults age 19 to 64.

We provide an update on each program below, including any process indicators or goals related to the program. Given that the Medicaid budget is subject to regular and unanticipated changes, it is difficult for DHS to plan beyond the next budget cycle. As a result, two-year goals were established for the Medicaid program, rather than longer-term, five-year goals. The two-year goal period ended at the end of calendar year 2006, partway through the period reported here. Since then, the MEP has maintained the same annual goals. At the end of the chapter, we recommend that the MEP revisit the process indicators and form new goals to track their progress.

Pregnant Women's Expansion Program

The Pregnant Women's Expansion program provides access to Medicaid services for pregnant women with income between 133 percent and 200 percent of the federal poverty level (FPL).

The process indicator related to this program tracked the percentage of eligible women participating in Medicaid. Table 9.1 presents the enrollment activity in terms of the number and percentage of eligible pregnant women participating in Medicaid.[6] After the program's inception in the second half of 2001, enrollment increased and then stabilized at an average of over 1,700 participants during each six-month period. Enrollment peaked in the first half of 2006 and then again in the first half of 2007 with nearly 1,860 enrollees, representing 47 percent of the eligible population. During the last half of 2007, enrollment was down slightly to 1,753 enrollees, representing 45 percent of the eligible population.

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[6] The denominator used in establishing the proportion was based on Department of Health 2002 estimates of potentially eligible individuals. In total, 7,800 women were estimated to be eligible in 2002, and we divided this amount by two to reflect the six-month time periods used for tracking this indicator.

Table 9.1
Eligible Women Using Expanded Pregnancy Benefits

Six-Month Period	Number	Percentage*
Jul-Dec 2001	266	6.8%
Jan-Jun 2002	957	24.5
Jul-Dec 2002	1,553	39.8
Jan-Jun 2003	1,724	44.2
Jul-Dec 2003	1,664	42.7
Jan-Jun 2004	1,596	40.9
Jul-Dec 2004	1,611	41.3
Jan-Jun 2005	1,746	44.8
Jul-Dec 2005	1,731	44.4
Jan-Jun 2006	1,859	47.7
Jul-Dec 2006	1,833	47.0
Jan-Jun 2007	1,857	47.6
Jul-Dec 2007	1,753	44.9

* The denominator of 3,900 potential eligibles was based on a 2002 estimate established by the Department of Health of 7,800 potential eligibles annually, which was divided by 2 to reflect the six-month time periods used for tracking this indicator.

The enrollment goal established for this program was to increase enrollment by 15 percent annually. Since its first full year of operation (2002), the program has not met its enrollment goal in any year. During 2006, the enrollment increased by 6 percent. In 2007, enrollment in the Pregnant Women's Expansion program declined by 4 percent to 1,753 enrollees. One reason the program has been unable to meet its enrollment goal may be the lack of outreach efforts to inform potentially eligible participants about the program and its benefits. DHS has also faced a backlog of applications and reevaluations because of difficulties in hiring staff. Recently, it hired 50 full-time workers for the general Medicaid program to process overdue reevaluations.

A second goal established for this program is to have beneficiaries currently enrolled in the Pregnant Women's Expansion program utilize services at the same or higher levels as the average pregnant Medicaid beneficiary not enrolled in the Pregnant Women's Expansion program. This goal derived from a concern that individuals enrolled in the Pregnant Women's Expansion program were not using services at the same rate as others, due in part to a lack of knowledge about the services for which they were eligible. To achieve this goal, DHS was going to engage in more outreach efforts to potential enrollees and providers to inform them of available coverage and services. We evaluated service utilization for pregnant women enrolled in Medicaid through the Pregnant Women's Expansion program as compared to utilization for pregnant women enrolled in Medicaid whose income was below 133 percent of the FPL

(referred to below as the control group). We compared average utilization over time, measured as the percentage of enrollees who used at least one service during the month.[7]

Figure 9.1 shows the utilization rate for women enrolled in the Pregnant Women's Expansion program compared to the average pregnant Medicaid beneficiary. During 2006 and 2007, the utilization rate for women enrolled through the Pregnant Women's Expansion program averaged 61 percent as compared to 41 percent for the control group. In prior years, the trend lines for the two groups have been much closer together and sometimes almost identical. Overall, service utilization for the women enrolled in the Pregnant Women's Expansion was notably higher than that of pregnant women enrolled in traditional Medicaid.

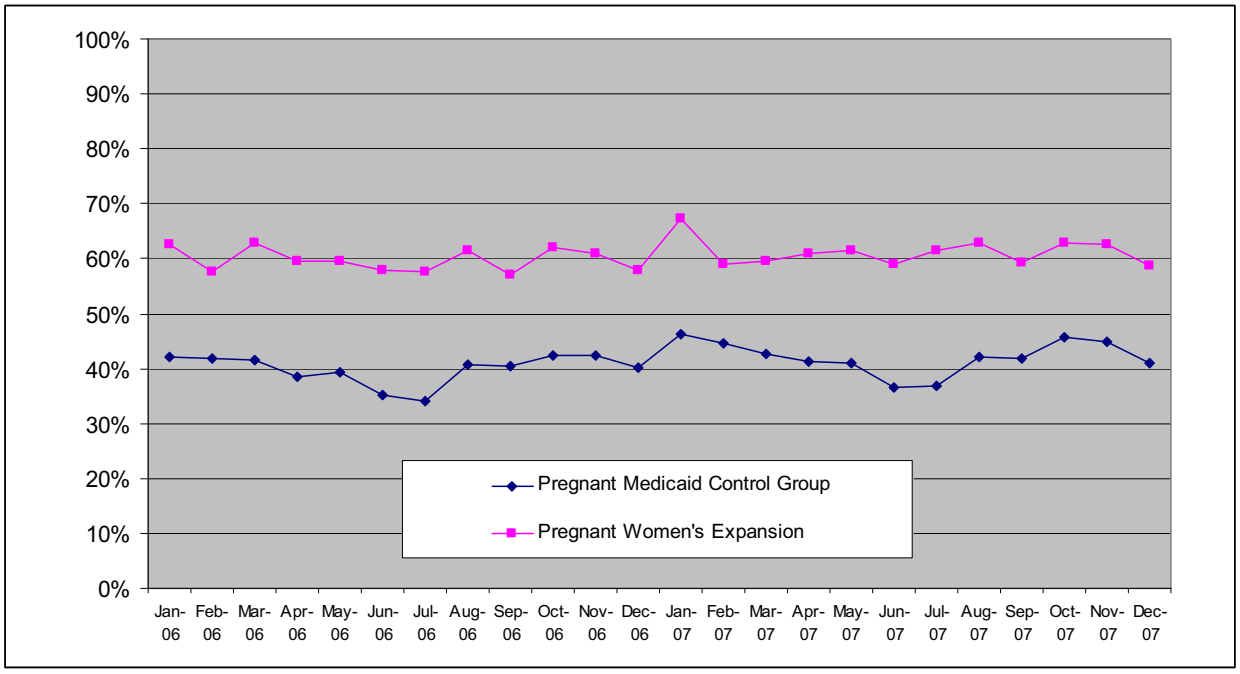

Figure 9.1
Percentage of Enrollees in Expanded Medicaid Pregnancy Benefits Who Used at Least One Service, CY 2006–2007

AR-Seniors Program

The AR-Seniors program expands Medicaid benefits to Medicare beneficiaries deemed eligible for Qualified Medicare Beneficiary (QMB) status and with incomes at or below 80 percent of the FPL. To be eligible, one must first apply to be a QMB. QMB status is available

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[7] Measurement issues make it difficult to attribute any differences in utilization between these groups to poor knowledge about services or providers available. Differences observed may be the result of differences in case mix. Those in the lower income group may be more likely to have a high-risk pregnancy that requires more attention from the medical community. Additionally, given that women enrolled through the expansion program have higher incomes, they may be more likely to pay out of pocket for certain items such as prenatal vitamins, thus explaining differences in utilization. Pregnant women enrolled through traditional Medicaid are, by definition, lower income than those enrolled through the expanded coverage. They may also have been enrolled in Medicaid for a longer period of time, reflecting greater need over an extended period of time.

to all Medicare beneficiaries with income at or below 100 percent of the FPL. Once that individual's income falls to 80 percent of the FPL or lower, he or she becomes eligible for the AR-Seniors program and can receive the full array of Medicaid benefits.

The process indicator related to this program tracked the percentage of eligible persons age 65+ with income ≤80 percent of FPL participating in the program. Table 9.2 presents summary information on enrollment of Medicare beneficiaries who have been deemed eligible for the AR-Seniors program. In this table, we present the counts of individuals enrolled in each period as well as the proportion of all potentially eligible individuals who are actually enrolled. While the enrollment continued to increase in the first half of 2006, since then the enrollment decreased somewhat before stabilizing. In terms of the proportion of eligible participants, we present the proportions with two different denominators. The first denominator is based on Medicaid estimates of the eligible QMB population (approximately 5,000 enrollees). Based on this denominator, the AR-Seniors program is over capacity. Current enrollment is over 5,000 enrollees, exceeding previous enrollment estimates. The second denominator comes from the Arkansas census data, Medicaid and SSI enrollments. We estimate that in 2005, there were just over 56,000 adults age 65 and older whose income was at or below 80 percent of the FPL. We subtract from that those who were already eligible for Medicaid because of Supplemental Security Income (SSI) eligibility and those already in an institution with incomes up to 300% of the SSI limit (these two populations are not eligible for AR-Seniors). The resulting denominator is 29,832 seniors who could be potentially eligible for the AR-Seniors program. Based on this denominator, the program is at just over 17 percent capacity.

Table 9.2
Eligible Elderly Persons Using Expanded Medicaid Coverage

Six-Month Period	Number	Percentage of Eligible QMBs*	Percentage of Total Eligibles**
Jul-Dec 2002	1,567	31.1	5.3
Jan-Jun 2003	3,795	75.9	12.7
Jul-Dec 2003	4,040	80.8	13.5
Jan-Jun 2004	4,120	82.4	13.8
Jul-Dec 2004	4,734	94.7	15.9
Jan-Jun 2005	4,946	98.9	16.6
Jul-Dec 2005	5,147	102.0	17.3
Jan-Jun 2006	5,324	106.5	17.8
Jul-Dec 2006	5,083	101.7	17.0
Jan-Jun 2007	5,096	101.9	17.1
Jul-Dec 2007	5,157	103.1	17.3

* Denominator estimated by the Arkansas Medicaid program based on number of individuals in Arkansas enrolled as Qualified Medicare Beneficiaries (5,000 enrollees).

** Denominator obtained from the Arkansas Census data in the PUMS 1% file (56,089 potentially eligible based on 2005 estimates), SSI enrollment, and Medicaid files. We subtracted from the Census estimates that portion of the aged population (65+) already on SSI as of December 2005 (10,048 individuals) as they are eligible for Medicaid through normal channels. We also subtracted from this estimate the number of aged beneficiaries in a long-term care institution with incomes up to 300% of the SSI limit as of December 2005 (16,209). The resulting denominator is 29,832.

The enrollment goal established for this program was to increase enrollment by 10 percent annually. The AR-Seniors program did not meet this goal. Since 2005, enrollment increased by less than one percent. The slower-than-expected growth is partially attributable to the lack of any formal outreach programs for the AR-Seniors initiative during the year. There have also been problems in some parts of the state with adequate staffing for the benefit offices, which may affect reevaluations to determine eligibility. Further, those who might be eligible for the AR-Seniors program may not be easily identified. Seniors must first enroll as QMBs to be picked up for AR-Seniors. QMB status is available to all Medicare beneficiaries with income at or below 100 percent of the FPL. Even if an individual is income-eligible for the AR-Seniors program, he or she will not be enrolled unless designated as a QMB. At the same time, the availability of Medicare Part D has not decreased program participation as expected. Since DHS believed that many of those enrolling in AR-Seniors were doing so for the prescription drug benefits, it had expected to see a decline in program participation.

A second goal established for this program is to have beneficiaries currently enrolled in the AR-Seniors program utilize services at the same or higher levels as the average dually-eligible beneficiary not enrolled in the AR-Seniors program. This goal derived from a concern that individuals enrolled in the AR-Seniors program were not using services at the same rate as others, due in part to a lack of knowledge for which services they were eligible. To achieve this goal, DHS was going to engage in more outreach efforts to potential enrollees and providers to inform them of available coverage and services. To evaluate progress toward this goal, we evaluated service utilization data for individuals enrolled in AR-Seniors during 2006 and 2007 compared to dually-eligible older adults (both Medicare and Medicaid eligible) who were automatically enrolled due to SSI eligibility (referred to below as the control group).[8] We compared average monthly utilization over time, measured as the percentage of enrollees who used at least one service during the month.

Figure 9.2 below presents the average monthly utilization over time. On average, 56 percent of AR-Seniors enrollees used at least one service as compared to 73 percent among those in the control group. The trend lines over 2006 and 2007 are fairly flat, suggesting that the differences in utilization are stable. Based on these analyses, AR-Seniors enrollees appear to be using services at lower rates than other dually-eligible individuals. This may in part reflect the lack of educational outreach efforts for current enrollees, the newly enrolled, and potential enrollees for the AR-Seniors program. However, these analyses are limited by measurement issues such as the difference in case mix between the two groups.

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[8] Some measurement issues make it difficult to attribute any differences in utilization between these groups to poor knowledge about services or providers available. First, these analyses do not control for any differences in case mix between the two groups. Additionally, those in the control group may have been enrolled for a longer period of time and have had enough time to identify the appropriate provider networks, thus also potentially explaining the differences in utilization. SSI beneficiaries become eligible for this benefit if they are low income and either over 65 or under 65 and blind or have a disability. Many SSI beneficiaries "age into" Medicare, meaning they were previously disabled or blind, and were enrolled in SSI and Medicaid eligible for a length of time before they reached age-eligibility for Medicare enrollment. The AR-Seniors enrollees, by definition, have higher incomes than do those enrolled in Medicaid due to SSI eligibility. These considerations are indicative of a control group that may be sicker on average than the AR-Seniors group, thus explaining the higher rates of utilization.

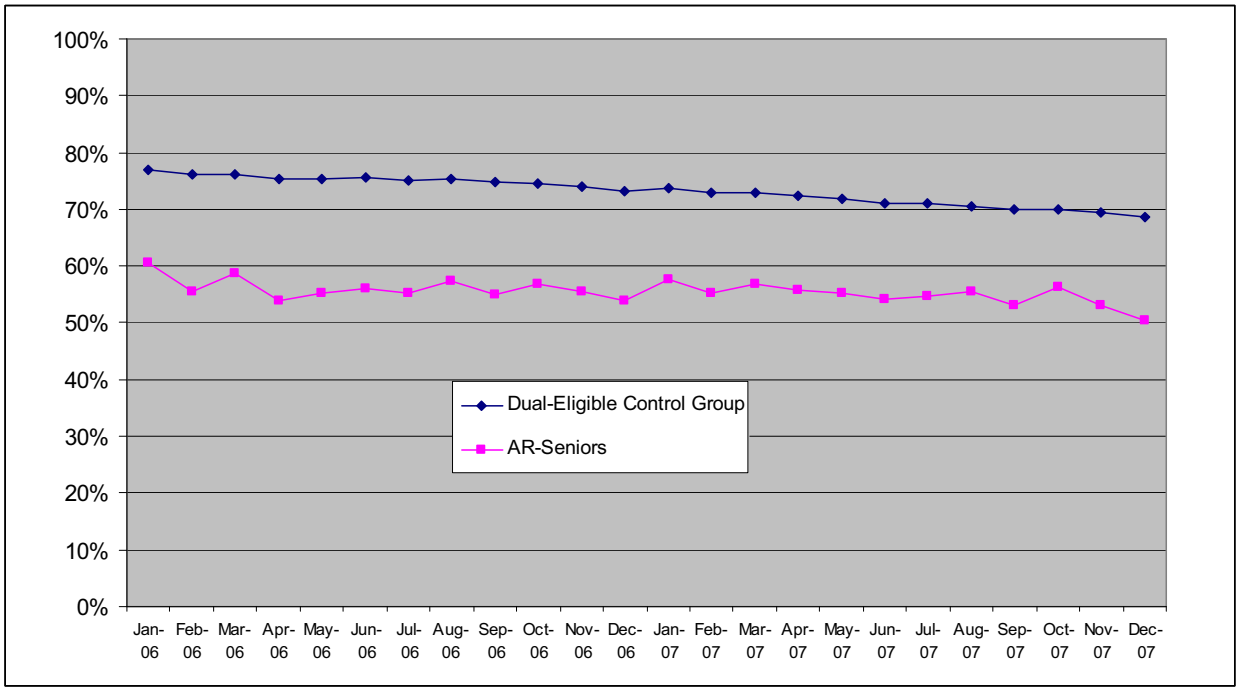

Figure 9.2
Percentage of Enrollees in the AR Seniors Program Who Used at Least One Service, by Month, CY 2006-2007

Medicaid-Reimbursed Hospital Care Program

This program expands Medicaid-reimbursed hospital care and reduces cost sharing for hospital stays of Medicaid beneficiaries ages 19 to 64.

The process indicator related to this program tracks the number of eligible Medicaid recipients using expanded inpatient reimbursements. Table 9.3 presents the number of eligible adult Medicaid recipients using expanded hospital reimbursements. It includes use of either reduced co-payments or expanded hospital days covered per year from 20 to 24 days. The program experienced a steep decline in utilization between the end of 2005 and the end of 2006 before increasing somewhat during 2007. According to the DHS staff, hospital lengths of stay have not shifted considerably; however, few people are in the hospital long enough to benefit from the expanded reimbursements. The expanded benefit generally benefits tertiary hospitals the most, and there are fewer such hospitals relative to smaller community hospitals.

ARHealthNetworks Program

The most notable achievement for the Medicaid Expansion Programs since the last report is the approval by CMS of a limited benefits package for adults age 19 to 64. Approval of the program was enabled in part by the inclusion of additional state funds from other tobacco settlement programs including the Minority Health Initiative and the Tobacco Prevention and Cessation Program under an umbrella program called the Health and Wellness Benefit Program.

Table 9.3
Medicaid Enrollees Using Expanded Inpatient Benefits

Six-Month Period	Number of Beneficiaries*
Jul-Dec 2001	2,448
Jan-Jun 2002	22,933
Jul-Dec 2002	26,305
Jan-Jun 2003	29,077
Jul-Dec 2003	21,303
Jan-Jun 2004	21,732
Jul-Dec 2004	24,961
Jan-Jun 2005	22,815
Jul-Dec 2005	19,203
Jan-Jun 2006	17,983
Jul-Dec 2006	15,841
Jan-Jun 2007	20,449
Jul-Dec 2007	17,218

* The eligible population is Medicaid recipients between the ages of 19 and 64.

The program offers a limited benefits package to employees and their families age 19 to 64 with income at or below 200 percent of the FPL working in firms with between two and 500 employees. The benefit package includes a maximum of seven inpatient days per year, including acute hospital care and inpatient surgery; two outpatient hospital services per year, including outpatient surgery and emergency room visits; up to six outpatient physician visits per year; laboratory and x-ray services associated with a physician visit; and up to two prescriptions per month using a three-tiered formulary. Employers are eligible to participate in the program and make these benefits available to their employees if they have not offered group health insurance in the previous 12 months. The average premium for subsidized members is $32 per month. Employers are required to cover all eligible individuals through this or another insurance plan. The subsidized participants are funded via a state subsidy funded by DHS tobacco settlement allocation. The amount of the state subsidy varies depending on whether the participant is a parent or a childless adult, since the federal match rate differs for these two groups.

DHS began to enroll potential beneficiaries in the program, now called ARHealthNetworks, as of January 1, 2007 using a third-party administrator, NovaSys Health, selected through a competitive bid process. NovaSys Health administers the program using a network of brokers. The brokers identify the employers and employees and then NovaSys Health conducts preliminary eligibility screening of the employees before verifying eligibility with DHS. The program rules require 100 percent participation by eligible employees.

A new process indicator for this program tracks the number of enrollees into the ARHealthNetworks Program. The program is being implemented in two phases; Phase I ends on September 30, 2008 and has an enrollment cap of 15,000 individuals based on arrangements with CMS. In Phase II, the enrollment cap is an additional 35,000 individuals.

Table 9.4 shows the participants for 2007. For CMS, DHS set a goal of 1,500 enrollees during the first year of the waiver, which ended on September 30, 2007. It reached this goal and had cumulative enrollment of just over 2,100 subsidized enrollees by the end of 2007. Since then, enrollment has increased to 200–300 new subsidized enrollees per month. DHS is conducting a feasibility study on covering self-employed individuals as required under the CMS terms and condition.

The more than 2,800 subsidized enrollees by the end of March 2008 are employed by 682 companies. With an average group size of just over four subsidized enrollees per employee, ARHealthNetworks has been successful with smaller companies. While it ha enrolled some larger groups, the program is more attractive to smaller companies. Some of the administrative requirements, such as a 100 percent participation rate for eligible employees, the need to verify eligibility and citizenship (since it involves a federal subsidy), and the cost to the employee, make it easier for smaller companies to participate. Even though the cost sharing is modest, they have found that some individuals are not willing to pay even a small amount to gain health insurance.

Table 9.4
Eligible Adults Participating in ARHealthNetworks

Six-Month Period	Subsidized Participants in Program
Jan-Jun 2007	462
Jul-Dec 2007	2,176

DHS has been doing a lot of marketing and outreach for this program. In 2007, the governor toured the state talking about the program, which generated a lot of local and regional media coverage. The high level of interest within the state government has lent credibility to the program. Early on, DHS focused on producing materials, radio ads, and an insert for the Sunday paper that was distributed statewide. Moving forward in 2008, it is focusing more on community events. It is reaching into smaller markets and working jointly with the local chambers of commerce and the local hospitals to bring together current and prospective participants to discuss the program.

Progress Toward Achieving Program Goals

Given that the Medicaid budget is subject to regular and unanticipated changes, it is difficult for DHS to plan beyond the next budget cycle. As a result, two-year goals were established for the Medicaid program, rather than longer-term, five-year goals.

Two of the goals established (Goals 1 and 2) were derived from this concern that individuals enrolled in either of these programs were not using services at the same rate as others, due in part to a lack of knowledge for which services they were eligible. Another concern was that enrollment into these expansion programs was below where estimates suggest they should be. Goals 3 and 4 were established in response to this concern. To achieve these goals, DHS was going to engage in more outreach efforts to potential enrollees and providers to inform them of available coverage and services. Table 9.5 summarizes progress toward these goals. Overall, MEP only accomplished one of its programmatic goals.

Table 9.5
Medicaid Expansion Program Goals and Status over the Last Two Years

Goal	Status
Goal 1: Beneficiaries currently enrolled in the AR-Seniors program will utilize services at the same or higher levels as the average dually-eligible beneficiary not enrolled in the AR-Seniors program.	NOT ACCOMPLISHED. During 2006 and 2007, fewer AR-Seniors enrollees used at least one service as compared to the control group. This may in part reflect the lack of educational outreach efforts for current enrollees, the newly enrolled, and potential enrollees for the AR-Seniors program. Further, these analyses are limited by measurement issues such as the difference in case mix between the two groups and differences in length of enrollment.
Goal 2: Beneficiaries currently enrolled in the Pregnant Women's Expansion program will utilize services at the same or higher levels as the average pregnant Medicaid beneficiary not enrolled in the Pregnant Women's Expansion program.	ACCOMPLISHED. DHS achieved this goal during 2006 and 2007, even without educational outreach efforts during the last two years. The utilization rate for women enrolled through the Pregnant Women's Expansion program averaged 61 percent as compared to 41 percent for the control group.
Goal 3: Enrollment in the AR-Seniors program will increase by 10 percent.	NOT ACCOMPLISHED. The goal was to increase enrollment for the AR-Seniors program by 10 percent. However, enrollment increased by less than one percent in each of the last two years. The slower-than-expected growth is partially attributable to the lack of any formal outreach programs for the AR-Seniors initiative during the year. There have also been problems in some parts of the state with adequate staffing for the benefits offices which may impact re-evaluations to determine eligibility. Further, those who might be eligible for the AR-Seniors program may not be easily identified.
Goal 4: Enrollment in the Pregnant Women's Expansion program will increase by 15 percent.	NOT ACCOMPLISHED. During 2006, the enrollment increased by 6 percent. In 2007, enrollment declined by 4 percent. The decline in enrollment may be a result of the lack of outreach efforts to inform potentially eligible participants about the program and its benefits.

Analysis of Spending Trends

Act 1574 of 2001, H.B. 1377 of 2003, H.B. 2088 of 2005, and HB1355 of 2007 appropriated funds for the Medicaid Expansion Programs for the first four biennium periods of the tobacco settlement fund allocation. Table 9.6 details the appropriations by fiscal year. Separate appropriations were made for three components of Medicaid operations—county operations (where enrollments are managed), Medicaid services (administration of health care benefits), and medical services (expenses for health care services delivered to recipients). The appropriation amounts reported include the federal matching dollars for the Medicaid program.[9]

As illustrated in Table 9.6, FY 2008 and FY 2009 appropriations for county operations are similar to prior years' with the exception of an additional $500,000 allocated for professional fees. The FY 2008 and FY 2009 appropriations for salaries and fringe for Medicaid services are down from prior years but well above historical spending. The FY 2006 appropriation increased the line item for hospital and medical services by approximately $50 million over previous years' allocations. These additional funds were appropriated as a "cushion" for emergency purposes but were not required. The amount for hospital and medical services returned to historical levels for FY 2007 and then increased 6 percent from FY 2007 to FY 2008 and about 25 percent from FY 2008 to FY 2009. The appropriations for prescription drugs are about 20 percent higher than the previous biennium.

Table 9.7 presents the total annual funds spent by the Medicaid Expansion Programs from FY 2004 through the first half of FY 2008. The original act creating the Medicaid Expansion Programs called for four different expansion programs; however, as described above, the AR Health Networks program had not been approved until the first half of FY 2006. Therefore, it is not surprising that the Medicaid program did not spend the full amount it was appropriated in the first and second biennium and has continued to underspend relative to the appropriation as the new program ramps up.

The additional staff and overhead required for the Medicaid Expansion Programs are minimal compared to the medical services expenses; and very little has been spent on regular salaries, fringe, and maintenance and operations. Funds for medical services, in particular prescription drugs, were underspent, in large part because the ARHealthNetworks program had not been implemented. Although the program is now in operation, it is still very small relative to the other programs.

Total spending for the Medicaid Expansion Programs grew steadily though FY 2006, followed by a slight decline in FY 2007. Spending on hospital services has steadily increased but spending on prescription drugs peaked in FY 2005 then decreased in FY 2006 and FY 2007.

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9 The funds appropriated in the appropriations legislation included both the state and federal amounts to be spent on the Medicaid program. The Medicaid program staff reported that it was not possible for them to disaggregate the federal matching dollars from tobacco settlement funds, so they provided the total numbers.

Table 9.6
Tobacco Settlement Funds Appropriated for the MEP Program, by Fiscal Year

	Second Biennium		Third Biennium		Fourth Biennium	
Item	2004	2005	2006	2007	2008	2009
Section 3: County Operations						
(1) Regular salaries	$1,389,539	$1,427,057	$1,494,764	$1,540,391	$1,542,378	$1,573,201
(2) Personal service matching	466,522	473,403	536,538	545,531	571,778	578,085
(3) Maintenance and general operation						
(A) Operating expenses	195,795	195,795	195,795	195,795	195,795	195,795
(B) Conference and travel	0	0	0	0	0	0
(C) Professional fees	0	0	0	0	500,000	500,000
(D) Capacity outlay	0	0	0	0	0	0
(E) Data processing	0	0	0	0	0	0
(4) Purchase data processing	50,000	50,000	50,000	50,000	50,000	50,000
Section 4: Medicaid Program Management						
(1) Regular salaries	72,539	74,497	76,007	78,286	62,644	63,896
(2) Personal service matching	20,024	20,383	22,661	23,110	21,217	21,473
(3) Maintenance and general operation						
(A) Operating expenses	15,973	15,973	15,973	15,973	15,973	15,973
(B) Conference and travel	2,000	2,000	2,000	2,000	2,000	2,000
(C) Professional fees	0	0	0	0	0	0
(D) Capacity outlay	0	0	0	0	0	0
(E) Data processing	0	0	0	0	0	0
Section 5: Medical Services						
(1) Prescription drugs	29,063,678	29,063,678	5,000,000	5,000,000	6,000,000	6,080,000
(2) Hospital and medical services	46,765,542	46,765,542	100,428,742	45,428,742	48,291,335	60,556,174
Annual Total	$78,041,612	$78,088,328	$107,822,480	$52,879,828	$57,253,120	$69,636,597
Biennium Total	$156,129,940		$160,702,308		$126,889,717	

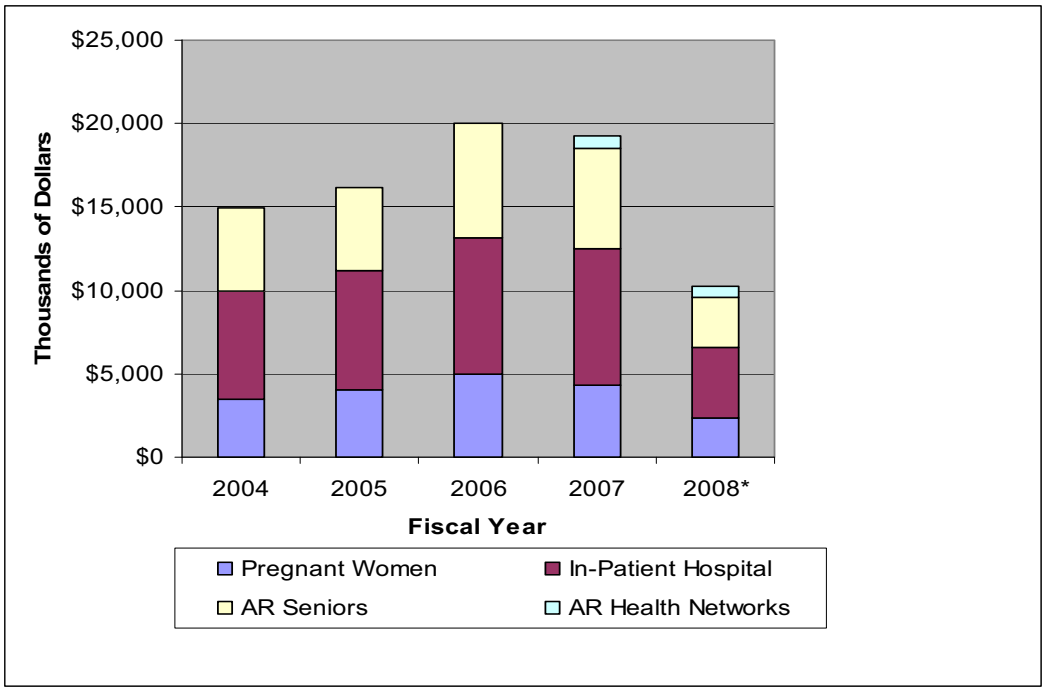
Table 9.7
Spending by the Medicaid Expansion Programs, Sum of Tobacco Settlement Funds and Federal Matching Funds, by Fiscal Year

Item	2004	2005	2006	2007	2008*
Section 3: County Operations					
(1) Regular salaries	$ 435,996	$440,236	$462,936	$500,858	$232,311
(2) Personal service matching	295,259	284,699	322,788	326,389	167,176
(3) Maintenance and general operation					
(A) Operating expenses	3,256	4,258	3,058	0	0
(B) Conference and travel	0	0	0	0	0
(C) Professional fees	0	0	0	0	0
(D) Capacity outlay	0	0	0	0	0
(E) Data processing	0	0	0	0	0
(4) Purchase Data Processing	11,094	9,811	11,076	10,078	3,587
Total County	$745,605	$739,004	$799,858	$837,325	$403,074
Section 4: Medicaid Program Management					
(1) Regular salaries	48,178	25,176	39,545	47,637	36,489
(2) Personal service matching	12,635	11,622	15,850	17,371	11,746
(3) Maintenance and general operation					
(A) Operating expenses	4,298	3,168	3,394	2,897	2,941
(B) Conference and travel	0	0	0	507	0
(C) Professional fees	0	0	0	0	0
(D) Capacity outlay	0	0	0	0	0
(E) Data processing	0	0	0	0	0
Total Medicaid Program	$65,111	$39,966	$58,789	$68,412	$51,176
Section 5: Medical Services					
(1) Prescription drugs	3,610,946	5,355,719	3,754,056	2,785,373	1,373,111
(2) Hospital and medical services	11,317,329	13,707,834	16,196,206	16,447,328	8,863,768
Total Medical Services	$14,928,275	$19,063,55	$19,950,26	$19,232,70	$10,236,879
Annual Total Spending	$15,738,991	$19,842,52	$20,808,90	$20,138,43	$10,691,129
Annual Total Appropriated	$78, 041,612	$78,088,32	$107,822,4	$52,870,82	$57,253,120

* Total spent through December 31, 2007.

Figure 9.3 shows the spending by the four operational Medicaid Expansion Programs from FY 2004 through the first half of FY 2008. The inpatient hospital program was the first program to begin spending tobacco settlement and matching federal funds in November 2001 (second quarter of FY 2002). Spending for this program has increased each year over this period. The pregnant women expansion program began in November 2001 (second quarter of FY 2002); however, expenditures lagged behind the beginning of the program due to global fee billings after delivery of the baby. After two quarters of start-up, spending grew nearly 30 percent from FY 2003 to FY 2005. Spending increased again in 2006, then decreased about 15

percent in 2007. The AR-Seniors program began in November 2002 (second quarter of FY 2003) and spending increased steadily from that point until 2007 when it decreased about 13 percent. The ARHealthNetworks program began operations in FY 2007 and spent approximately $781,000. It is expected to show significant growth in FY 2008, as approximately $623,000 was spent in the first half of FY 2008.



* Total spent through December 31, 2007.

Figure 9.3
Spending by the Medicaid Expansion Programs, Sum of Tobacco Settlement Funds and Federal Matching Funds, by Program, by Fiscal Year

Summary and Recommendations

Aside from the new ARHealthNetworks program, enrollment in the Medicaid programs slowed considerably and declined in the case of the Pregnant Women's Expansion. There is still a substantial need for more education and outreach so the general population and providers can be reached and informed about the available programs. In addition, DHS needs to do more education of the enrollees to ensure that they understand their health care benefits under the expanded coverage programs. Below are four recommendations that come out of our most recent evaluation process.

- **Develop new programmatic goals and revisit the process indicators that track progress toward the goals.**

With three of the four programs now well established, DHS should use the evaluation data to modify the enrollment goals for each of the programs. DHS should also determine the size of the eligible population for each program to use in tracking progress toward the enrollment goals. The denominators currently used to calculate the percentage of the eligible populations participating in the program may have shifted over time. For ARHealthNetworks, DHS needs to

establish an enrollment goal and determine the size of the eligible population to track progress toward this goal.

- **Initiate an outreach campaign to inform both potential enrollees and providers about the availability of the Medicaid Expansion Programs.**

Enrollment for the Pregnant Women's Expansion Program has remained stable over time and lags behind projections developed by DHS. Further, income-eligible elderly individuals are overlooked for enrollment in the AR-Seniors program because they are not applying for Qualified Medicare Beneficiary status. DHS should consider allocating resources to an outreach campaign that educates older adults and women of child-bearing age, as well as their providers, about the availability of these programs and the eligibility criteria. Providers who have been seeing the same patient for an extended period of time may not be aware that that patient's insurance status has changed and the patient may not know to inform the provider of that fact. More resources should be allocated to educating providers about the availability of both of these programs on a regular basis (annually or biannually). For the Pregnant Women's Expansion Program, the DHS should determine what segment of the population is not covered by Medicaid or private insurance and design an outreach campaign accordingly.

- **Allocate funds to educate newly enrolled and current enrollees in the Pregnant Women's Expansion program and the AR-Seniors program regarding the services they are eligible to receive under their respective programs.**

DHS should create an ongoing consumer education campaign that will provide information to current and new enrollees on a regular basis, at least once a year. Especially for AR-Seniors enrollees, the educational message should encourage them to always present their insurance cards to their providers, even those they have been seeing for a long time. This will ensure that those who are newly eligible for Medicaid benefits will have services appropriately billed to the insurer and will reduce the chances that services are paid out of pocket unnecessarily.

- **Develop partnerships with some of the other tobacco settlement programs or other state or local organizations to educate and conduct outreach in communities.**

With the need for more education and outreach, DHS should partner with the other tobacco settlement programs to effectively get the word out about available programs. For example, they should consider partnering with the Centers on Aging around the state (also funded by tobacco settlement funds), the Area Agencies on Aging (AAAs), the state quality improvement organization, and other relevant organizations on specific ways to reach more of the eligible population. DHS should also take advantage of existing internal efforts such as the Benefit Bank and the Department's work with faith and community groups to educate specifically on the MEP.

Chapter 10.
Evaluation of Smoking-Related Outcomes

An important part of any evaluation is examining the extent to which the programs being evaluated are having effects on the outcomes of interest. The types of outcomes might range from attitudes and behaviors of the targeted population to the clinical health of those being served. The seven programs supported by the tobacco settlement funds are extremely diverse, and therefore the outcomes of interest vary widely.

Our evaluation of the effect of the tobacco settlement programs on the well-being of the people of Arkansas is divided into two parts. This chapter presents our findings regarding the effect of the programs on smoking prevalence and on other behaviors and attitudes related to smoking. Chapter 11 reports evaluation results of the effect of programs on non–smoking outcomes.

HIGHLIGHTS OF FINDINGS ON SMOKING OUTCOMES

Our analysis of smoking behavior in Arkansas provides evidence of the continued effectiveness of the tobacco settlement programs on smoking outcomes, especially for the most vulnerable populations such as young people and pregnant women. Our main findings regarding smoking outcomes are summarized as follows:

- For the first time, we find that smoking rates for the adult population in Arkansas are significantly below what they were prior to the initiation of TPCP's tobacco settlement programming. The smoking rate in 2007 is approximately four percentage points lower than the five-year average preceding TPCP programming, which is equivalent to 16 percent fewer smokers. Although we cannot rule out that this is a continuation of a preexisting trend, it nonetheless represents a major milestone for the health of Arkansans.
- We find that women are smoking significantly less than would be predicted by their baseline trend, while men are not.
- We continue to find that young people are smoking less than would be expected based on trends prior to the TPCP tobacco settlement programs. Many data sources confirm this finding. All of the following groups show substantial decreases in smoking:
  - Middle school students
  - High school students
  - Young adults, age 18 to 25
  - Pregnant teenagers
  - Pregnant women, age 20 to 29.
- The dramatic improvement in compliance with laws prohibiting sales of tobacco products to minors has continued and has been verified by federal auditors.
- Our analysis of the variation in smoking by county finds very weak evidence that people who live in areas where the ADH focused its TPCP activity are less likely to

smoke. An imbalance in TPCP resources among Arkansas counties continues, with resources distributed without apparent regard to need.

- There have been reductions in the hospitalization rates for a variety of diseases that are affected by smoking and by second hand smoke. The strongest evidence is for reductions in hospitalizations for strokes and acute myocardial infarctions (heart attacks).

As in past years, our analysis of smoking rates for young adults, pregnant adults, and pregnant teenagers shows conclusively that these groups are smoking less than would be expected if there had been a continuation of the trends in rates that preceded the tobacco settlement programming. This year's report provides additional evidence from a new data source of decreased smoking among high school students. Reductions in smoking among young people are particularly advantageous because as this population ages, these reductions will provide health dividends to the state for years to come. This optimistic conclusion is based on the assumption that young people will not initiate or resume smoking when they are older; such an assumption is supported by evidence in the literature.

Although smoking rates for pregnant women remain below the baseline trend, we find that there have not been additional gains for this group since those made immediately after the initiation of programming. This trend should be monitored for additional progress in the future.

OUTCOME ANALYSIS APPROACH

This chapter documents the cumulative effect of the smoking control policies and programs since the initiation of the tobacco settlement programs. The effects addressed here are changes in overall smoking behavior across the state's population, which are influenced collectively by the actions taken by various programs to affect this outcome, including tobacco taxes, smoke-free-environment laws, and the tobacco settlement programs, in addition to other possible unidentified factors.

Our approach is guided by the conceptual model of behavioral responses presented in Figure 10.1, which defines a set of outcomes that should occur in response to educational programs and treatment interventions to reduce smoking rates. According to this model, the first outcome we would expect to observe is a decline in self-reported smoking, which then should be validated by a decline in sales of tobacco products that is simultaneous or follows very soon. As smoking rates decrease, we then should see reductions in short-term health effects of smoking, such as low-birth-weight infants or hospital stays due to asthma exacerbations. Finally, effects on longer-term health status, such as reduced incidence of cancer, emphysema, or heart disease, will occur later. As indicated by the dashed box in Figure 10.1, longer-term health effects lie outside the scope of this evaluation.

Assessment of program impacts requires the ability to connect the effort undertaken by a program to the expected outcome in a way that takes into account other factors that influence the outcome. If this is not done, changes in an outcome could be attributed incorrectly to a program or intervention when in fact the changes were due to other factors. Examples of other factors include the following:

- Broader (nationwide or regional) trends that are independent of local program efforts
- Continuation of trends that predate the program and reflect effects of earlier actions or interventions

- Changes in the demographic composition of the population
- Efforts by other related programs.

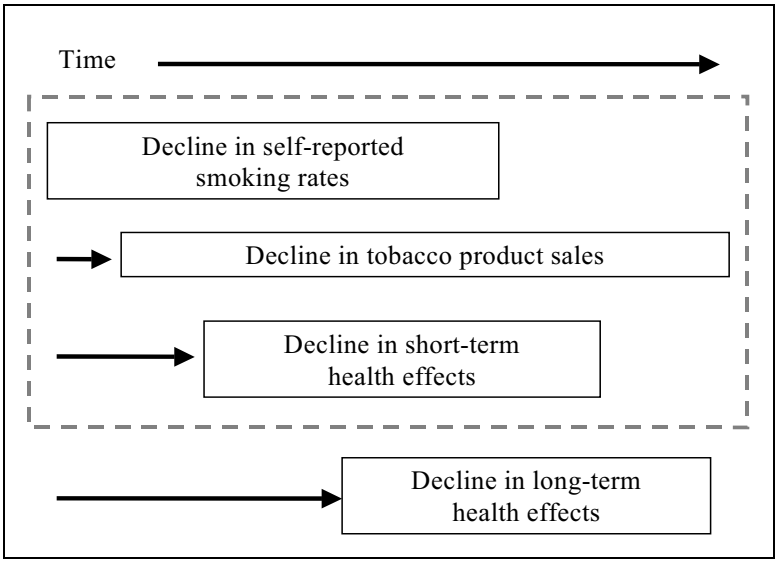


Figure 10.1 Conceptual Model of Behavioral Responses for Smoking Cessation

Assessment also requires that findings be presented with an indication of their statistical precision. Whenever survey data are collected and analyzed, it is important to report not only the size of the effect, but also the degree of certainty. The degree of certainty can be reported as a margin of error (+/– so many percent), as a confidence interval (the narrower the interval, the more precise the estimate), or as a significance level on a hypothesis test (whether or not the finding is reliable or could occur by chance). Without this additional information, the reader does not know whether an apparent impact reflects changes in the underlying behavior or merely variability in the data or model.

Our analysis focuses on smoking outcome measures for the entire target population rather than for program participants alone. For example, we measure changes in smoking rates for all adults in Arkansas rather than for a group who participated in a particular prevention or cessation program. In many cases the target population is restricted to a particular demographic group (e.g., youth) or a specific geographic region (e.g., the Delta), but in all cases we measure outcomes for that entire target population, not for a specific group of program participants.

There are several reasons for this approach. First, some components, such as smoking control measures, media campaigns, and other educational outreach efforts, do not have participants per se, but are targeted at everyone in a particular population. In such cases, the entire target population must be the focus of the analysis. Second, some program components, either alone or in combination with other program components that have similar goals, have sufficient size that an impact should be measurable at a population level. In such a case, it is important to demonstrate that the program affects a broad segment of the population. Third, many programs have an impact that extends beyond the immediate participants. For example, programs that attempt to change the behavior of program participants through education can affect the behavior and health outcomes of other people who are in contact with the immediate

participants. Finally, and perhaps most importantly from an evaluation standpoint, it is very difficult to distinguish between pre-program tendencies and the impact of the program under study if only outcomes for program participants are considered. The people who participate in a specific program frequently are the most motivated individuals in the population, and many would improve their outcomes even without participating in the program.

Only through comparison to a control group or through careful statistical modeling is it possible to determine whether the outcomes for a group of program participants are due to the program or simply reflect a high level of motivation on the part of program enrollees. However, in this case, creating a randomized control group is neither cost-effective nor politically feasible. Collecting voluminous background information on participants to use in statistical modeling is also expensive and intrusive. Therefore, we focus our outcome evaluation on programs that we judge to be sufficiently large to have a measurable impact on an identifiable target population and for which we have population outcome measures. In adopting this approach, we acknowledge that we might not be able to detect small effects on the participants, but we gain the ability to better measure the more general effects that are the ultimate objective of the programs.

CHAPTER ORGANIZATION

This chapter is organized in a similar fashion to the chapter in our past reports on smoking outcomes. However, with every year the amount of data increases, allowing us to extend our analyses and in some cases detect significant changes in trends. In the remainder of the chapter, we present the following information:

Adult Smoking Behavior. As we have for the previous reports, we analyze trends in the percentage of adults in Arkansas who smoke.

Cigarette Sales. We update our analysis of the sales of cigarettes in Arkansas. However, large cigarette excise tax increases in several neighboring states have given rise to increased cross-border sales, making any interpretation of this analysis more problematic than in past years.

Youth Smoking Behavior. We update our analysis of smoking by pregnant teenagers and by young adults, as well as our analysis of illegal sales of cigarettes to minors. We also review the analysis by ADH of the smoking behavior of middle school and high school students made possible by a new wave of data from the Youth Tobacco Survey.

Geographic Analysis. We update our analysis of the distribution of ADH tobacco control spending and activities among Arkansas counties and the relationship with county-specific smoking trends.

Smoking-Related Health Indicators. We update our analysis from the 2006 report on the incidence of smoking-related health conditions.

TRENDS IN SMOKING BEHAVIORS

In this section, we examine statewide trends in smoking behaviors and assess the extent to which there have been any changes in those trends since the inception of the programs supported by the tobacco settlement funds. Because the tobacco settlement programs are still relatively new, we focus our analysis on the earliest outcomes that are expected to be observed, as portrayed in Figure 10.1 above. We examine self-reported smoking rates by adults and youth, using representative random sample survey data. We also take advantage of questions about

smoking during pregnancy that are collected when completing birth certificate information to provide information on smoking rates for this important subgroup. Our examination of tobacco sales uses information from the Arkansas Finance Department on the sales of cigarettes, as well as information on compliance rates with prohibitions on sales of tobacco products to youth.

The most common measure of smoking behavior is the prevalence of adult smoking as measured by the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is an annual telephone survey of randomly selected adults throughout the country that is coordinated by the CDC. The precision of the information available from this survey depends on the number of people who are surveyed. The sample size in Arkansas has risen from less than 2,000 in 1995 to more than 5,000 in 2007, so precision has increased over time, as reflected by the narrower confidence intervals in recent years.

Percentage of Adults who Smoke

Key findings: For the first time, the adult smoking rate in 2007 is significantly lower than the smoking rate in the years preceding the beginning of tobacco settlement programming in 2002. However, the rate is only slightly below what would have been expected based on a trend that started before 2002 and has not achieved the decrease that was experienced in other states that implemented comprehensive smoking control programs. Although there is no evidence that men are smoking less than would be expected based on the prior trend, there is some evidence that women are smoking less than would have been expected based on the prior trend.

Figure 10.2 shows the estimated percentages of adults in Arkansas who reported smoking for each year from 1996 through 2007, based on the BRFSS survey data. These rates are the percentage of adult Arkansans who reported that they smoke 'everyday' or 'some days' in response to the survey question, "Do you now smoke cigarettes everyday, some days, or not at all?" We also report the upper and lower limits of the 95 percent confidence intervals for these estimates.[10] As the graph illustrates, a slight downward trend is emerging. The adult prevalence estimates for the most recent three years, 2005–2007, are lower than the estimates for any of the preceding years. Careful examination reveals that the upper confidence limit for 2007 is less than the lower confidence limit for several of the years up until 2002, suggesting a statistically significant decline in adult smoking. This finding differs from our earlier reports that only had access to data through 2004. In those reports, we could not conclude that fewer adults were smoking.

One goal of the outcome evaluation is to answer the question: *"How do changes in smoking rates since the beginning of tobacco settlement programming compare to what would have happened to smoking rates if these programs had not been established?"* Appendix B describes the methods that we use to answer this question. The results are presented in Figure 10.3. We find that the adjusted smoking rates in 2005–2007 were slightly below the smoking rate that would be expected if the baseline trend had continued, although the difference is not statistically significant.

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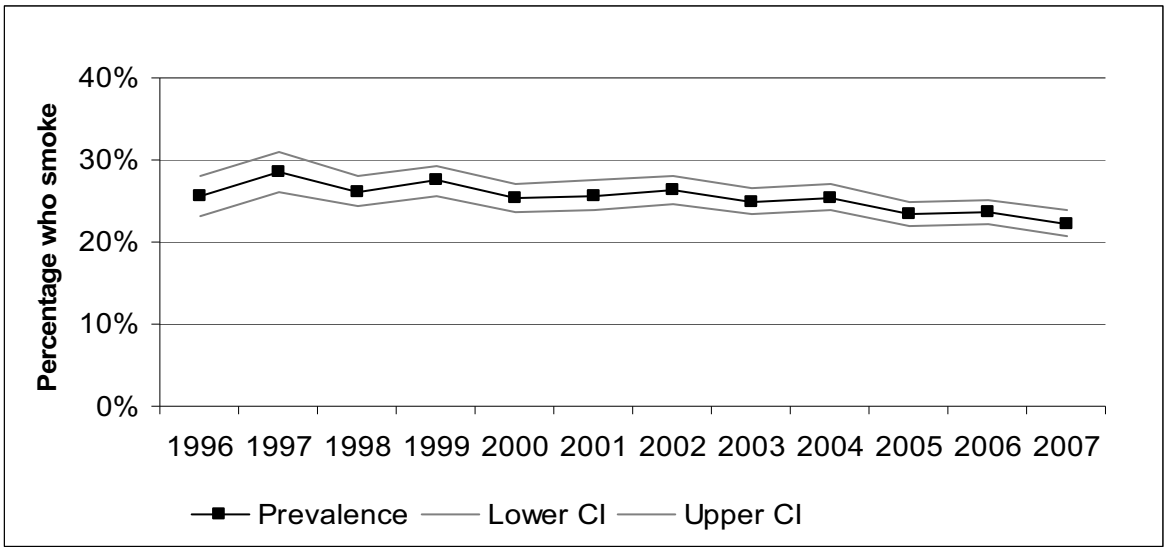
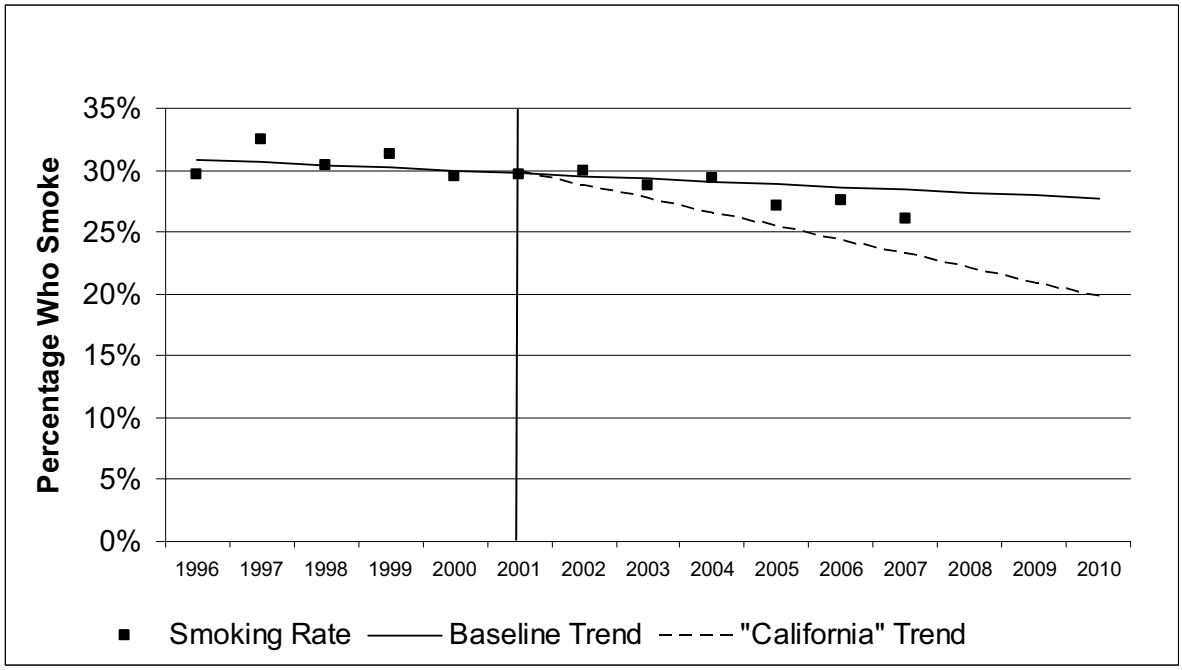
[10] These confidence intervals define a range within which estimated values would fall 95 percent of the time for survey samples if the survey were repeated over and over again, that is, where there is 95 percent confidence that the true value lies within that range. Estimates with wider confidence intervals must be interpreted with caution because apparent differences in values might not be statistically significant.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files.
Rates are not adjusted for changes in demographic characteristics.

Figure 10.2 Percentage of Adults Age 18 and Over in Arkansas Who Smoke, 1996 Through 2007



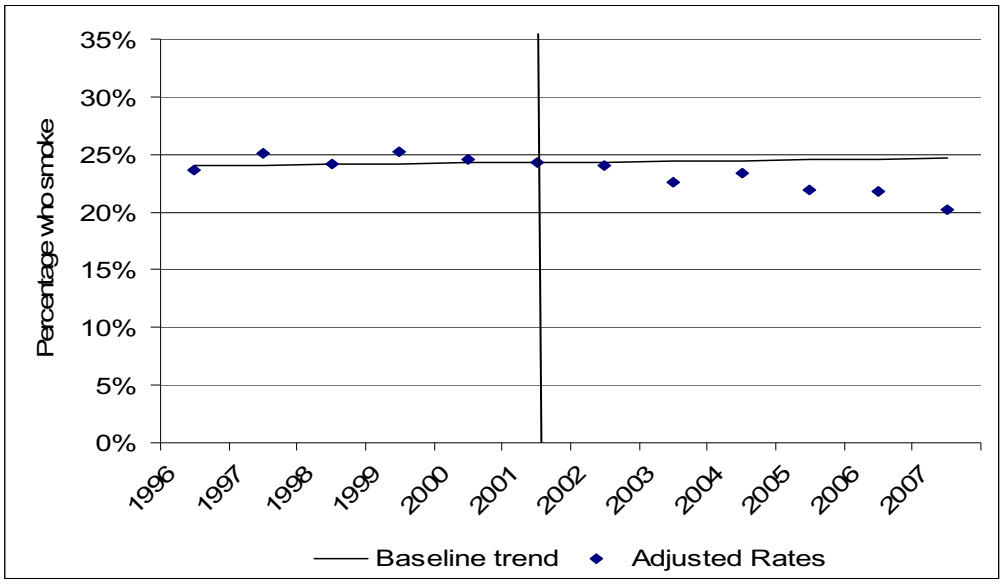
Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files.

Figure 10.3 Percentage of Adults Age 18 and Over in Arkansas Who Smoke, Adjusted for Changes in Survey Sample Demographic Characteristics

We also include a hypothetical trend that indicates what the predicted smoking rates would be if Arkansas' anti-smoking programs and policies were as successful as those in California, which has one of the most successful state-wide tobacco control programs in the United States to date. California experienced a 0.9 percent per year acceleration in its downward smoking trend during the first ten years of its program (California Department of Health Services, 2006). We include this line to provide a prediction of the impact from a successful program that could be expected in Arkansas. The impact would be very small in the first few years, but the cumulative effect would cut smoking rates by almost one-third after ten years.

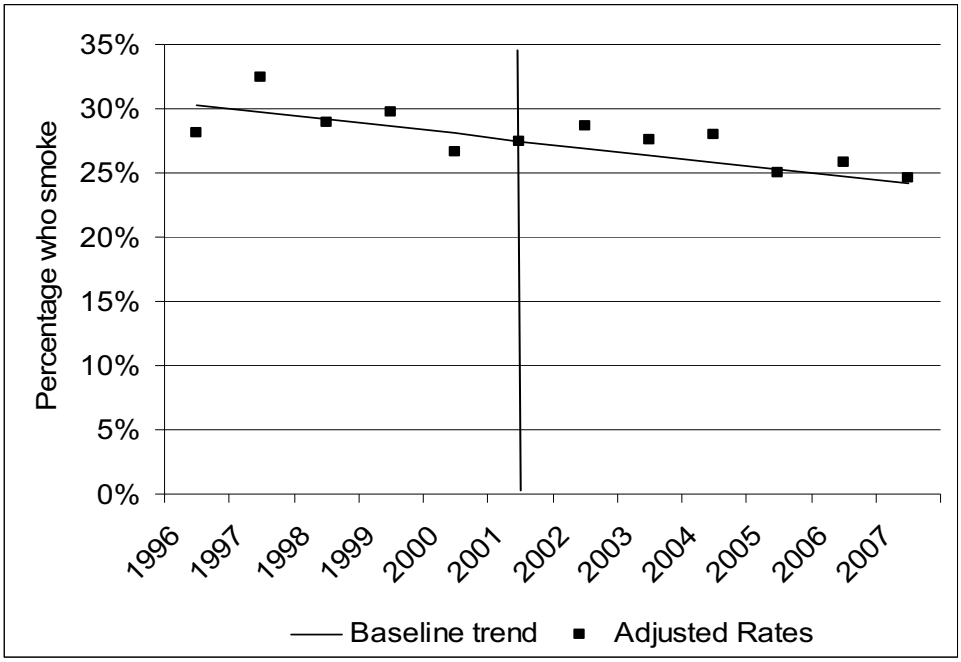
As time passes, the increased spread between the lines improves our ability to determine whether Arkansas is continuing pre-program trends or is recognizing gains from its new programs. As of the end of 2007, the difference from pre-program trends was not large enough to allow us to conclude that Arkansas was on a new path. Although the adjusted rates in the past three years were slightly lower than the pre-program trend, they were significantly higher than what would have been observed if Arkansas had experienced decreases similar to those in California.

We now have sufficient evidence to report that the number of women who smoke is below that which would be expected from baseline trends. Figure 10.4 demonstrates that there is a consistent new trend in smoking behavior as measured by the BRFSS among all women 18 years and older. Men, on the other hand, do not demonstrate any decrease from the baseline trend (Figure 10.5). This, in part, is due to there being a downward trend for men prior to program initiation, whereas smoking was previously level for women. However, the change in the trend for women suggests that tobacco control programming is more effective for women than for men.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

Figure 10.4 Percentage of Women Age 18 and Over in Arkansas Who Smoke, Adjusted for Changes in Survey Sample Demographic Characteristics

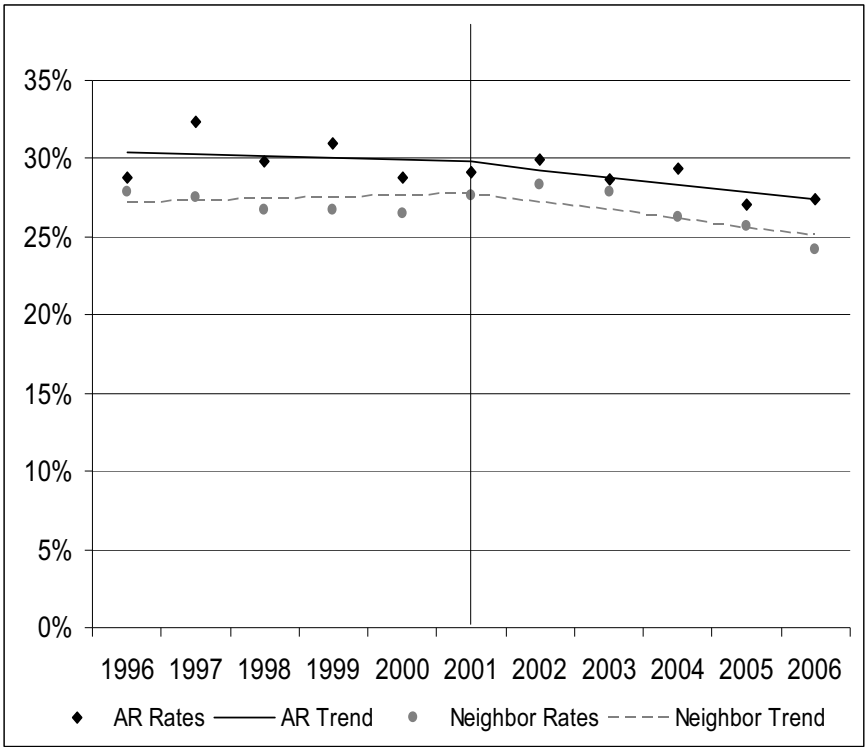


Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

Figure 10.5 Percentage of Men Age 18 and Over in Arkansas Who Smoke, Adjusted for Changes in Survey Sample Demographic Characteristics

Comparisons to Neighboring States

Figure 10.6 shows the smoking trend in the six states that share a border with Arkansas as well as the trend in Arkansas before and after program initiation. The lighter, dashed line for the neighboring states shows that smoking in those states also started a downward trend in 2001. As shown in Chapter 2, neighboring states have not increased tobacco control spending and have increased taxes only very recently. This suggests that decreases in smoking in both Arkansas and the neighboring states are due to regional or national factors such as changes in cigarette advertising efforts and national anti-smoking campaigns.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

Figure 10.6 Percentage of Adults Age 18 and Over in Arkansas and in Neighboring States Who Smoke, Adjusted for Changes in Survey Sample Demographic Characteristics

Cigarette Excise Tax Revenues per Adult Arkansan

Key Findings: Per capita cigarette tax revenues continued along the pre-program trend, except for a brief period of lower revenues following Arkansas' large 2005 tax rate increase. This finding is consistent with the moderate decline in self-reported smoking behavior.

Information on cigarette tax receipts can provide some insight into trends in cigarette sales and consumption rates. Such information can be used to corroborate or refute other evidence of changes in estimated smoking rates that are based on self-reported smoking behavior collected through surveys.

However, the use of tax receipts to calculate cigarette consumption is complicated by sales to residents from neighboring states as well as by variation in tax rates along state borders. As taxes change in Arkansas and neighboring states, changes in the patterns of border sales will change total tax receipts in ways that do not reflect underlying smoking rates.

Therefore, it is important to be aware of changes in relative tax rates when examining Arkansas cigarette tax revenues. After Arkansas raised cigarette taxes to $0.59 per pack 2003, it had a substantially higher tax rate than all of its neighbors. Since that time, Oklahoma, Texas and Tennessee have all raised their taxes to rates higher than Arkansas'.

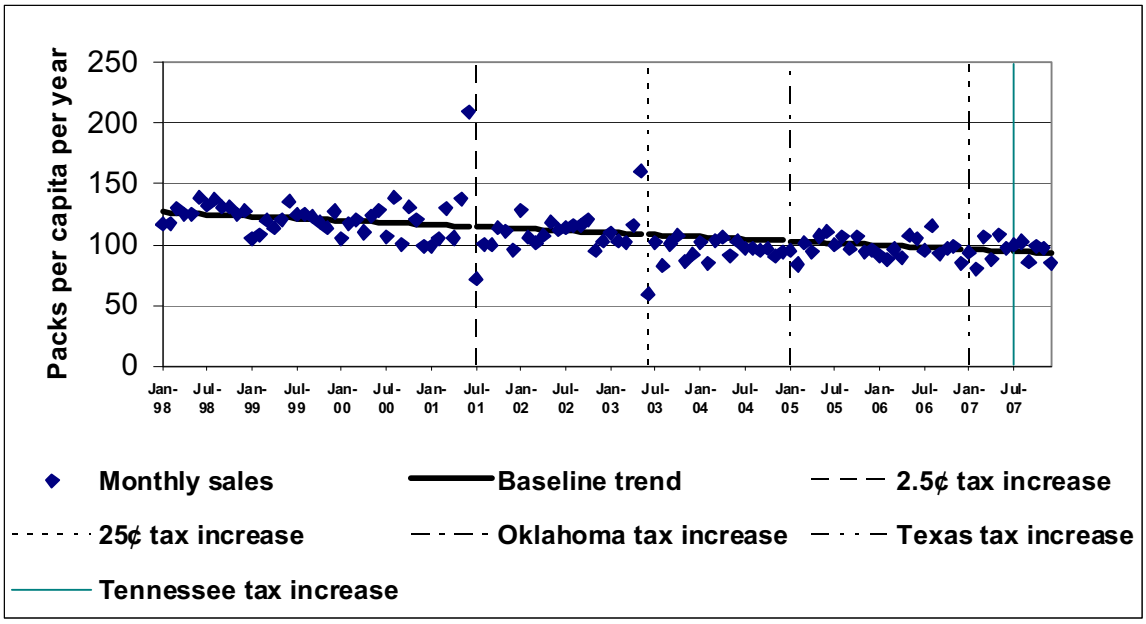
In Figure 10.7, we report total cigarette tax receipts divided by the total state adult population (defined as people over age 15 for this purpose) as a rough approximation of the consumption rate. It there had been dramatic declines in cigarette consumption by Arkansans, the rough calculation of "packs per capita" shown in this figure would have dropped substantially below the trend line. Such a drop is not seen.

In our previous report (Farley, et al., 2007), we provided a detailed discussion of how Oklahoma's tax increase affects our use of Arkansas tax data to measure changes in smoking by Arkansans. Briefly, when a neighboring state raises its taxes to exceed Arkansas', it will increase our calculation of "packs per capita" sales because of changes in between-state purchasing patterns and because of the elimination of border variances on the Arkansas side of the border.

Figure 10.7 shows the estimated cigarette sales in Arkansas throughout this period. The average amount of cigarette consumption per capita has been declining since 1998. The individual points on the graph are the cigarette sales per capita for each month. The vertical lines on the graph identify the dates that state excise tax increases went into effect, both in Arkansas and three neighboring states. Using the cigarette consumption data points for the pre-tax increase period of January 1998 through June 2001, we estimated a baseline trend line of cigarette consumption per capita. This trend line, when projected into future time periods, is an estimate of what cigarette consumption would have been in subsequent years if the baseline trends had continued without the introduction of tax changes or tobacco prevention and cessation interventions.

The trend line, which is shown as the declining straight line on the graph, represents an average 3 percent decline in cigarette consumption per capita each year. Taxes increased from 31.5 cents per pack to 34 cents per pack in July 2001 and to 59 cents per pack in June 2003. As can be seen by comparing the points of actual data to the trend line, our analysis did not find any change in the trend as the tobacco prevention and cessation activities began in 2002. The trend remained nearly constant overall, despite some short-term increases in sales just before (and subsequent short-term decline in sales immediately following) the enactment of higher taxes in 2001 and again in 2003.

In previous reports, we noted that following the June 2003 increase, many of the monthly sales fell below the projected trend, but this downward deviation was not sufficiently large to indicate a significant change in the trend. However, sales have reverted to the baseline trend following the tax increase in Oklahoma. As explained in our previous report (Farley et al., 2007), this increase could reflect changes in tax rates for Arkansas vendors on the Oklahoma border rather than any change in purchasing or consumption behavior by Arkansans. The Texas increase in January 2007 was very large, increasing by $1 per pack to $1.41; the Tennessee increase was a much more modest $0.42 increase to $0.62 per pack. There do not appear to be any further increases in Arkansas per capita sales following the Texas and Tennessee tax increases, although it is too early to make a firm conclusion.



Source: RAND analysis of monthly tax receipts (provided by Office of Excise Tax Administration, Arkansas Department of Finance) and population estimates from the U.S. Census Bureau. Monthly figures are multiplied by 12 to correspond to an annual purchase rate.

Figure 10.7 Number of Packs of Cigarettes Sold per Arkansan, Age Fifteen and Older, 1998–2007

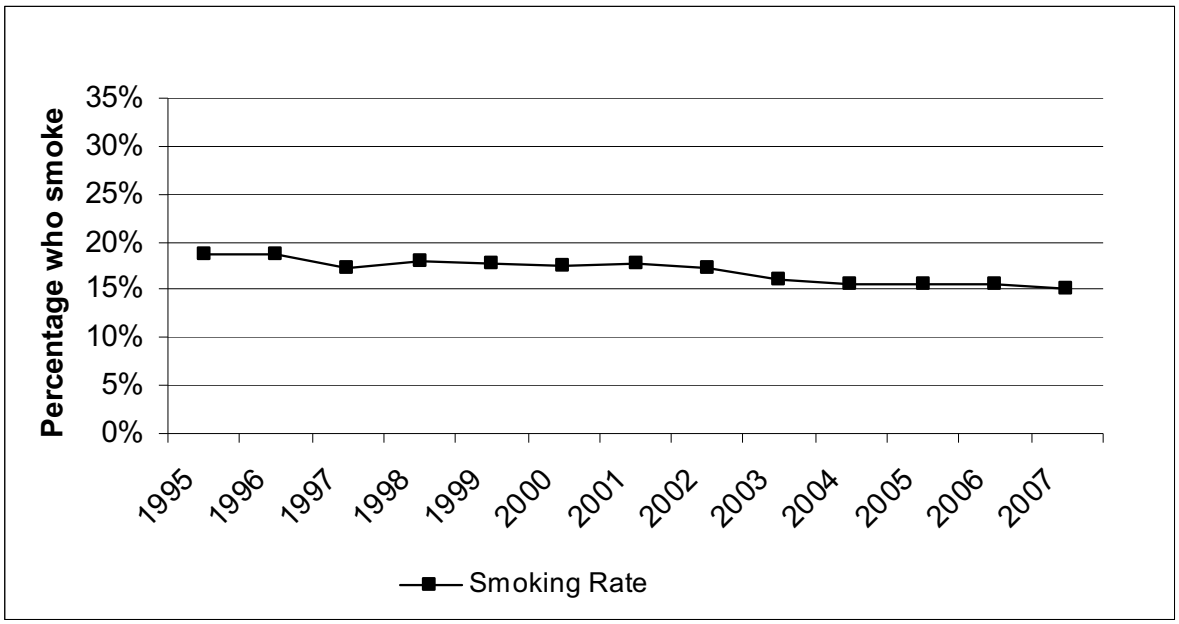
Percentage of Pregnant Women Who Smoke

Key Findings: The percentage of pregnant women who reported smoking continued to be less than expected from the baseline trend, but no additional gains have been made since shortly after program initiation.

The subpopulation of pregnant women is of interest for evaluation purposes because smoking poses great medical risks during pregnancy, especially to the fetus. Furthermore, good data are available to analyze smoking patterns because every woman who delivers a child is asked whether she smoked during the pregnancy. Since pregnant women are exposed to many of the same programming influences as the general population (e.g., education, media campaigns), the information collected about their behavior can be used to provide insights on smoking outcomes that are unobtainable from the more limited data on the general population. However, one must be cautious about generalizing too readily from the population of pregnant women to the general population.

Figure 10.8 shows the percentage of pregnant women who smoked during pregnancy for each year from 1995 through 2007, based on information reported on the birth certificate application. The annual rates show a slight downward trend in the percentage of pregnant women who smoke from the mid-1990s through 2007. However, close inspection shows that there has been very little decrease in this rate since 2004. Similar to the period before program initiation in 2001, the rates appear to have stabilized. Starting in 2001, rates dropped slightly every year for three years until reaching a plateau in 2004.

As discussed above for the prevalence of adult smokers, observed changes (or lack of changes) over time in the percentage of pregnant women who smoke could be explained simply by changes in their demographics rather than by changes in smoking behaviors. Therefore, we estimated a baseline trend in smoking prevalence before the tobacco settlement programs began, adjusting for changes in demographics. This trend line is extended through the later period to provide an estimate of what the smoking rate would have been if that trend had continued.



Source: RAND analysis of Birth Certificate micro data files.

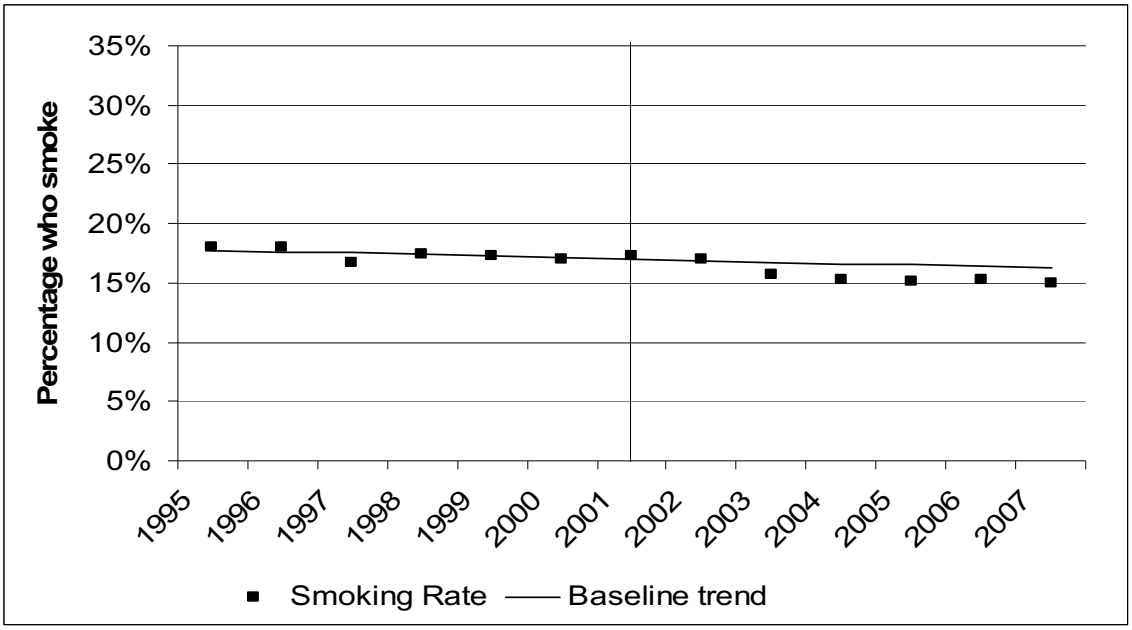
Figure 10.8 Percentage of Pregnant Women in Arkansas Who Smoke, 1995 Through 2007

Figure 10.9 presents the adjusted prevalence rates and the estimated baseline trend, which indicates that smoking prevalence among pregnant women has been decreasing, albeit very slowly. Over the six-year baseline period, the smoking rate among pregnant women decreased by one percentage point; a small but statistically significant decline. Comparing this trend (indicated by the trend line in Figure 10.9) to prevalence rates (indicated by the points in Figure 10.9) during the period that tobacco settlement programs were in operation, we find that smoking by pregnant women was virtually identical to the expected rate in 2002 and slightly below the expected rate in 2003 through 2007. These lower rates are slightly more than one percentage point below the trend and are themselves statistically significant. As indicated by Figure 10.9, the rates in the past five years are all approximately one percentage point below the trend line, confirming that no additional gains have been made among pregnant women since 2003.

Percentage of Young People Who Smoke

Key Findings: The percentage of smokers among young people has declined below the baseline trend since the tobacco settlement programs have been in operation. This is true for all four categories of young people for whom we have data: youth (middle and high school students), pregnant teenagers (age 14 to 19), young adults (age 18 to 25) and pregnant young women (age 20 to 29).

In this section, we examine the smoking rates for teen agers and young adults by analyzing several survey and administrative data sources. The first two columns of Table 10.1 are reproduced from our prior report (Farley, et al., 2006). The third column updates the table by adding data from 2007. All of the 2007 rates either improved or remained about the same as they had been in 2005, confirming the improvements that were noted at that time.



Source: RAND analysis of Birth Certificate micro data files

Figure 10.9 Adjusted Smoking Prevalence Rates Among Pregnant Women in Arkansas, Adjusted for Demographic Changes, 1995 Through 2007

As shown in the first two rows of Table 10.1, smoking rates for middle and high school students have dropped dramatically since 2000. Survey data of high school students and young adults (age 18-25) show continued improvements in smoking rates. Of note, the data for middle school students did not exhibit further decreases. This could be due to the imprecision of these survey estimates, but rates should be monitored to make sure that continued progress is made among this population. Likewise, neither of the groups of young pregnant women showed further gains.

In our previous biennial report (Farley et al., 2007), we noted that the response rate for the 2003 Arkansas Youth Risk Behavior Survey (YRBS) was deemed unacceptable by the CDC but that the forthcoming 2005 YRBS data was expected to provide additional insight into youth smoking rates. We have added a row to the updated version of Table 10.1 that contains youth

smoking prevalence from both the 2005 and 2007 versions of YRBS. The YRBS smoking prevalence rates are very similar to the high school rates reported in Table 10.1, which are calculated by ADH from the youth tobacco survey. This independent confirmation of the large decline in youth smoking is an important corroboration of a key finding.

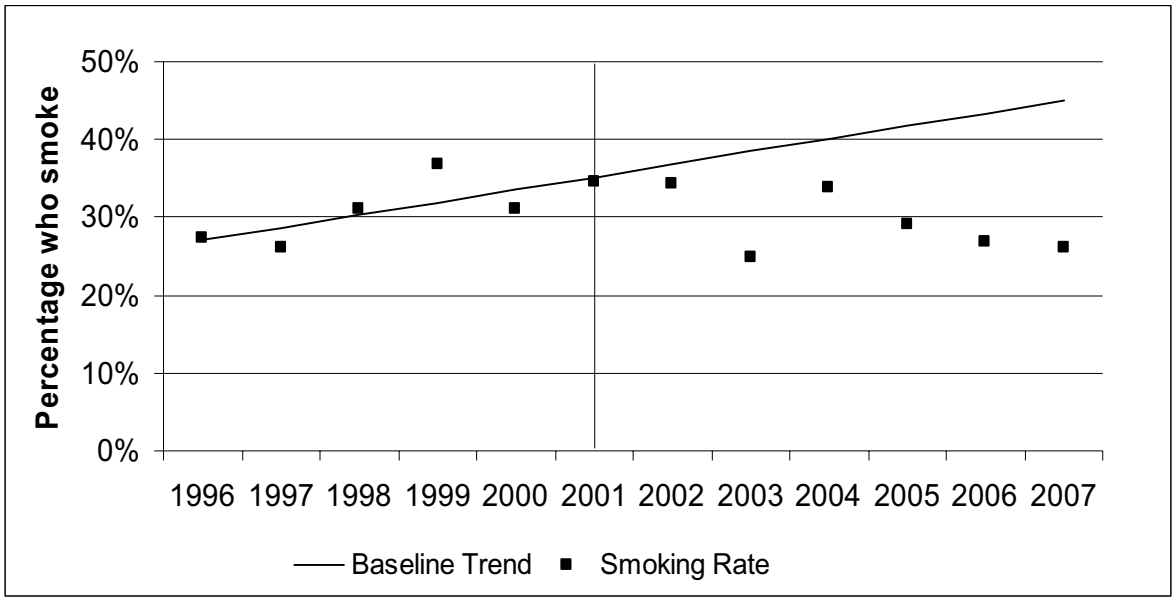
As in past years, we present the changes in smoking among young adults and pregnant teenagers in Figures 10.10 and 10.11. This year, we also add Figure 10.12, which provides additional information on high school students obtained from the YRBS. The decreases reported in Table 10.1 do not account for pre-program trends in smoking rates. For example, as shown in Figure 10.10, smoking was increasing for young adults before the initiation of tobacco settlement programming. If this trend had continued, the 2007 rate would have been higher than the 2000 rate. Therefore, the estimated impact of the program is the difference between the 2007 point on the trend line and the observed 2007 smoking rate, which is larger than the difference reported in Table 10.1. As shown in Figure 10.11, a similar story holds for pregnant teenagers.

Table 10.1
Decreases in Smoking Prevalence among Young People

Population	2000 Rate	2005 Rate	2007 Rate	% Decrease between 2000 and 2007
Middle School Students (ATS) [a]	15.8%	9.3%	9.5%	39.9%
High School Students (ATS) [a]	35.8	26.3	20.4	43.0
High School Students (YRBS) [b]	34.7	25.9	20.7	40.3
Pregnant Teenagers (14-19) [c]	21.5	16.1	16.1	25.1
Young Adults (18-25) [d]	31.2	28.9	26.1	16.3
Young Pregnant Women (20-29)	15.9	15.2	15.3	3.8

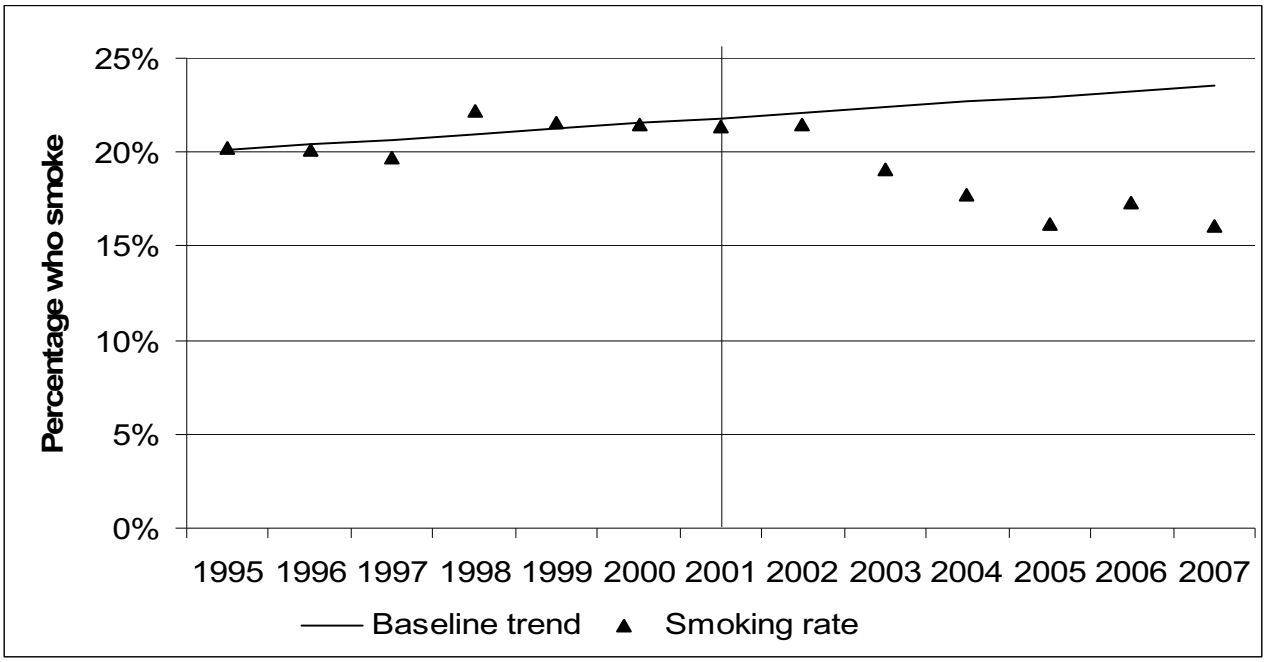
Note: The estimated decrease is significant at the 5% level for all populations.
[a] Baroud, T, 2008 Updated Arkansas Tobacco Prevention and Cessation Program Indicators, Arkansas Department of Health and Human Services; January 2008.
[b] Arkansas Youth Risk Behavior Survey.
[c] RAND calculations based on birth certificates, adjusted for change in population demographics
[d] RAND calculations based on BRFSS, adjusted for change in population demographics

However, the story differs for high school students. As shown in Figure 10.12, smoking appears to have been on the decline for youth prior to the initiation of programming in 2001. The observed youth smoking rates in 2005 and 2007 continue this trend. If we measure program impact as the deviation from the trend, it is much smaller than the number reported in Table 10.1.



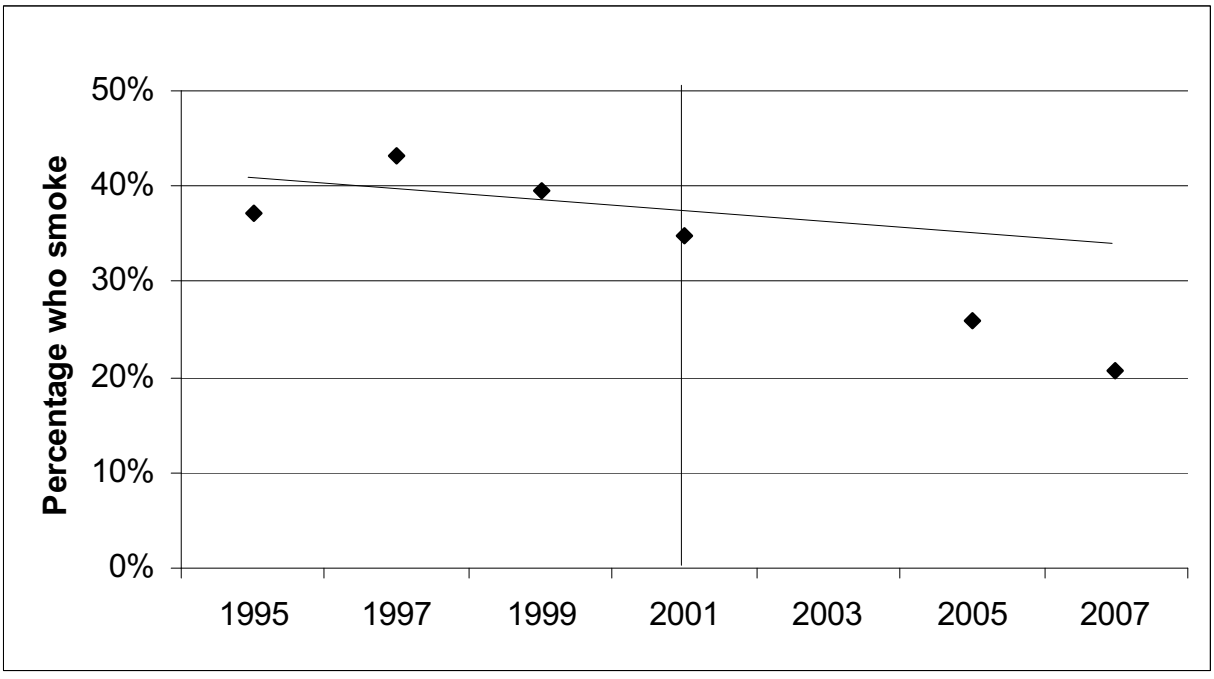
Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files.

Figure 10.10 Adjusted Prevalence of Smokers for Young Adults, Ages 18-25, in Arkansas, Adjusted for Demographic Changes, 1996 Through 2007



Source: RAND analysis of Birth Certificate micro data files.

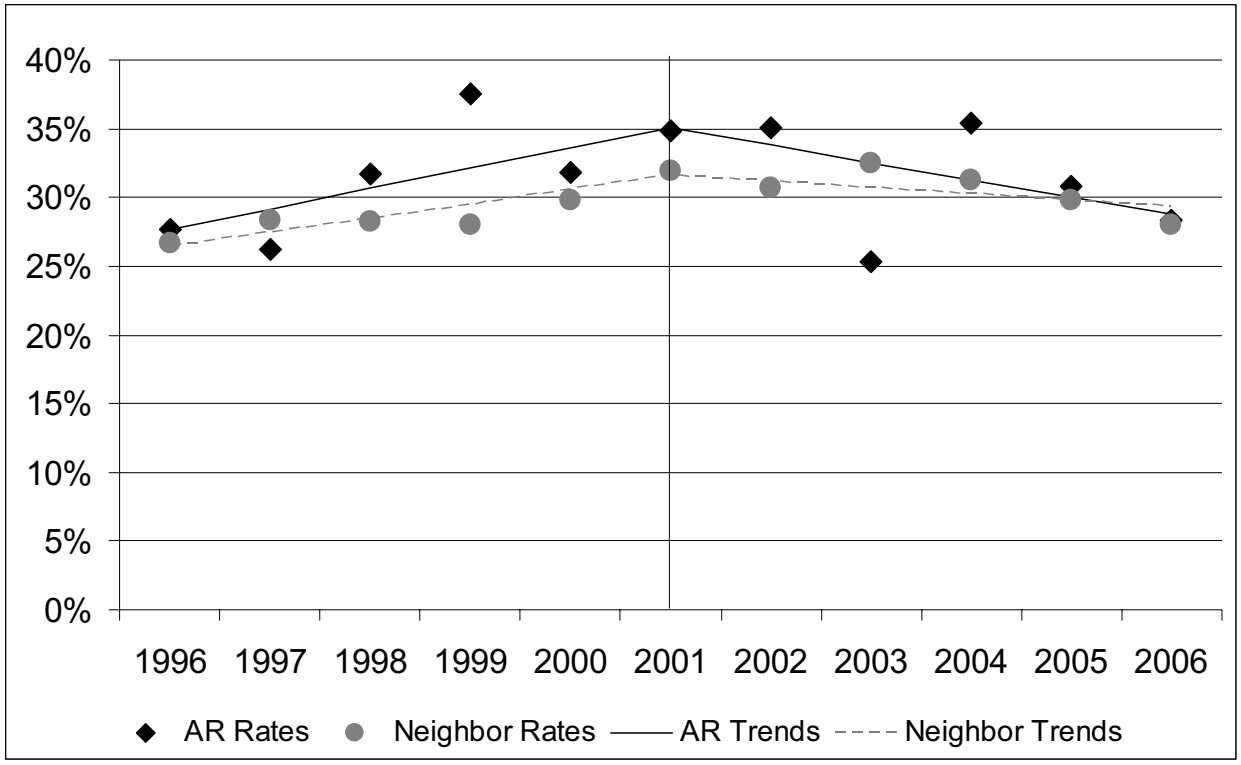
Figure 10.11 Adjusted Prevalence of Smokers for Pregnant Teens in Arkansas, Adjusted for Demographic Changes, Ages 14 Through 19, 1995 Through 2007



Source: Arkansas Youth Risk Behavior Survey reports.

Figure 10.12 Unadjusted Prevalence of Smoking Among High School Students in Arkansas, 1995 Through 2007

We also compare the changes in smoking rates for young adults in Arkansas to those in the six neighboring states. Figure 10.13 presents the same information that was shown in Figure 10.10 and adds the rates and trends for the neighboring states. The experience in these states is similar, in that smoking was increasing prior to 2001 and has been decreasing since then. As the graph shows, the downward change in the trend in Arkansas is larger than in the neighboring states, although the evidence is not sufficiently strong to conclusively state that smoking rates among young adults in Arkansas have made greater progress than in the surrounding states.



Source: RAND analysis of Behavioral Risk Factor Surveillance System micro data files

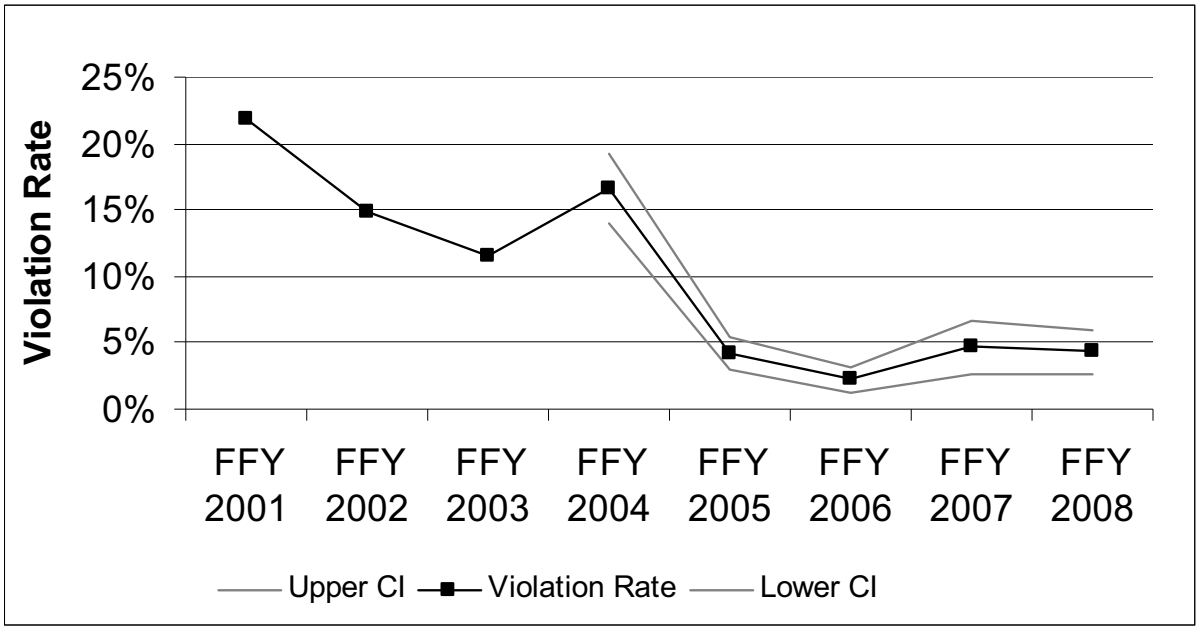
Figure 10.13 Adjusted Prevalence of Smokers for Young Adults, Ages 18-25, in Arkansas and Neighboring States, Adjusted for Demographic Changes, 1995 Through 2006

Enforcement of Laws Forbidding Sales of Tobacco Products to Minors

Key Findings: Rates of violation of laws forbidding sales to minors have continued to decline following the dramatic decline reported last year.

Another measure of the effectiveness of educational and outreach efforts by the tobacco settlement programs is the trend in compliance with laws that forbid the sale of tobacco products to minors. The Synar data record the compliance of merchants as measured by inspections carried out by undercover underage purchasers. These inspections are carried out at randomly selected stores, with the goal of providing an unbiased estimate of the compliance rate among

merchants within the state. Figure 10.14 provides the violation rate from federal FY (FFY) 2001 through FFY 2008.[11]



Notes: Inspections occur during the summer of the preceding calendar year. For example, FFY 2004 violation rate is calculated from inspections primarily conducted during May and June, 2003. Only upper CIs are provided in the published reports. Lower CIs are RAND estimates based on interval implied by published upper CIs.
Sources: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA) and Arkansas Annual Synar Reports for FFY 2003–FFY 2007 (Center for Substance Abuse Prevention, no date).

Figure 10.14 Violation Rates for Selling Tobacco Products to Minors, FFY 2001 Through FFY 2008

In the early years, the Synar inspections produced violation rates that varied widely from year to year. Some of these variations were due to changes in methods used to perform the inspections and process the resulting data. However, starting in 2004 the data collection and analysis methods remained virtually unchanged, allowing us to conclude that the dramatic drop shown in Figure 10.14 represents a real decrease in the violation rate.[12] The violation rate increased slightly in the two years since FFY 2006, but this increase was within the margin of error as indicated by the confidence intervals reported in Figure 10.14.

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[11] The state reports its Synar data to the federal government by federal fiscal years. Therefore, we also use federal fiscal year (October-September) in presenting results of our analyses of the Synar data; all other analyses are reported by Arkansas fiscal year (July-June).

[12] This finding was verified by auditors from the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) who visited the Division of Health after the FFY 2006 measures were released (Telephone conversation with John Senner, Director, Arkansas Division of Health, Center for Health Statistics, May 11, 2006).

GEOGRAPHIC ANALYSIS

Key Findings: TPCP activity has been distributed unevenly throughout the state, with some areas receiving substantially more services than others. Our analysis provides weak evidence that counties with greater prevention programming efforts have experienced larger decreases in smoking rates. This trend should be monitored in the future to provide evidence regarding the effectiveness of programming.

Previous analyses examined trends in overall smoking rates across the state for various population groups, and tested whether changes in rates of tobacco use are associated with the introduction of the programs supported by the tobacco settlement funds. In this section, we examine whether geographic variations in smoking trends and other outcomes are related to geographical patterns of the interventions implemented by TPCP. This analysis is tailored to find local program impacts that might be masked in the statewide data.

Using programming information provided by TPCP, along with data on smoking behaviors from the BRFSS and birth certificate data, we examined county-level associations between levels of program effort and changes in smoking for county residents. Table 10.2 shows the counties in each AHEC region. Regional variation in spending is described in Figure 10.15.

We begin by estimating baseline smoking trends at the county level and the extent to which TPCP targeted its tobacco prevention and cessation activities to counties with high or increasing smoking baseline rates. We then examine whether there is a change in county-level smoking trends after TPCP programming begins, and whether the change in the trend is related to the amount of programming activity. We test the hypothesis that counties with more programming activity will have greater reductions in smoking rates. While we find that TPCP grant spending is correlated with reductions in smoking rates among pregnant women, the correlation is weak and therefore provides only weak evidence of the effectiveness of TPCP programming at a county level.

It would be good to have additional measures of programming, such as the quality of local programming and the unique challenges faced at the county and regional level. Likewise, it would be useful to have measures of other outcomes, such as attitudes toward smoking. Unfortunately, such data are not available at this time. Although these additional data would provide more detailed information on the mechanisms through which the programming produces reductions in smoking, the analysis we present is adequate to determine whether there is a relationship between resources and the primary outcome of interest. These results should be interpreted in the context of the process evaluation information about the program activities presented in Chapter 3, to better understand the underlying mechanisms.

Community Grants, School Grants and Sponsorship Funding

Figure 10.15 presents the regional distribution of cumulative annual TPCP per capita spending of the community, school and sponsorship programs from January 2001 through June 2008. We reported in the past that spending varied considerably across the regions. This pattern continues, with per capita expenditures in the Southwest region approximately twice as high as in the Delta, Pulaski, Pine Bluff, Northeast or Northwest regions. Fort Smith is also above average. Examination of the latest increment, represented by the top segment of the bars in Figure 10.15, suggests that the most recent distribution increased the inequities, with regions such as Southwest and Fort Smith that had been above average receiving an increment larger

than other regions. Analysis at the county level demonstrates that the variation among counties also continues to be large.

Table 10.2
Arkansas Counties by AHEC Region

Region 1 Delta	Region 2 Pine Bluff	Region 3 S. Arkansas	Region 4 Southwest
Chicot	Arkansas	Ashley	Clark
Crittenden	Cleveland	Bradley	Hempstead
Desha	Drew	Calhoun	Howard
Lee	Garland	Columbia	Lafayette
Monroe	Grant	Dallas	Little River
Phillips	Hot Spring	Ouachita	Miller
St. Francis	Jefferson	Union	Nevada
	Lincoln		Pike
	Lonoke		Sevier
	Prairie		
	Saline		
Region 5 Fort Smith	**Region 6 Northwest**	**Region 7 Northeast**	**Region 8 Pulaski**
Conway	Baxter	Clay	Pulaski
Crawford	Benton	Cleburne	
Faulkner	Boone	Craighead	
Franklin	Carroll	Cross	
Johnson	Izard	Fulton	
Logan	Madison	Greene	
Montgomery	Marion	Independence	
Perry	Newton	Jackson	
Polk	Searcy	Lawrence	
Pope	Stone	Mississippi	
Scott	Washington	Poinsett	
Sebastian		Randolph	
Van Buren		Sharp	
Yell		White	
		Woodruff	

NOTE: In 2007, a new AHEC was created. The North Central AHEC includes counties that were formerly part of Northwest, Northeast, and Fort Smith AHECs. For continuity with earlier reports, we continue to use the groupings listed above.

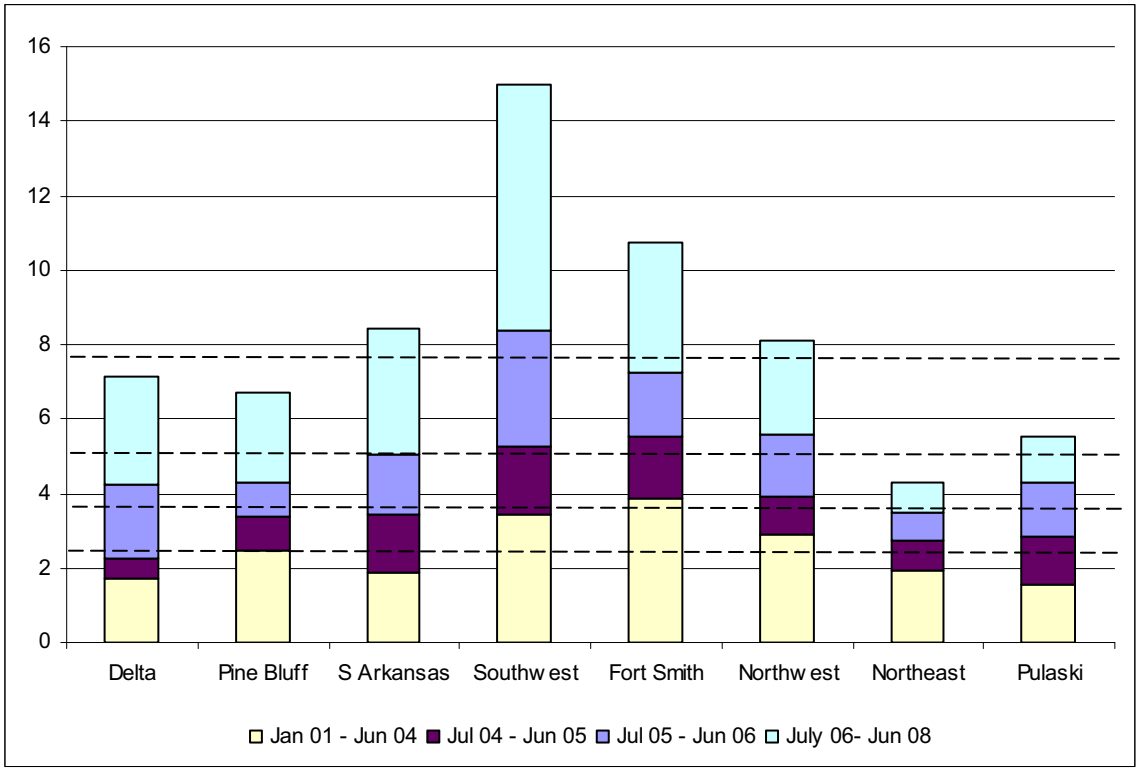
We noted in previous reports that this variation in program spending does not appear to be related to the need for smoking programs. Given the persistence of the inverse relationship between funding and smoking rates, the upcoming evaluation should investigate the processes used by TPCP for awarding grants and the availability of technical assistance for communities that have high smoking rates but lack the resources to prepare a high-quality grant application.

As stated above, our most recent analysis of county spending rates provides some weak evidence that counties with high grant awards have larger reductions in smoking rates. This relationship should be monitored in the future for stronger evidence of program impact.

Analysis of Smoking Outcomes in The Delta Region

Key Findings: Contrary to earlier indications, the most recent data do not indicate that smoking among pregnant women in the Delta is above baseline and smoking among the

general population in the Delta is below baseline. Both of these trends should be monitored in years to come.



Source: RAND analysis of data provided by Arkansas Division of Health and the Census Bureau.
Note: The four dashed lines show average per capita spending of $2.58 from January 2001-June 2004, of $3.75 from January 2001- June 2005, of $5.23 from January 2001- June 2006, and of $7.80 from January 2001- June 2008.

Figure 10.15 Cumulative Spending per Capita for the ADH Tobacco Prevention and Education Program Community Grants, School Grants, and Sponsorship Awards, January 2001–June 2008

As we have done in previous reports, we examined whether the confluence of tobacco settlement programs operating in the Delta region has led to a greater decline in smoking there than in other regions. Not only does TPCP affect Delta residents but AAI, MHI, COPH, and Delta AHEC all have a substantial presence in the region. We expect the aggregation of their health education and promotion activities to lead to larger decreases in smoking rates than in the rest of the state.

As in past years, we cannot find any conclusive evidence that smoking in the Delta has changed from the pre-program baseline rates either for the population as a whole or for pregnant women. In past reports we stated that we had found some weak evidence of deviations from baseline trends, but rates in the past two years for Delta residents do not strengthen this finding. Therefore, we cannot conclude that the aggregate effect of programming in this region has led to lower smoking rates. We continue to recommend that the rates in the Delta be monitored in years to come.

SMOKING-RELATED HEALTH INDICATORS

Key Findings: For health conditions that are related to smoking, incidence rates for hospitalizations for strokes and heart attacks are significantly reduced since the start of the tobacco settlement funding, and trends for pneumonia and asthma show weak evidence of improvement.

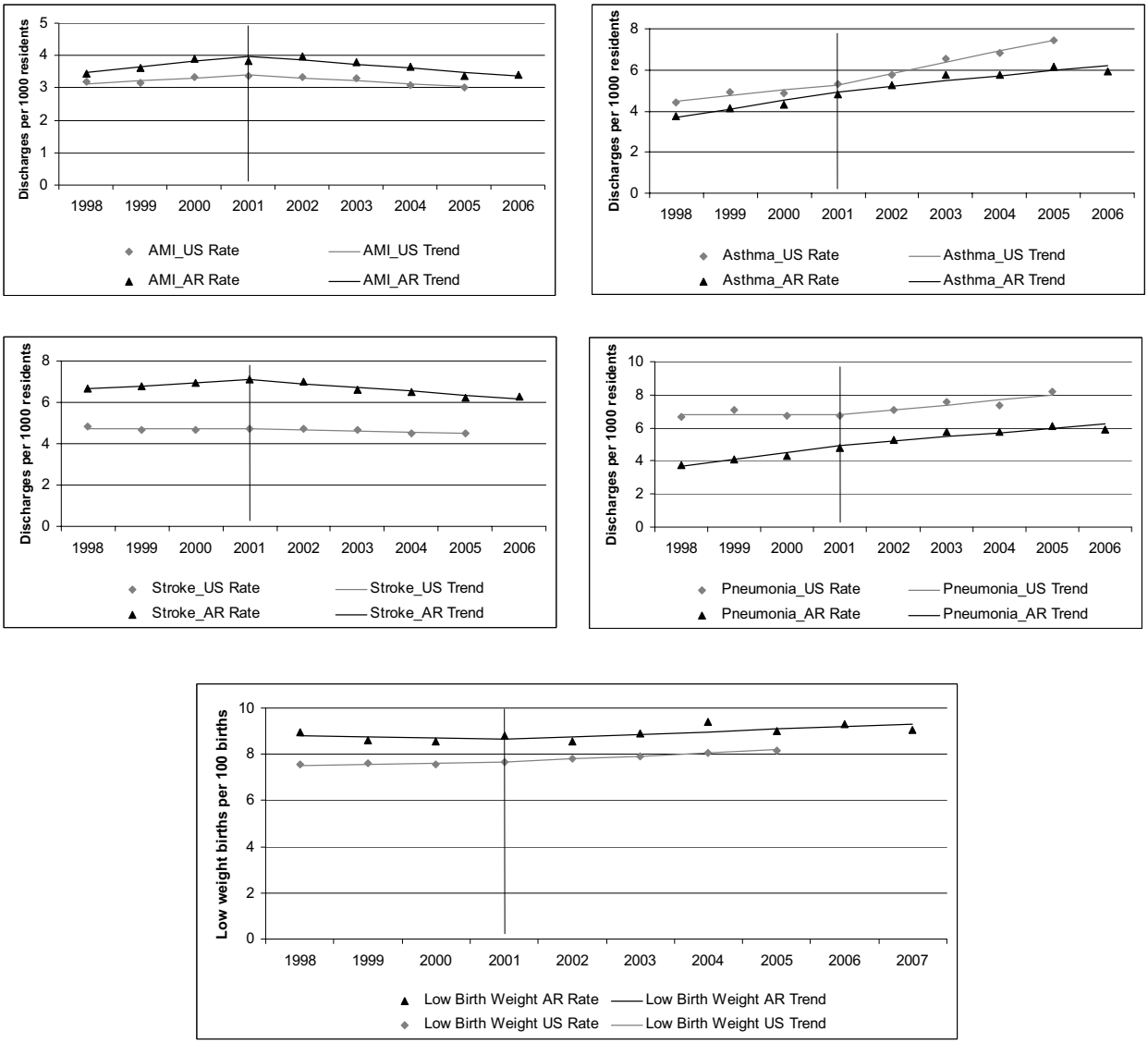
The above analysis indicates that the tobacco settlement programs are having an impact on vulnerable populations, such as young people and pregnant women. Another vulnerable population is people with health conditions for whom smoking is especially detrimental to their well being. It is possible that reductions in smoking by people with serious health conditions has led to healthier out comes among this group. It is also possible that reductions in secondhand smoke brought about by attitude and policy changes have had positive health benefits.

Unfortunately, due to sample size and content limitations, we cannot use the BRFSS or other survey data to examine changes in smoking among people with serious health conditions. However, as we did in our 2004 report, we can examine the number of negative events associated with health conditions that are affected by smoking in the short run. We used the medical literature to guide our selection of conditions.

Some measures of health will respond to decreases in smoking only after a long time. For example, high rates of cancer and emphysema are the result of many years of high smoking rates and will only show substantial decreases after smoking rates have been reduced for many years. Other conditions, however, respond more quickly to changes in smoking behavior.

In consultation with health researchers and in our review of the literature, we identified five health measures that we expect to respond very quickly to reductions in smoking. In 2004, we provided baseline trends for these measures and recommended that they be followed for at least the next ten years. They can be used to confirm imprecise survey-based estimates of smoking reduction and to document the positive benefits from tobacco prevention and cessation programming.

The first of the five measures is the rate of low-weight births—the number of newborns weighing less than 2,500 grams per 100 total births. As reported in a study by Lightwood, Phibbs, and Glantz, maternal smoking contributes to approximately one-quarter of all low-weight births (Lightwood et al., 1999). Reductions in maternal smoking can have an immediate impact on the number of low-weight births. The remaining four measures are based on hospital discharge records. In another article, Lightwood and Glantz document the dramatic drop in the relative risk for strokes and heart attacks (acute myocardial infarctions, or AMI) during the first four years following smoking cessation (Lightwood and Glantz, 1997). The two remaining measures are for pulmonary conditions. Nuorti et al. find that smoking is the strongest independent risk factor for pneumonia (Nuorti et al., 2000). Asthma has been shown to be aggravated in smokers and by secondhand smoke in nonsmokers (Floreani and Rennard, 1999). In each of these cases, the literature demonstrates that reducing the prevalence of smoking will lead to rapid decreases in the negative health condition.



Source: RAND analysis of hospital discharge data, birth certificate data and Census data.
Note: The marks for stroke, AMI, asthma, and pneumonia show the number of hospital discharges in each year per 1000 people for the diagnosis. The marks for low birth weight show the number of low-weight births in each year per 100 total births. The baseline trend lines for each condition are estimated from the first four years of data (1998-2001).

Figure 10.16 Short-Term Health Indicators, Baseline Trends and Current Deviations

Figure 10.16 presents the annual values for each of these measures as well as baseline trends estimated from years 1998 through 2001 and an estimated change in trend starting in 2002. The figure also shows the comparable trends for the United States as a whole. The Arkansas trends in hospitalizations for stroke, AMI and asthma are showing downward changes in recent years, but only the AMI trend has made a similar downward bend for the United States as a whole. The rates of low-birth-weight babies and hospitalizations for pneumonia have not turned down in Arkansas following the initiation of tobacco settlement programming, although the pneumonia trend for the United States has turned up.

Of course all these conditions are influenced by other factors as well. While promising, the downward changes in trend should not be considered as definitive evidence of the impact of tobacco settlement programming. For the first time, we present the comparable trends for the United States as a whole. This comparison provides some evidence as to whether the changes observed in Arkansas are likely due to recent programming or to factors that affect the country more generally. For the AMI rate, a similar but smaller change is seen in the country as a whole. On the other hand, stroke rates have remained stable in the nation while they changed from increasing to decreasing in Arkansas. These patterns suggest that Arkansas is doing better since 2001 than the nation as a whole for asthma, strokes, and pneumonia. This is consistent with a positive effect of TPCP programming, although we cannot rule out other changes in the state that might have had partial responsibility for improvements relative the nation as a whole. We suggest that these rates for Arkansas and the nation be monitored in the future to provide continuing evidence regarding the impact of smoking control activities.

DISCUSSION

With two more years of experience and data for the tobacco control activities supported by the tobacco settlement funds, we are finding conclusive evidence of decreases in smoking among young people, especially young pregnant women. For the first time, we found that smoking rates for the adult population in Arkansas are significantly below what they were prior to the initiation of tobacco settlement programming. Further, we found that adult women were smoking significantly less than would be predicted by their baseline trend. Results remain mixed, however, with no conclusive evidence yet available for many of the measures, including smoking incidence among middle-aged and older adults. We also find many fewer violations of laws prohibiting cigarette sales to minors. Our analysis of short-term health outcomes provides promising evidence of improvements for people with smoking-related health conditions. There have been reductions in the hospitalization rates for a variety of diseases that are affected by smoking and by secondhand smoke, with the strongest evidence for reductions in hospitalizations for strokes and heart attacks. In particular, we are concerned about some trends, including the imbalance among TPCP resources among Arkansas counties and the recent increases in cigarette tax rates Arkansas' neighboring states, especially the large increase in Texas. We also point out that the reduction in smoking among pregnant women that were observed early in the program years have remained steady rather than becoming larger as would be expected from continuing efforts. On the other hand, we expect that, with continued support from the statewide tobacco control activities as well as additional reinforcement through the Clean Indoor Air Act, additional progress can be made toward achieving the goal of healthy Arkansans.

Chapter 11.
Evaluation of Non–Smoking Outcomes

This chapter presents a variety of outcome measures for the programs receiving tobacco settlement funding. Five programs involve delivery of health-related services. Two of them—the TPCP and the MEP—operate at the state level, so outcomes for these programs are measured at the state level. For TPCP, the impact of their program is on the smoking outcomes that were addressed in Chapter 10. The remaining three programs—the Delta AHEC, MHI, and AAI—provide services at the local or regional level. Therefore, outcome evaluations for these programs require analysis of primary data gathered on the experience of their participants as well as analysis of secondary administrative and survey data that describe the behaviors and health status of their entire target populations.

Two of the tobacco settlement programs—COPH and ABI—are academic initiatives for which the health effects on Arkansans will occur either indirectly or in the future. Thus, our evaluation of their effects will need to focus on intermediate outcomes that are stepping stones to that ultimate goal.

The present chapter provides our outcomes analysis for each of the six programs related to non–smoking related outcomes. We also report on the efforts of the service-providing programs to collect and analyze outcomes data on their participants. We report on the steps each of these programs has taken to collect data on program participants, to design evaluations, and to report their findings. In summary, all three service-providing programs have made some progress in this regard.

OUTCOMES FOR THE DELTA AHEC

Key Findings: The Delta AHEC has fully implemented a system to collect demographic and satisfaction data from participants in its community health education programs. It has also implemented systems for particular initiatives that collect outcomes data. It has demonstrated an ability to manage and analyze these data to monitor the effect of its programs and report their achievements to their funders and oversight groups. We encourage Delta AHEC to build on this foundation by collecting and analyzing outcomes data for its health professional education programs and for additional community education programs.

Tobacco settlement funding to Delta AHEC supports many health education and training programs. Delta AHEC's longest-running health care intervention is its diabetes clinic and education program. In addition, it runs a wide variety of health education programs for community members and continuing education programs for health professionals. Most of these programs operate out of its main offices in Helena, but many also are offered from its two satellite offices and out in the community.

Delta AHEC has made excellent progress in obtaining and implementing data collection systems to record encounter information on program participants and in some cases also record information that permits analysis of program effects. The primary system is one that was developed in collaboration with the AHEC information technology group at UAMS. It makes use of standardized scan sheets that are filled out by participants in the Delta AHEC's community health education programs. On these sheets, the participants record basic

demographic information and satisfaction with the session that they have just completed, and they indicate their interest in other health topics and programs. Staff record data on scan sheets for participants in noneducation programs, such as prescription assistance and the wellness center. These sheets are scanned and reviewed by Delta AHEC staff, and the information is transmitted electronically to a server at UAMS in Little Rock. Reports generated from this database are used by Delta AHEC leadership to monitor activity and to report to the ATSC and RAND. This system has greatly facilitated keeping accurate and timely track of such process measures as the number of encounters for various types of programs and the demographic characteristics of participants.

Delta AHEC has also made notable progress in monitoring the impact of its programs. We have reviewed outcomes data and analysis for three programs. Although the Delta AHEC is not able to collect comparable data on a randomized control group of nonparticipants, which is the gold standard in evaluation, it was able to compare the outcome measures for participants after the programs to the measures collected prior to the program. Our review finds that these programs are having an impact on the community. Furthermore, we find that Delta AHEC has increased its capacity for collecting and analyzing such data. We summarize these outcome evaluation activities and conclude with some recommendations.

The Diabetes Education Clinic is one of the Delta AHEC's oldest and most fully developed programs. (See Chapter 5 for a description of the program.) In addition to the standardized scan sheets described above, the clinic maintains electronic records on each of its patients, which it provided to RAND in de-identified form. These records contain information for each patient visit, including patient demographics, length of encounter, source of referral, source of payment, and information about the activities of the visit. In particular, the record contains the results of the hemoglobin A1c test for many of the visits. The A1c test is a primary indicator of whether a patient is receiving good diabetes care.

Currently, the National Diabetes Quality Improvement Alliance is recommending that the percentage of patients with an A1c below 9 percent be used as an outcome measure for quality of care. The American Diabetes Association recommends that an A1c of 7 percent be used to indicate glycemic control. More recently, changes in A1c have been proposed as a measure of the quality of care (Thompson et al., 2005).

In Table 11.1, we report on A1c measures for 180 patients who have had A1c measures taken on two or more visits to the clinic. We report on the measures at the first visit and the most recent visit. The average A1c of these patients dropped from 8.05 to 6.98 percent, with 53.3 percentage experiencing a drop of more than 0.5 percentage points. In the most recent visit, 91 percent of the patients had an A1c measure less than 9 percent, up from 71 percent in their first visit. Likewise, the percentage of patients with a measure less than 7 percent was up to 58 percent in their most recent visit from 34 percent in their first visit. The median length of time between the first and most recent visits was 53 weeks. Based on this information, we conclude that the Delta AHEC Diabetes Clinic is having a positive impact on the patients that it serves.

The clinic's database also contains information that allows it to monitor patient care processes, such as whether patients receive timely foot exams, cholesterol checks, and other process indicators of high quality care as established by the National Diabetes Quality Improvement Alliance. In its report to the ATSC, Delta AHEC reported on some of the process and outcome measures. It is an excellent sign that the program is collecting and analyzing these data.

Table 11.1 Hemoglobin A1c Outcomes for Delta AHEC Diabetes Clinic Patients

	First Visit	Most Recent Visit
Average Hemoglobin A1c	8.05%	6.98%
Drop greater than 0.5 percentage points		53.3%
Percentage with A1c less than 9%	71%	91%
Percentage with A1c less than 7%	34%	58%
Median weeks between first and most recent visit		53
Number of patients with at least two A1c visits		180

The second activity for which we examined outcome measures is the Body Battle challenge. This was a two month competition among participants of the Wellness Center. Points were given weekly for eight weeks based on time spent exercising, number of exercise and health education classes attended, and total weight lost. Again, Delta AHEC provided RAND with de-identified electronic records of program participation in the form of weekly data for each participant. For this outcome evaluation, we focus on the measure of total weight lost. We find that of the 107 participants, 75 percent of them lost more than six pounds and 25 percent lost more than 20 pounds, indicating that this program had a positive impact on its participants. Furthermore, we found that there was a strong positive correlation (0.72) between the amount of weight lost and the total number of points received for participating in exercise and health education classes, suggesting that the weight loss was related to active participation in the program.

Finally, we reviewed outcome evaluation provided by Delta AHEC for participants in their Kids for Health education program. Kids for Health is an evidence-based health education curriculum that Delta AHEC has administered to more than 4,000 school children, grades K-6, in eight schools throughout the Delta. Its effectiveness in improving children's health knowledge was demonstrated by the curriculum's creator in 1994–95 by comparing gains in health knowledge for participating children compared to a comparison group. Children who participate in the program are given tests both before and after participation in order to measure changes in health knowledge and in smoking intentions. Delta AHEC provided RAND with analyses of these pre- and post-program tests for two program years. The tests indicate that the program is having a significant impact on the health knowledge and smoking intentions of participating children. In the most recent year for which data are available, the average score of health knowledge for children in grades K–3 increased from 5.7 on a scale of 20 before the program to 16.6 on the same scale measured after the program. For children in grades 4–6, the increase was from 8.3 to 12.3 on a 20 point scale.

In our previous report, we made the following statement:

> *By not having access to the participant data for their clinical and education programs, Delta AHEC is missing important opportunities to monitor their progress and to demonstrate their successes to potential participants and regulatory bodies. The program needs to direct additional resources toward accelerating the process of developing a database and acquiring expertise to assist with outcome analysis.*

Clearly, Delta AHEC has responded to this concern and is making great strides in collecting and analyzing participant data. We encourage it to continue its systematic collection of demographic and satisfaction data for community health education program participants. We recommend that Delta AHEC expand its collection of outcome data, expand its capacity to analyze all data, and develop systems to collect and analyze data from participants in its health professional continuing education programs. These efforts are necessary both to gain insight into how programs can be improved and to demonstrate effectiveness to outside reviewers.

OUTCOMES FOR THE MINORITY HEALTH INITIATIVE

Key Findings: Due to changes in program leadership and direction, MHI does not have any completed evaluations of participant outcomes. However, MHI is in the process of collecting and analyzing outcome data for two of three new initiatives. MHI should work quickly to produce evaluations of the impact of its efforts on participants, so that it can leverage its activities to assist a greater portion of the populations at risk. We recommend additional collaborative efforts with programs that have completed successful evaluations and with researchers who can bring needed expertise.

MHI is putting resources into three programs that can be expected to have a measurable effect on participants. Two of the programs are pilot programs directed at school children. The third is the revamped Southern Ain't Fried Sundays (SAFS) program. (See Chapter 7 for details on the content of these programs.) We examine MHI plans for outcomes data collection and analysis and make recommendations.

The first pilot program is the After-School Childhood Nutrition Education and Exercise Program (ASCNEEP) which included over 300 children in two Little Rock schools. MHI obtained body mass index (BMI) information on each student from the school and will be reporting this information to AMHC, the ATSC, and RAND. MHI is discussing the possibility of long-term involvement with these children and their families with the schools. For example, it would like to obtain additional BMIs for these children in future years in order to determine the long-term impact of its educational programming on this important measure of child health.

The second pilot is the Northwest Arkansas Blood Pressure Screening Study to screen school children for high blood pressure and provide health education to lower their risk of high blood pressure. It is being conducted in Springdale, an area with a high concentration of Hispanic and Marshallese children, and therefore will provide important information on the prevalence high blood pressure among these populations. To date, 81 children have been screened. This program does not have any systematic data collection that will permit an examination of the impact of the program's screening or education efforts on the program participants.

The new version of the SAFS program includes pre- and post-participation assessments that include weight loss information as well as participant demographic information. MHI is currently analyzing these data for participants in the first round of the new program and will be reporting its findings to the AMHC, the ATSC and RAND. They plan to use the results of this outcomes analysis to fine-tune their program. If initial results are favorable, this analysis will be useful in raising additional support for the program and attracting new participants.

We are encouraged that the new leadership of MHI has built an outcome evaluation component into two of their initial activities. Continued efforts to collect and analyze data will allow MHI to refine these activities and to demonstrate their effectiveness. As we stated in our

previous report, MHI does not have sufficient resources to make a major impact on the health of minority Arkansans through direct service delivery. It is crucial that MHI be able to demonstrate the impact of its programs, so that it can raise additional resources to expand its reach and so that it can demonstrate to other delivery organizations the value of providing evidence-based health programming.

We encourage MHI to strengthen its capacity for data collection and analysis. It has been actively exploring collaborations with the other community based service delivery programs funded by the tobacco settlement, AAI and Delta AHEC, both of which are more advanced in these capacities, and we encourage MHI to move forward quickly with these collaborations. MHI also may wish to contract with COPH researchers who have the necessary expertise to assist in designing pilot programs and evaluation processes that will become examples of health education and service that can be replicated in at-risk populations.

OUTCOMES FOR THE ARKANSAS AGING INITIATIVE

Key Findings: There continues to be some evidence that the Centers on Aging (COAs) have reinforced the decline in avoidable hospitalizations in the counties where they are located. AAI has completed a small but valuable study of one of its health interventions and has made concrete progress on outcome evaluations of several other initiatives, including raising external funds for such studies. RAND recommends that these efforts be expanded, particularly into evaluations of educational programming.

As described in Chapter 6, AAI is charged with providing the elderly with community-based education and support, which is provided in their regional centers. In addition, these centers have enabled the establishment of affiliated senior health care clinics, which also have increased access to health care for the elderly. Finally, the centers offer educational programs to health care professionals treating the elderly. The outcome measures for the AAI are selected to assess its effects on these missions.

Update on Outcomes for Avoidable Hospitalizations

In the past two biennial reports, we used data on inpatient stays to estimate trends for avoidable hospitalization rates among elders for the counties containing the COA facilities. In its seminal study on access to health care in America, the Institute of Medicine (1993) argued that timely and appropriate outpatient care would reduce the likelihood of hospitalizations for ambulatory care–sensitive conditions. Since that study, measures of the rates of avoidable hospitalizations have been used in many analyses to demonstrate the effect of changing the availability and quality of primary care on subsequent health outcomes (Bindman et al., 1995).

We employed the definition of avoidable hospitalizations developed by McCall et al. (2001) to study the incidence of avoidable hospitalizations in Medicare+Choice managed care plans. From a review of the literature, they identified fifteen ambulatory care–sensitive conditions and performed a clinical review of those conditions to determine if they would apply to an elderly population. They developed three groups of avoidable hospitalizations from their work: chronic, acute, and preventable. The conditions used to define avoidable hospitalizations are presented in Table 11.2.

A hospital stay was deemed avoidable if a code for one of these diagnoses was listed on the discharge abstract as the primary diagnosis for that stay. For each beneficiary, the total

number of avoidable hospitalizations for chronic, acute, and preventive conditions was obtained from the hospital discharge file. We identified the population age 65 and older that had one or more avoidable hospitalizations in each year from 1998 through 2005.

Table 11.2
Avoidable Hospitalization Conditions

Chronic Conditions:	Preventable Conditions:	Acute Conditions:
Asthma/chronic obstructive pulmonary disease	Malnutrition	Cellulitis
Seizure disorder	Influenza	Dehydration
Congestive heart failure		Gastric or duodenal ulcer
Diabetes		Urinary tract infection
Hypertension		Bacterial Pneumonia
		Severe ENT infection
		Hypoglycemia
		Hypokalemia

Our current analysis leads to conclusions very similar to those in our last report. Our analysis of more recent data presented in Figure 11.1 indicates that avoidable hospitalizations for the elderly continue to decline across the state. Prior to 2003, the upward trend had been steeper for counties with COAs than for counties without COAs. Therefore, the downward trend since 2003 is similar in counties with and without COAs and represents a larger deviation from baseline for the counties with COAs. Although this is consistent with a positive impact of the COAs, this difference is not statistically significant. We will continue to monitor these trends as more data accumulate.

Analysis of Outcomes

In our past several reports, we have reported that AAI was making advances in collecting and analyzing participant data and in designing additional studies with collaborators. These efforts have produced one completed study, several grant and conference proposals, and promise continued pay-offs in the future.

In our last report, we praised a collaborative effort in which a COPH faculty member was applying for ABI funding to examine diabetic care provided in three AAI COAs. Although the funding was awarded to the COPH faculty member, this project has not yet produced any analysis. It is unfortunate that AAI, apparently through no fault of their own, was not able to obtain evaluation results from this collaborative effort. All parties (ATSC, AAI, COPH, and ABI) should examine what should have been a model of tripartite collaboration to determine how it can be improved upon in the future.

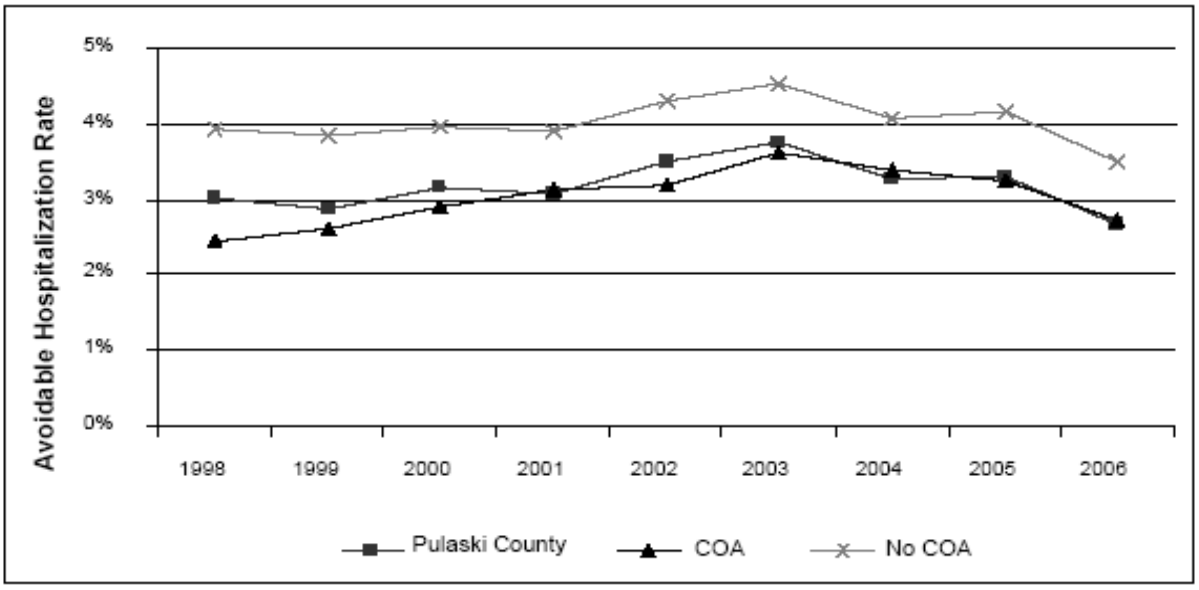


Figure 11.1
Fraction of Elderly with at Least One Avoidable Hospitalization for Preventable and Acute Conditions, Comparison of Counties

In contrast, there is a completed study of one of AAI's initiatives. A study entitled "Older Adults' Rural Physical Activity Program: Outcome Data" was conducted by a regional COA director and the AAI associate director and presented at the 2007 annual scientific meeting of the Gerontological Society of America (GSA). The study demonstrates that participants in Peer Exercise Program Promotes Independence (PEPPI) improved flexibility, balance, and strength and that the program was cost-effective. Although the study was limited to one COA and contained a relatively small sample, it was conducted using a rigorous methodology and provides the type of evidence that can be very useful in guiding the choice of evidence-based programming and in raising additional resources to expand programming.

In a similar fashion, an abstract for a similar study has been submitted for consideration for the 2008 GSA meeting. This study will examine the effect of an arthritis intervention on participant health status. AAI provided RAND with preliminary analysis of the outcomes data and a de-identified copy of the outcomes data. RAND's analysis confirmed that on an 11-point scale, participants reported a decrease of pain of one point on average, with one quarter of participants improving by three or more points. These conclusions were made possible by a carefully designed study that collected data before and after participation in the program and by the use of appropriate statistical methods to make valid inferences regarding the impact of the initiative.

AAI also has taken the lead in a much bigger study that will investigate the impact of the Active Living Every Day (ALED) program. AAI worked with the ADH and the Arkansas DHS Division of Aging to obtain a grant from the U.S. Administration on Aging to implement and evaluate this evidence-based program that empowers older adults to take greater control of their own health. As a part of the grant application process, AAI developed a rigorous evaluation plan that will allow AAI to provide evidence of the program's impact on its participants.

AAI has informed RAND that it intends to continue to expand its outcome evaluation activities using a $120,000 grant obtained from the Murphy Family Foundation. AAI will convene an advisory panel to create a plan for using these resources in a rigorous manner that is likely to lead to evidence of positive contributions by AAI toward improving the health of older Arkansans.

AAI has also contracted with Dr. Virginia Johnson to develop and implement a comprehensive evaluation of the AAI system. Dr. Johnson and team will also move toward an evaluation plan that will focus on each of the regional COAs as part of the overall system. The evaluation will be based on the AAI's strategic plan and will include an outcomes evaluation component.

RAND recommends that AAI continue with the model of internally funding small outcomes evaluations of promising initiatives and seeking outside funding for larger evaluations. Although difficult, it is especially important to develop rigorous outcome evaluations of AAI education initiatives for both health professionals and community members.

OUTCOMES FOR THE MEDICAID EXPANSION PROGRAMS

Because the Medicaid Expansion Programs provide additional Medicaid benefits to eligible beneficiaries across the state, our outcome analysis examines potential program effects at the statewide level. In previous evaluation reports, we reported results for effects of each of the three operational expansion programs—benefits for pregnant women, hospital benefits, and AR-Seniors. In this section, we update our findings on outcomes for these three program expansions and introduce new outcome measures for ARHealthNetworks, which is the newly created expansion program for a subgroup of uninsured working adults.

Pregnant Women's Expansion Program

Key Findings: We no longer find that the expansion of benefits for pregnant women has led to increased prenatal care. In fact, there appears to have been a recent decrease in adequate prenatal care among women who are eligible for this benefit.

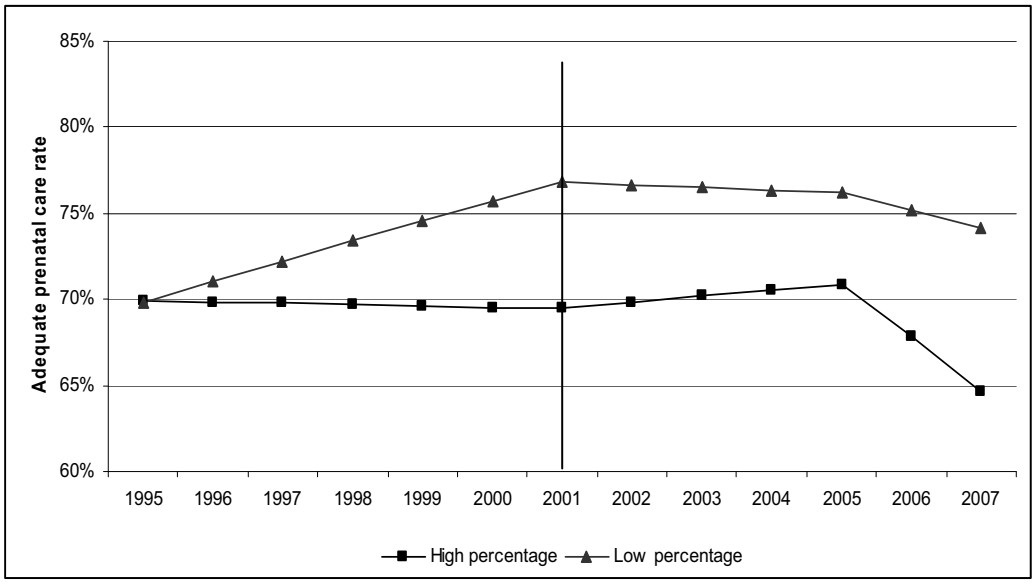
One component of the Medicaid expansion provides benefits to pregnant women whose income is between 133 percent and 200 percent of the federal poverty limit. We examine the extent to which this benefit led to better prenatal care for pregnant women in Arkansas. This supplements the spending analysis for the Medicaid expansion presented in Chapter 9. The spending analysis demonstrates the extent to which the new benefit was used by pregnant women. The analysis presented here examines whether the benefit led to additional care rather than to a shift to Medicaid from other payment sources.

For information on prenatal visit utilization, we use the number of prenatal visits reported on birth certificates. Adequate prenatal care was defined as having at least ten prenatal care visits during the pregnancy.

The birth certificate data do not contain information on Medicaid status, so we used county-level data on poverty status as a proxy for concentrations of Medicaid recipients. (There also were no county-level data on the percentage of the population receiving the expanded Medicaid benefits for pregnant women.) The Census Bureau provides estimates of the percentage of each county's population that is in each of several categories defined by the ratio of income to the poverty level. Using the categories that are most closely aligned with the

benefit change, we calculated the percentage of the population in each county with income between 125 percent and 200 percent of the federal poverty limit. We then examined whether there were increases in the percentage of women who had adequate prenatal care, and whether any increases were positively related to the percentage of the county population in this poverty category.

The analysis used data for all pregnant women in all counties in the state, and trends for the baseline and program periods were estimated. Then trends were projected for representative counties at the 10th and 90th percentiles of poverty levels for the county distribution, which are shown in Figure 11.2. The 10th percentile represents a county with 13.9 percent of people in the poverty range targeted by the Medicaid expansion, and the 90th percentile represents a county with 20.7 percent of people in that range.



Source: RAND analysis of birth certificate data and Census Bureau data.

Figure 11.2 Use of Adequate Prenatal Care Visits, for Counties with High and Low Percentages of People Eligible for Expanded Medicaid Benefits, 1995 Through 2007

Contrary to our past findings, we now find that rates of women receiving adequate prenatal care *decreased* in counties with higher percentages of people in the defined poverty category. During the baseline period (2001 and earlier, represented by the vertical line in the figure), the percentages of pregnant women receiving adequate prenatal care decreased over time in counties with higher percentages of people in the defined poverty range. At the same time, the percentages receiving adequate prenatal care increased over time in counties with lower percentages of people in the poverty range. When the tobacco settlement programs started, the trends reversed, and since 2001, prenatal care increased in counties with more women in the targeted poverty range. However, since 2005, this trend has reversed again. This finding leads to concerns about whether changing economic conditions might have affected this segment of the population most severely and led to increased need for access to prenatal care.

Medicaid-Reimbursed Hospital Care Program

Key Findings: An additional year of data supports our previous findings that one component of the expanded hospital benefits is associated with increased access to hospital care for conditions requiring very short stays. The other component that reimburses for hospital days 21 through 24 appears to be reducing the amount of unreimbursed care rather than increasing the amount of care.

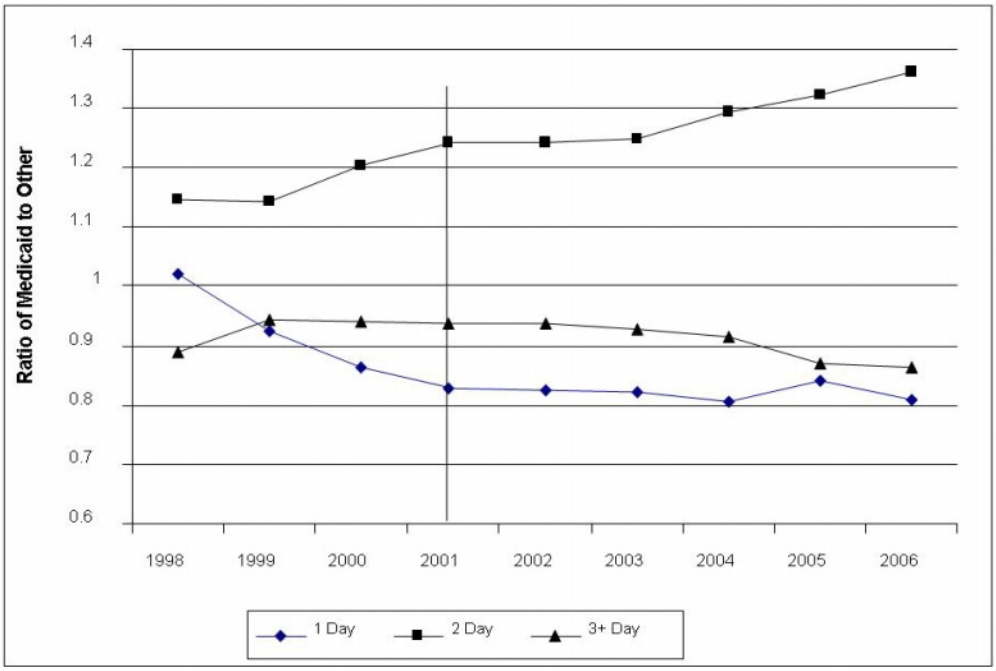
The expansion of the hospital benefit in November 2001 increased the amount that Medicaid could compensate hospitals by reducing the co-payment for the first hospital day of the benefit year from 22 percent to 10 percent and by extending the maximum number of reimbursable inpatient days per year from 20 to 24 days. The impact on health outcomes for Arkansans from this benefit is difficult to predict and measure. Charges that are not reimbursed by Medicaid are the responsibility of the patient, but in practice, hospitals collect a very small fraction of these unreimbursed charges from the patients.

If hospitals, doctors, and patients took the amount of Medicaid coverage into account when deciding among health care options, it is possible that the expanded payment could lead to more days of hospital care. Alternatively, the benefit expansion could lead to a decrease in out-of-pocket payments by Medicaid recipients or a decrease in the amount of unreimbursed care provided by hospitals, without having any significant impact on days of hospitalization. In this analysis, we work with state hospital discharge data to examine whether the benefit expansion had a direct impact on number of days of hospitalization for Medicaid recipients.

Our hypothesis for this analysis is that if the reduction in the Medicaid co-payment is having an effect, it will occur primarily as an increase in the number of short hospital stays. If a condition is serious enough to merit a long hospital stay, it is unlikely to be influenced by a relatively small change in the cost of the first day of hospitalization. To test this hypothesis, we examined the distribution of cumulative hospital days for all patients for whom Medicaid is the primary payer for at least one hospital stay, to assess whether there has been an increase in the fraction of Medicaid hospital stays of very short duration. The Medicaid trends were compared to the trend for patients who have not received Medicaid.

Fig 11.3 presents information about short hospital stays for Medicaid patients relative to other patients. Prior to the reduction of the first day co-pay at the end of 2001, we see that the proportion of one-day stays is decreasing while the proportion of two-day stays is increasing for Medicaid patients. After the reduction in co-pay, there was no further decrease in the proportion of one-day stays. This is consistent with what would be expected if patients, doctors, and hospitals were responsive to the higher payments for the first day and increased admissions for conditions requiring a very short stay.

In order to examine the effect of extending hospital benefits from 20 to 24 days per year, we looked at the number of inpatient days for people who had at least 19 days of hospitalization. We examined whether the increased benefit increased the proportion of these people who had between 21 and 24 days of total hospitalization. Figure 11.4 presents information on long hospital stays for Medicaid recipients relative to others. There is no evidence that stays between 21 and 24 days are becoming more common for Medicaid recipients. Indeed, the opposite of the expected effect is seen. Non-Medicaid patients rather than Medicaid patients have an increased tendency to use days 21 through 24 of hospitalization. Therefore, we conclude that the extended coverage is not increasing the amount of hospitalization for the very ill.



Source: RAND analysis of Arkansas Inpatient Hospital Discharge Records.

Figure 11.3 Ratio of Medicaid to Other Hospital Stays by Length of Stays for Stays of Six Days or Less

These analyses lead us to conclude that the expansion of Medicaid hospital payments appears to have had a minor effect on the number of persons receiving hospital care for conditions requiring a very short stay. The lack of impact on long stays suggests that the benefit expansion is offsetting some previously unreimbursed costs for hospitals for patients who stay in the hospital longer than 20 days.

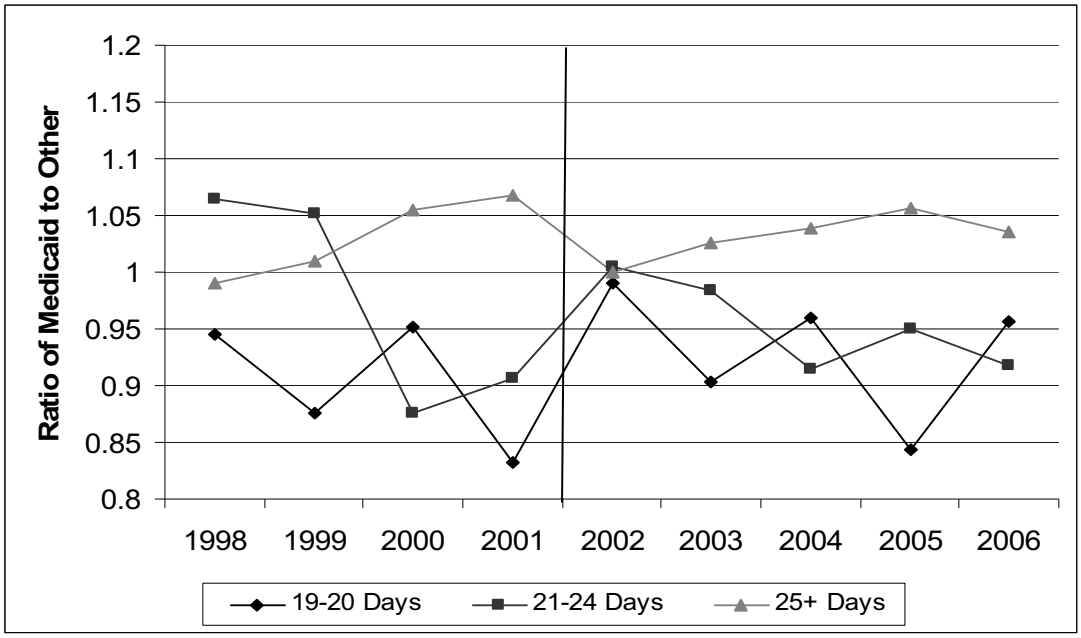
AR-Seniors Program

Key Findings: An additional year of data confirms our previous finding that the AR-Seniors program has accelerated the decline in avoidable hospitalizations among the elderly.

In October 2002, tobacco funds were used to extend Medicaid benefits to people age 65 years and older who had incomes below 75 percent of the federal poverty limit.[13] Increased access to quality medical care is expected to improve the health status of elderly Arkansans. Among the many consequences of poor access to primary care services is an increased likelihood of avoidable hospitalizations. In its seminal study on access to health care in America, the Institute of Medicine (1993) argued that timely and appropriate outpatient care would reduce the likelihood of hospitalizations for ambulatory care–sensitive conditions (see Table 11.2).

[13] The income limit for the AR-Seniors program subsequently was increased to 80 percent of the federal poverty limit, which went into effect on January 1, 2003.

We examine here whether the number of avoidable hospitalizations is affected by the implementation of the AR-Seniors program. A greater decline in avoidable hospitalizations in locations with more eligible seniors would be evidence that the benefit was contributing to improved health outcomes. We performed a county-level analysis that estimated the baseline trend in avoidable hospitalizations among the elderly and examined whether there was a deviation from the trend that is related to the percentage of county residents with income less than 75 percent of the poverty level.



Source: RAND analysis of Arkansas Inpatient Hospital Discharge Records.

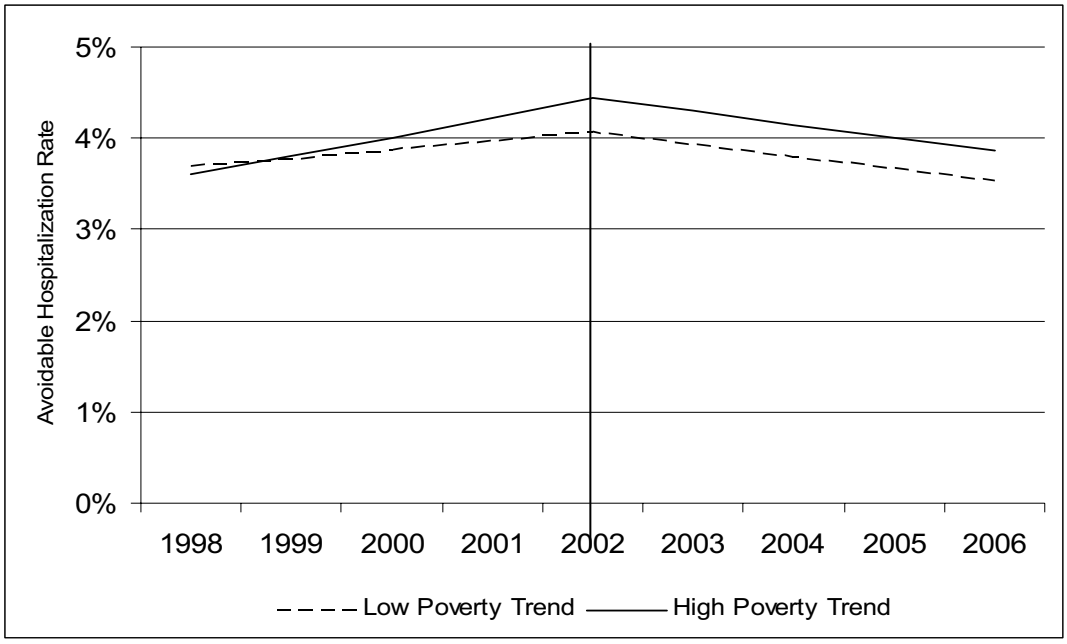
Figure 11.4 Ratio of Medicaid to Other Hospital Stays by Length of Stays for Stays of Nineteen Days or More

Figure 11.5 graphs the estimated baseline trends in avoidable hospitalizations for the older population in representative counties with high and low rates of poverty, where a high poverty county has 14.8 percent of the population with income below 75 percent of the federal poverty limit (90th percentile) and a low poverty county has 6.5 percent of the population with income below 75 percent of the federal poverty limit (10th percentile). In addition, the graph shows our estimates of the trend in avoidable hospitalization rates following implementation of the AR-Seniors benefit for those representative counties. These results are for avoidable hospitalizations due to preventable or acute conditions.

Before the AR-Seniors program started at the end of 2002 (noted by the vertical line in Figure 11.5), avoidable hospitalizations were increasing in high-poverty counties and were relatively constant in low-poverty counties. Following the implementation of the benefit expansion, the rates turned down in all counties. The reduction in the high-poverty trend was somewhat greater although the difference among counties by poverty status is not statistically significant. We obtained similar results for avoidable hospitalizations from chronic conditions. This analysis will be continued as more years of data are collected.

ARHealthNetworks Program

The fourth component of the Medicaid Expansion Program, the ARHealthNetworks program, was launched since our last report. Although the program is too new to have had a measurable impact on its target population, we present an outcome measure that could be used in future reports to determine whether the ARHealthNetworks program is having a positive impact on the health of Arkansans. The program provides an opportunity for small employers to offer a limited benefits package that covers up to six outpatient visits per year and associated lab and x-ray services for employees age 19 to 64 with income at or below 200 percent of the FPL. Participation will be capped at 50,000 individuals.



Note: High poverty county: 14.8 percent of the population has income below 75 percent of the federal poverty limit (90th percentile, population-weighted). Low poverty county: 6.5 percent of the population has income below 75 percent of the federal poverty limit (10th percentile, population-weighted).

Figure 11.5 Percentage of Elderly with at Least One Avoidable Hospitalization for Preventable and Acute Conditions, by Counties with High and Low Poverty Rates

We propose to use avoidable hospitalization rates for people age 19 to 64 as a measure of program impact. As discussed above, avoidable hospitalizations for preventable and acute conditions have been shown to be sensitive to the levels of access to primary care. We expect avoidable hospitalizations in the target age group to decline if ARHealthNetworks is increasing access to primary care. Using Census data, we estimate that there are approximately 300,000 people in Arkansas in this age range between 125 and 200 percent of the FPL. Therefore, over 15 percent of these individuals could be covered by the program if it reaches its enrollment limit of 50,000. An increase in coverage of that magnitude should lead to a detectable decline in avoidable hospitalizations.

In addition to monitoring the statewide rate of avoidable hospitalizations for this target age group, we will also make use of geographic variation in program enrollment and avoidable

hospitalizations to examine the effect of the program. Currently, there is considerable variation among counties in the percent of the estimated target population that is enrolled. The current enrollment of more than 2,800 subsidized individuals is 1.1 percent of the estimated statewide population in the targeted age and income ranges. Five counties have no active enrollees and eight already have enrolled more than 3 percent of the estimated target population. If this variation in enrollment rates among counties continues, we should be able to detect variation in the reduction of avoidable hospitalizations that correlates with enrollment rates.

OUTCOMES FOR THE ACADEMIC PROGRAMS

Two of the programs supported by the Arkansas tobacco settlement funds—COPH and ABI—are academic programs that are helping to build the health infrastructure in the state. Although these programs are expected to have large effects on the health of Arkansans, the effects are expected to be very long-term ones, requiring many years before the programs' research, service, and training activities have measurable effects on health status. Therefore, our outcome evaluation is focusing on tracking the quality of the programs' research, as measured by its impacts on the relevant scientific fields, and assessing how well the programs disseminate knowledge to the scientific community and targeted populations around the state.

We base our evaluation on a framework developed by our RAND colleagues for the evaluation of likely pay-off from research investments (Wooding et al, 2004). The returns from research fall into the following categories:

1. Knowledge production
2. Research targeting and capacity building
3. Informing policy and product development
4. Health and health sector benefits
5. Wider economic benefits.

We propose to measure (1) "knowledge production" by using journal impact factors to provide an approximate measure of the likely impact of research publications on furthering their specific areas of knowledge. We measure (2) "targeting and capacity building" by verifying that areas of research are consistent with intent of the Act and by recording the communities from which students come and where they go.

In our previous report, we measured the last three types of benefits by undertaking a qualitative review of selected projects to provide independent verification that they are likely to lead to payoffs of these types. These reviews uniformly found that the selected projects were of high quality and were likely to lead to health, public policy, and economic development benefits. Given the expense of undertaking external scientific reviews and the high probability that they would return a similar finding, we opted not to pursue this type of evaluation for this report.

Journal Impact Factor Analysis

Measuring the knowledge production of funded research requires making predictions about the extent to which a current research project will become the building block for future clinical and policy changes that will improve the health of Arkansans. Using journal impact factors (JIFs) allows us to leverage the scientific reviews made by scholarly journals. JIFs measure the rate at which scholars have cited a journal's recent articles. A high citation rate

indicates that scholars have judged the journal's articles to be of high scientific quality and therefore worth referencing in their own work. The JIF for a journal tends to be relatively stable over time because high-quality journals receive more submissions from which the editors and peer-reviewers can select the best scientific work. If an ABI or COPH study is accepted in a high-JIF journal, that indicates that it has been judged to be of high scientific quality and likely to have an impact on the field. Therefore, we summarize the JIFs for journals in which ABI and COPH studies are published to track the likely impact of the research. Although the JIF is not a perfect measure of scientific quality, it has many advantages, including providing timely information and being of low cost.

The Institute for Scientific Information (ISI) produces the JIFs by assigning every journal that they rate to one or more subject categories, such as infectious diseases or health policy and services. Our quality measures are based on the ranking of journals within their subject categories. The citation rates measured by the JIFs differ dramatically among subjects because styles of scholarly writing and citation behavioral norms differ across subjects. However, JIFs provide a useful ranking of journals *within* subject, so we can base our measures on whether funded research leads to publications in the top five or top ten journals in its subject.

It should be noted that not all publications are in journals that are included in the ISI's citation index. Journals and other publication venues that do not receive JIF ratings tend to be non-peer reviewed, of minimal circulation or rarely cited by other scientific journals. While publications in non-JIF rated venues can make contributions to the research process, research published in ranked journals is likely to have a greater eventual effect on the well-being of Arkansans. Therefore, we define four quality levels of publications:

1. publications in journals ranked in the top five by subject
2. publications in journals ranked between the top five and top ten by subject
3. publications in journals ranked below the top ten by subject
4. publications in journals or other venues not ranked by ISI.

As the quality of research produced by the funded programs increases over time, we expect an increase in the number of publications in top-five and top-ten journals.

OUTCOMES FOR THE COLLEGE OF PUBLIC HEALTH

Key Findings: COPH's number of scholarly publications continues to increase. In 2007, both the total number of publications and the number publications in ranked journals increased substantially from previous years.

Table 11.3 provides our analysis of the JIF of COPH publications for 2004 through 2007. The total number of publications and the total number of publications in ranked journals both increased substantially over prior years. The increase in top five and top ten journals, although positive, was less dramatic. This suggests that COPH is not only producing more publications but also more high-quality publications. The fraction of highly ranked publications is down somewhat. Although not a concern at this time, it is a measure that should be monitored in the future.

Table 11.3
Journal Impact Factor Rankings for COPH Publications

Ranking	2004	2005	2006	2007
Top five	7	12	7	14
Six through ten	5	5	7	8
Ranked below ten	12	31	32	54
Not ranked	10	21	30	39
Total	34	69	76	115

Note: Ranks based on highest within-subject ranking of Journal Impact Factor for each published (including accepted and in-press) articles.

OUTCOMES FOR THE ARKANSAS BIOSCIENCES INSTITUTE

Key Findings: ABI's publication of research findings in scholarly journals continues to increase. Its research is being disseminated in top journals in a wide variety of scientific subjects. The number of articles in the top journals has grown in each of the past two years.

Table 11.4 provides evidence that ABI's research continues to grow in quality as well as quantity with each year. Consistent with its mandate to perform research that will contribute to the health of Arkansans, the vast majority of its publications in each year are in journals that are given a JIF ranking. The number of publications in journals with a top-five subject ranking continues to grow rapidly each year. This growth demonstrates that the continued funding of research projects by ABI is leading to contributions that are well-regarded by the international scientific community.

Table 11.4
Journal Impact Factor Rankings for ABI Publications

Ranking	2002–03	2003–04	2004–05	2005–06	2006–07
Top five	18	32	52	65	90
Six through ten	13	8	33	50	35
Ranked below ten	40	38	107	118	168
Not ranked	19	31	55	33	35
Total	90	109	258	265	328

Note: Ranks based on highest within-subject ranking of Journal Impact Factor for each published article. 2005–06 and 2006–07 ranking analysis is based on a 40% random sample of articles listed in the ABI Annual Reports and then rescaled to reflect total publication activity.

SUMMARY

This year, we have updated some studies from past reports, reviewed data collection and analysis efforts by several of the service-based programs, and presented rankings of publications for the academic programs. We find that the programs involved in community health education—Delta AHEC, Minority Health Initiative, and the Arkansas Aging Initiative—are all expanding their ability to collect and analyze outcomes data on program participants, with the

latter two having already produced some scientifically valid studies that demonstrate a positive impact on health outcomes. The programs that primarily seek to increase access to health care among the elderly—the AR Seniors Medicaid expansions and the Aging Initiative—have reduced avoidable hospitalizations. However, the other Medicaid expansions are not having a demonstrable impact on health outcomes. Finally, the two academic programs—the Arkansas Biosciences Institute and the College of Public Health—are continuing to be recognized by their peers in the scientific community for their creation of knowledge through their publication in top academic journals.

In future years, we will continue to update and extend these analyses as the data permit and to the extent that they can provide useful feedback on the policies undertaken by the commission and the activities of the programs themselves.

Chapter 12
Synthesis and Recommendations

The Initiated Act created the Arkansas Tobacco Settlement Commission to oversee the funded programs, assess their performance, and recommend program funding changes to the general assembly. Less formally, the ATSC facilitates the work of the programs and is responsive to the political environment regarding public health and tobacco use in Arkansas. In Chapter 1 of this report, we provided the origins and the goals of the ATSC and, in Chapter 2, we described the policy context within which the ATSC has worked the past two years. We then examined, in individual chapters, the progress of each of the seven programs in fulfilling its mandates, as it developed and expanded its programming. Finally, we presented in Chapters 10 and 11 up-to-date results from our outcome analyses regarding program effects on trends in tobacco use, health measures associated with tobacco use, and other outcomes that could result from the seven programs established by the Initiated Act. In this concluding chapter, we bring together all of these individual evaluation results in a synthesis of the critical aspects of this biennial evaluation. Those aspects include:

- Progress on programmatic goals
- Progress on the common themes and issues that were the focus of this evaluation, including leveraging funding, technical capacity, joint activity among programs, and quality improvement.

On the basis of these overarching aspects and our examination of the tobacco settlement program as a whole, we offer recommendations for consideration by the ATSC, the governing boards that oversee the individual programs, and the general assembly.

SUMMARY OF PERFORMANCE THROUGH 2007

The Initiated Act stated basic goals to be achieved by the funded programs through the use of the tobacco settlement funds, and it also defined indicators of performance for each of the funding programs—for program initiation, short-term actions, and long-term actions. In the 2006 evaluation report, we reported our assessment of the status of the programs on the program initiation goals and short-term actions defined for them in the Initiated Act. At that time, all the programs except MHI and the MEP had achieved their initiation goals. Within the past year, the Medicaid program has, after extensive negotiations with CMS, obtained approval and launched its ARHealthNetworks program (see Chapter 9 for details). It has also largely achieved its short-term goals of increasing the number of participants in the expanded programs, although enrollment has stabilized below expected growth levels. MHI has also now achieved the short-term goals specified in the Initiated Act: (1) prioritize the list of health problems and planned intervention for minority population(s) and (2) increase the number of Arkansans screened and treated for tobacco-related illnesses. Following RAND's recommendation, MHI conducted several planning sessions to develop a list of potential programs. It terminated the Hypertension Screening and Treatment programs and is now implementing a cadre of programs that focus on connecting individuals to already existing health resources, facilitating the development of policies to increase access to treatment, increasing prevention activities in the state, and facilitating the implementation and translation of research that can inform the development of public health programs. It has also made substantial improvements in its efforts to screen for various health issues.

Progress of the Programs on Programmatic Goals

For the long-term actions specified in the Initiated Act, the RAND team worked with each of the funded programs in FY 2005 to establish programmatic goals that define targets for future program activity. We also worked with each program to establish outcome measures that will enable us to assess the effects of the program on outcomes relevant to it. Both the programmatic goals and outcome measures are intended to move each program toward the long-term actions defined for it in the Initiated Act. The ATSC formally approved the programmatic goals tied to the long-term actions, and the programs agreed to monitor their progress toward those goals in their regular reports to the ATSC. The monitoring is a two-step process, starting with tracking how well programs are moving toward their operational goals, and then assessing how much effect this progress is having on their outcome measures. If those levels of operation are not affecting outcomes, then the programmatic goals may have to be revised to target stronger interventions to ultimately affect outcomes. The programmatic goals were incorporated into the ATSC's own report of 2005 and the outcome measures provide the basis for the evaluations of outcomes in Chapters 10 and 11 of this report.

Overall, the seven tobacco settlement programs have continued to refine and grow their program activities during the most recent year. In the last report, we found that all but three of the programs had achieved their programmatic goals. The three exceptions were AAI, MHI, and MEP. As seen in Table 12.1, over the past two years all but one of the programs had accomplished or was on schedule to accomplish all of their programmatic goals. MEP did not achieve desired utilization of benefits in the AR-Seniors program or increase enrollment in either that program or the Pregnant Women's Expansion Program. In summary, most of the programs are on track with regard to their programmatic goals.

PROGRAM RESPONSES TO COMMON THEMES AND ISSUES

Some common themes and issues emerged from the last evaluation cycle that apply across the programs. For those issues, we offered recommendations in the 2006 evaluation report for actions to strengthen the programs in the future. We are monitoring the progress of the programs in carrying out these recommendations as part of our semiannual telephone updates with each program. We go over these recommendations here, highlighting activities undertaken by the programs for each recommendation. Relevant issues that merit consideration by the ATSC are identified.

Table 12.1
Program Status on the Programmatic Goals

Program	Status
Tobacco Prevention and Cessation	4 of 5 goals met 1 goal on schedule
College of Public Health	2 of 4 goals met 1 goal on schedule 1 goal ahead of schedule
Delta Area Health Education Center	4 of 8 goals met 3 goals on schedule 1 goal no longer relevant
Arkansas Aging Initiative	6 of 6 goals on schedule
Minority Health Initiative	4 of 4 goals on schedule
Arkansas Biosciences Institute	1 of 3 goals met 2 goals on schedule
Medicaid Expansion Programs	1 of 4 goals met 3 goals not met

Leveraging Funding

Recommendation: Especially given the anticipated funding crunch, rethink the direct service delivery components of programs that have them, and either justify the contribution of these components to people beyond the direct recipients or eliminate these components. While this can appear hard-hearted on the surface, this way of thinking provides better care for the targeted populations in the long term.

> *Program Responses:* The programs with direct service delivery components include Delta AHEC, AAI, and MHI. Of the three, only MHI has reconsidered its programming from a cost-effectiveness perspective. MHI is now at the early stages of implementing a cadre of programs that are consistent with the Initiated Act. It decided to terminate the Hypertension Screening and Treatment programs and focus instead on connecting individuals to already existing health resources, facilitating the development of policies to increase access to treatment, and increasing prevention activities in the state.

Technical Capacity

Recommendation: Programs should be urged to develop data collection and analysis plans and to dedicate resources for implementing these plans. The ATSC should provide funds for the training of program staff to accomplish these goals. These funds should be appropriated in the next general assembly appropriations cycle.

> *Program Responses:* The programs have made substantial progress in improving their data collection and analysis capabilities. We present here some key examples of these efforts:
>
> - TPCP responded to RAND's recommendation to improve its evaluation capabilities by issuing an RFP and then contracting with Battelle to provide program evaluation

and technical assistance to its programs. While TPCP had a strong track record of building evaluation into all its program components, it needed to improve the collection and analysis of evaluation data. The new evaluation plan calls for an examination of each program's goals, objectives, and outcome measures. In addition, the program evaluator will also assess how the program activities address the relevant state level and CDC goals.

- Delta AHEC has increased its data collection and analysis capabilities through the use of scannable surveys for evaluation of consumer education activities. It also collects fitness center usage through scanning membership cards. Together, these enable Delta AHEC to track encounters and make programming improvements on an ongoing basis.
- AAI had demonstrated its commitment to understanding the impact of its services by hiring dedicated personnel to work on its evaluation efforts. Thus far, it has gathered and analyzed data for three of its programs.
- While the capacities to collect, manage, and analyze data have all been issues for MHI in the past, It has made great strides developing databases to track treatment and research data. MHI has also developed an evaluation plan with process and outcomes indicators for each of its current programs. Despite this progress, there is still a need to develop program-specific measures and analysis plans.
- The ATSC was not able to provide technical assistance to the programs, although it did obtain a small amount of support for itself from ACHI.

Joint Activity

Recommendation: The collaboration among the seven tobacco settlement programs should be intensified, especially as programs experience challenges where expertise from potential partners would be beneficial. The ATSC can help in this regard by serving as an "honest broker," identifying potential collaborative efforts and bringing programs together.

Program Responses: The amount of cross-program collaboration has been growing during the past two years. The programs most actively engaged in collaboration thus far have been COPH, Delta AHEC, MHI, and AAI, all of which are working with one or more of the other programs. For example, MHI, AAI and Delta AHEC have taken early steps to increase access to each program's services to minority and geriatric populations in Arkansas. Though some of these plans have been slow in their development, the groundwork is laid to see improvements in the next fiscal year. Recently, the ATSC convened a meeting of the programs to help programs identify new collaborative opportunities. In the next section, we recommend that all of the programs focus on developing strategic collaborative partnerships with other tobacco settlement programs to work on specific activities.

Ubiquitous Quality Improvement

Recommendation: By the end of the next fiscal year, each tobacco settlement program and the ATSC itself should have in place a documented formal quality management program that includes explicit criteria for quality performance, and collection of information on measures of

technical and perceived quality, has quantified measures that derive from the information collected, has analysis plans for addressing the measures, and formulates quality recommendations that are addressed to whoever needs to take action. The annual report of each program and the ATSC should include the results of quality analyses, a set of internal recommendations, and a statement of actions on previous years' recommendations.

Program Responses: Most of the programs have improved their quality management processes. While the quality management process has moved the programs toward accountability and transparency, there is still work to be done. Here, we provide brief summaries of some of these efforts.

- As part of TPCP's newly adopted formal quality management process, each funded program is required to develop a work plan and budget and report progress quarterly. A quality management team reviews the progress reports and provides feedback to the program. Since the process still needs work, TPCP has plans to work with the programs to improve the quality of the work plans and refine the review process and feedback mechanism.
- Early in 2007, Delta AHEC initiated a strategic planning and quality improvement process. Each program developed a quality improvement plan that focuses on the program description and goals, learning objectives, assessment measures, expected outcomes, actual outcomes, action plan, and collaboration partners.
- Early in 2007, AAI developed a performance review process for its COAs. Each COA's individual plan is linked in mission and objectives to AAI's overall strategic plan. In order to monitor each site's progress, AAI established a communication strategy for regular interaction with the directors and education directors from each site.
- During 2007, MHI began developing an internal quality management tracking process for monitoring staff members' task completion. MHI also developed a logic model for staff task accountability. While more work is needed, MHI appears committed to developing a fully functioning quality management program.
- The ATSC has not adopted a formal quality management program, although it has improved its methods of collecting financial data from the funded programs.

POLICY ISSUES AND RECOMMENDATIONS

As described in our earlier evaluation reports (Farley et al., 2005a; Farley et al., 2007), the programs supported by the tobacco settlement funds provide an effective mix of services and other resources that respond directly to Arkansas' priority health issues. The two academic programs—COPH and ABI—are building educational and research infrastructure that can be expected to make long-term contributions to the state's health needs. With another two years of operation, the programs have now all achieved their initiation and short-term goals defined in the Initiated Act. The programs' impacts on health needs also can be expected to grow as they continue to evolve and increasingly leverage the tobacco settlement funds to attract other resources. In this section, we take a bird's-eye view of the ATSC and provide new observations

and recommendations for consideration that are addressed to the individual programs, the commission, the governor, or the general assembly.

Managing Transitions and Change

Recommendation: With the programs continuing to grow and change, all of the programs need to develop methods to manage leadership transitions and programmatic changes.

One commonality across all of the programs and the ATSC is their need to manage transitions. Staffing and leadership changes are to be expected, particularly for programs operating within public agencies. With changes in leadership and staff, it is imperative that policies, procedures, and processes are well-documented to ensure institutional knowledge and program consistency over time. Each Delta AHEC program has implemented a system for collecting all protocols and forms necessary for its operation so that the programs can continue even with leadership and staffing changes. The other programs should be encouraged to develop similar systems for documenting their programs and plans.

There are also programmatic changes as the programs develop and adapt their efforts over time. The programs need to stay within the scope of the Initiated Act but be responsive to changes in the environment and needs of the populations they are trying to serve. MHI has undergone substantial course adjustments over the last two years by following through on recommendations to eliminate direct services and develop new pilot programs. We recommend that other sites be similarly cautious with program development by choosing to implement pilot programs to test their viability and effectiveness before launching larger programs.

These issues apply to the ATSC as well as to the individual programs. The ATSC recently managed the transition in the executive director position successfully, but in September 2009 the commission is scheduled to simultaneously lose three of its original and most active commissioners. It should consider steps to achieve staggered commissioner terms and to supplement the independent expertise provided by these appointees.

Ongoing Strategic Planning

Recommendation: As the programs mature, each program and the ATSC itself should have in place a documented strategic plan and process that includes concrete objectives, strategies, and tasks.

As we noted earlier, the programs continue to develop and mature. While several of the programs have undertaken strategic planning processes, all of the programs would benefit from a more formalized and ongoing process. The strategic planning should focus on cost-effective ways to implement strategies that are directly tied to the program's goals. The plans should detail the specific strategies and tasks that address each objective.

Evaluation Development

Recommendation: Evaluation plans should evolve along with the program's and move toward measuring broader impact. As programming and activities develop over time, the programs should be urged to update the programmatic goals and the indicators used to measure progress toward these goals.

With program activities now well established, the programs should use the evaluation data to modify their programmatic goals and process indicators. For some programs, the goals and process indicators are no longer relevant given changes in program direction and the overall maturation of the program over time. Many of the programs have increased technical capacity to the point where they can now fully track the effects of the programs and determine quality deficiencies and what to do about them. With more advanced data collection and analysis capabilities, the programs are better positioned to take the next step with their evaluation efforts given the appropriate resources and support.

All of the programs need assistance in using their evaluation capabilities to measure impact statewide. This is particularly true for those programs charged with providing direct services. While some of them have begun to develop measures and approaches, the programs need assistance in determining how to show the difference they are making statewide.

Collaboration

Recommendation: The seven tobacco settlement programs should be encouraged to intensify their collaborative efforts, especially as programs develop and adapt their programming to meet changing needs. The ATSC can help in this regard by continuing to convene meetings of the programs specifically on collaboration and requesting that the programs report on their progress on these efforts during the meetings.

As we noted earlier, collaborative activity across the programs is increasing although somewhat slower than would be expected given the synergies across the programs. Of the seven programs established by the Initiated Act, only ABI and MEP have not yet been engaged in joint activities with other programs. While it might be said that these programs differ substantially from the other ones, there is still room for collaboration. ABI might consider providing special attention to proposals from other tobacco settlement programs, or might even solicit proposals. With the need for more education and outreach, MEP should partner with the other tobacco settlement programs to effectively get the word out about available programs. For example, it should consider partnering with AAI to address the difficulties with enrollment into the AR-Seniors program. Several of these ideas were presented in our last report but not acted upon.

The joint activity already established can also be fruitfully increased. The service programs all require assistance with data collection, management, and analysis, as well as quality management. COPH has expertise in all of these areas that can be tapped. We recommend that AAI continue its efforts to partner, particularly with Delta AHEC and MHI. Partnerships among AAI, MHI, and Delta AHEC can help to increase utilization of services for all three programs.

Finally, the programs can learn from each other in their approach to responding to the evaluation recommendations. For example, AAI successfully addressed its challenges related to quality improvement and program monitoring during this reporting period. Other programs with similar challenges would benefit from increased collaboration and discussion with AAI on how they addressed this challenge.

Sustainability

Recommendation: The ATSC and each of the seven programs should focus on sustainability with particular attention to funding stability and growth. As the tobacco settlement funds

continue to fall below the amounts expected based on the MSA, some of the shortfall can and should be made up for by aggressively seeking other funding sources to supplement the tobacco settlement funds.

While funds increased slightly for FY 2007 and increased about 13 percent for FY 2008, the totals still remains below the amounts expected based on the MSA. A theme that runs through our evaluation of all of the programs is that uncertainties about future funding are even more apparent as the programs move into the next stage of program development. Some of the programs have been successful in securing additional funding. In keeping with their original plans, COPH and ABI have continued to increase the amount of external funding received for research activities. MEP has secured federal matching funds for its programs. Since the last evaluation report, AAI has implemented strategies to build its financial stability. For example, it successfully secured funding from UAMS's share of the Arkansas general improvement funds for FY 2008 and FY 2009. AAI has also developed a system to track its own funding opportunities as well as those of the AAI sites in each region. The other programs have either no or minor percentages of additional funding.

Issues for Individual Programs

Here, we revisit some of the findings for the seven individual programs, in order to make recommendations that fall outside of the purview of the programs themselves. We discuss only two programs, TPCP and MEP, as well as the ATSC itself.

Tobacco Prevention and Cessation Program

Recommendation: Raise funding for the nine components of a comprehensive statewide tobacco control strategy to the level recommended for Arkansas by the CDC through either additional funds over and above those provided by the MSA or reallocation of funds from non-tobacco programs.

As of the end of FY 2008, TPCP continues to be funded at levels below the CDC recommended level for tobacco prevention and cessation programs. Currently, sufficient funds are not being appropriated to support the necessary programming; therefore, the TPCP program cannot be expected to have the impact on tobacco use that would be possible with adequate funding. To the extent that additional funding is provided for other programming, that additional funding should be directed toward compliance with the CDC guidelines.

With the latest appropriations, TPCP's authorized funding declined both in absolute terms and relative to the other programs receiving tobacco settlement funds. Thus, its share of the total tobacco settlement dollars, which already was below what the Initiated Act had designated for tobacco prevention and cessation activities, will be yet smaller in the next biennium.

Recommendation: Change the process TPCP must use to budget its funds to be in line with the other tobacco settlement programs.

Because the legislature funded an Arkansas Rainy Day fund by shifting the first year of funds out of the Tobacco Prevention and Cessation Program Account, budgeting is more complicated for TPCP than for the other programs receiving tobacco settlement funding. As a result of this shift in funds, the TPCP was placed in the position of borrowing funds to support its tobacco prevention and cessation activities that then are repaid in the next cycle of tobacco

settlement funding. Therefore, TPCP has held significant amount of funds in reserve to guard against not having enough funds to meet all of its financial demands. While this money can be rolled over, this situation delays TPCP's ability to use funding, which contributes to weakening its impacts on smoking behaviors.

Medicaid Expansion Programs

Recommendation: The Medicaid Expansion Programs should intensify their efforts to meet spending targets for the expansions they support. Unspent funds means that services are not provided to low-income people in need of health care, and the ability of the Medicaid programs to leverage federal funds for these services means that assets that would otherwise be available are not being tapped. While the Medicaid programs are to be applauded for their intense effort in bringing the four expansion program on board, they should ensure that all four programs spend the funds available.

ATSC Management of Program Progress

Recommendation: The ATSC should continue to work toward establishing a complete reporting package through which the funded programs provide it with performance information on both their program activities and spending, which it should use for monitoring program performance on a regular basis. This package should build on the existing quarterly progress and financial reports to include systematic tracking of progress on the process indicators and a comprehensive annual report that assesses progress toward long-term goals and describes the challenges faced.

As the tobacco settlement programs have developed, RAND's role has evolved. At the beginning, the RAND evaluation served to assess the progress of the funded programs in the start-up and early operation of their program activities, as well as to work with the programs to establish goals and measures for use in monitoring their continued operation and growth. In the prior evaluation reports, we presented recommendations to the ATSC for actions it can take to strengthen program reporting and accountability. With action taken on some of these recommendations, the monitoring role has begun to shift away from the external evaluator into the hands of the ATSC. The ATSC now receives quarterly progress and financial reports from each of the seven programs. We recommend that reporting place more emphasis on the progress made during the reporting period with data on the process indicators incorporated into the reporting process. We also recommend that the annual reporting be formalized into a written assessment of progress toward long-term goals and of the challenges and facilitators of their efforts. While some programs will need help in developing the capacity to understand and map trends over time and conduct this kind of self-assessment, the ATSC should support the programs in moving in this direction.

As the ATSC continues to expand its monitoring capabilities, an external evaluator will remain a necessary aspect of the program for the foreseeable future, although that body's role will continue to shift over time. One of the responsibilities of the external evaluator is to support the sponsoring organization (the ATSC) in making this evaluation function an integral part of its ongoing operation. RAND, if selected to continue in this role, will support each of the programs as they work to use their evaluation data to modify the programmatic goals and the process indicators used to measure progress toward those goals. RAND will also serve as an objective observer, reviewing performance reports the programs submit to the ATSC and assessing data on the programs' process indicators and progress toward programmatic goals. At the same time, as we noted in our last report, the emphasis of the external evaluator should increasingly focus on

analysis of program effects on outcomes, a function that requires modeling and statistical expertise that are not yet within the capacity of the ATSC. Finally, even if the ATSC is fully capable of evaluating the programs, an external organization must "watch the watchers" and provide oversight of the ATSC itself.

DISCUSSION

The seven programs supported by the tobacco settlement funds have continued to strengthen and expand their reach in support of improving the health of Arkansans. TPCP is making use of its available resources for smoking prevention and cessation programs that follow the CDC's recommended guidelines. AAI, Delta AHEC, MHI and MEP all are serving the short-term health-related needs of disadvantaged Arkansas residents through a variety of targeted programs and services. Both COPH and ABI are expanding public health education and public health and health research knowledge infrastructure in Arkansas. All of the programs have now achieved their initiation and short-term goals as specified by the Initiated Act. For the long-term, all but one of the programs had accomplished or were on schedule to accomplish the programmatic goals developed to measure progress toward long-term outcomes. Our analysis of smoking behavior in Arkansas provides evidence of the continued effectiveness of the tobacco settlement programs on smoking outcomes, especially for the most vulnerable populations such as young people and pregnant women.

Arkansas has been unique among the states in being responsive to the basic intent of the master tobacco settlement by investing its funds in health-related programs with a focus on reducing smoking rates. We encourage the state policymakers to reaffirm this original commitment in the Initiated Act to dedicate the tobacco settlement funds to support health-related programming. To do justice to the health-related services, education, and research these programs are now delivering, they must be given the continued support and time they need to fulfill their mission of helping Arkansas to significantly improve the health of its residents. In addition, they must take the actions needed to ensure that issues identified in this evaluation are addressed to reinforce the effectiveness of Arkansas' investment in the health of its residents.

Appendix A.
Initiated Act 1 of 2000: The Tobacco Settlement Proceeds Act

SECTION 1. TITLE. This Act may be referred to and cited as the "Tobacco Settlement Proceeds Act."

SECTION 2. DEFINITIONS. (a) The following terms, as used in this Act, shall have the meanings set forth in this section:

(1) "Act" shall mean this Arkansas Tobacco Settlement Funds Act of 2000.

(2) "ADFA" shall mean the Arkansas Development Finance Authority.

(3) "Arkansas Biosciences Institute" shall mean the Arkansas Biosciences Institute created by Section 15 of this Act.

(4) "Arkansas Biosciences Institute Program Account" shall mean the account by that name created pursuant to Section 11 of this Act to be funded from the Tobacco Settlement Program Fund and used by the Arkansas Biosciences Institute for the purposes set forth in this Act.

(5) "Arkansas Healthy Century Trust Fund" shall mean that public trust for the benefit of the citizens of the State of Arkansas created and established pursuant to Section 7 of this Act.

(6) "Arkansas Tobacco Settlement Commission" shall mean the entity that administers the programs established pursuant to this Act, also known as "ATSC", which is described and established in Section 17 of this Act.

(7) "Arkansas Tobacco Settlement Commission fund" shall mean the fund by that name created pursuant to Section 8(f) of this Act to be used by the Arkansas Tobacco Settlement Commission for the purposes set forth in Section 17 of the Act.

(8) "Bonds" shall mean any and all bonds, notes, or other evidences of indebtedness issued by ADFA as Tobacco Settlement Revenue Bonds pursuant to the terms of this Act.

(9) "Capital Improvement Projects" shall mean the acquisition, construction and equipping of land, buildings, and appurtenant facilities, including but not limited to parking and landscaping, all intended for the provision of health care services, health education, or health-related research[,] provided that each such Capital Improvement Project must be either set forth in this Act or subsequently designated by the general assembly pursuant to legislation.

(10) "Debt Service Requirements" shall mean all amounts required to be paid in connection with the repayment of Bonds issued pursuant to this Act, including, but not limited to, the principal of and interest on the Bonds, amounts reasonably required for a debt service reserve, amounts reasonably required to provide debt service coverage, trustee’s and paying agent fees, and, to the extent reasonably necessary, capitalized interest on the Bonds.

(11) "Initial MSA Disbursement" shall mean the first disbursement from the MSA Escrow to the State, consisting of Arkansas’ share of payments from Participating Manufacturers due under the Master Settlement Agreement and designated as the 1998 First Payment, the 2000 Initial Payment, and the 2000 Annual Payment, which amounts, along with any accumulated interest, represent all money due to the State and attributable to payments prior to January 1, 2001.

(12) "Master Settlement Agreement" or "MSA" shall mean that certain Master Settlement Agreement between certain states (the "Settling States") and certain tobacco manufacturers (the

"Participating Manufacturers"), pursuant to which the Participating Manufacturers have agreed to make certain payments to each of the Settling States.

(13) "Medicaid Expansion Programs Account" shall mean the account by that name created pursuant to Section 12 of this Act to be funded from the Tobacco Settlement Program Fund and used by the Arkansas Department of Human Services for the purposes set forth in this Act.

(14) "MSA Disbursements" shall mean all amounts disbursed from the MSA Escrow pursuant to the Master Settlement Agreement to the State of Arkansas.

(15) "MSA Disbursement Date" shall mean any date on which MSA Disbursements are made to the State of Arkansas pursuant to the Master Settlement Agreement at the request of the State.

(16) "MSA Escrow" shall mean those escrow accounts established to hold the State of Arkansas' share of the Tobacco Settlement proceeds prior to disbursement to the State pursuant to the Master Settlement Agreement.

(17) "MSA Escrow Agent" shall mean that agent appointed pursuant to the Escrow Agreement entered into between the Settling States and the Participating Manufacturers pursuant to the Settlement Agreement.

(18) "Participating Manufacturers" shall mean those entities defined as Participating Manufacturers by the terms of the Master Settlement Agreement.

(19) "Prevention and Cessation Program Account" shall mean the account by that name created pursuant to Section 9 of this Act to be funded from the Tobacco Settlement Program Fund and used for the purposes set forth in this Act.

(20) "Program Accounts" shall mean, collectively, the Prevention and Cessation Program Account, the Targeted State Needs Program Account, the Arkansas Biosciences Institute Program Account, and the Medicaid Expansion Programs Account.

(21) "State Board of Finance" shall mean the entity created pursuant to Arkansas Code Annotated § 19-3-101, as amended.

(22) "Targeted State Needs Programs Account" shall mean the account by that name created pursuant to Section 10 of this Act to be funded from the Tobacco Settlement Program Fund and used for the purposes set forth in this Act.

(23) "Tobacco Settlement" shall mean the State of Arkansas' share of funds to be distributed pursuant to the Master Settlement Agreement between the Settling States and the Participating Manufacturers.

(24) "Tobacco Settlement Cash Holding Fund" shall mean the Fund established as a cash fund outside of the State Treasury pursuant to Section 4 of this Act, into which all MSA Disbursements shall be deposited on each MSA Disbursement Date.

(25) "Tobacco Settlement Debt Service Fund" shall mean the Fund established as a cash fund outside of the State Treasury pursuant to Section 5 of this Act.

(26) "Tobacco Settlement Program Fund" or "Program Fund" shall mean the Tobacco Settlement Program Fund established pursuant to Section 8 of this Act, which shall be used to hold and distribute funds to the various Program Accounts created by this Act.

(27) "Trust indenture" or "indenture" shall mean any trust indenture, ADFA resolution, or other similar document under which Tobacco Settlement Revenue Bonds are to be issued and secured.

SECTION 3. GRANT OF AUTHORITY TO STATE BOARD OF FINANCE.

The State Board of Finance is hereby authorized and directed to perform the following duties with respect to the Tobacco Settlement:

(a) The State Board of Finance is authorized and directed on behalf of the State of Arkansas to receive all authorized disbursements from the MBA Escrow. The Initial MBA Disbursement and each subsequent MSA Disbursement shall be immediately deposited into the Tobacco Settlement Cash Holding Fund, and distributed from there as prescribed in this Act. The Office of the Attorney General is directed to take all action necessary to inform the MBA Escrow Agent that the Board of Finance is authorized to receive such disbursements on behalf of the State.

(b) The State Board of Finance shall manage and invest all amounts held in the Tobacco Settlement Cash Holding Fund, the Tobacco Settlement Debt Service Fund, the Arkansas Healthy Century Trust Fund, the Tobacco Settlement Program Fund, the Arkansas Tobacco Settlement Commission Fund, and the Program Accounts, and shall have full power to invest and reinvest the moneys in such funds and accounts and to hold, purchase, sell, assign, transfer, or dispose of any of the investments so made as well as the proceeds of the investments and moneys, pursuant to the following standards:

(1) with respect to amounts in the Arkansas Healthy Century Trust Fund, all investments shall be pursuant to and in compliance with the prudent investor and other applicable standards set forth in Arkansas Code Annotated §§ 24-3-408, 414, 415, and 417 through 425, and Arkansas Code Annotated § 19-3-518;

(2) with respect to amounts in the Tobacco Settlement Debt Service Fund, all investments shall be pursuant to and in compliance with the prudent investor and other applicable standards set forth in Arkansas Code Annotated §§ 24-3-408, 414, 415, and 417 through 425, and Arkansas Code Annotated § 19-3-518[,] provided further that the types and manner of such investments may be further limited as set forth in Section 5 of this Act; and

(3) with respect to amounts held in the Tobacco Settlement Cash Holding Fund, the Tobacco Settlement Program Fund, each of the Program Accounts, and the Arkansas Tobacco Settlement Commission Fund, all investments shall of the type described in Arkansas Code Annotated § 19-3-510 and shall be made with depositories designated pursuant to Arkansas Code Annotated § 19-3-507; or such investment shall be in certificates of deposit, in securities as outlined in Arkansas Code Annotated § 23-47-401 without limitation or as approved in the Board of Finance investment policy. The State Board of Finance shall insure that such investments shall mature or be redeemable at the times needed for disbursements from such funds and accounts pursuant to this Act.

(c) The State Board of Finance is authorized to employ such professionals as it deems necessary and desirable to assist it in properly managing and investing the Arkansas Healthy Century Trust Fund, pursuant to the standards set forth in Arkansas Code Annotated § 24-3-425.

(d) The State Board of Finance is authorized to use investment earnings from the Arkansas Healthy Century Trust Fund to compensate the professionals retained under subsection (c), and to pay the reasonable costs and expenses of the State Board of Finance in administering the funds and accounts created under this Act and performing all other duties ascribed to it hereunder.

(e) On the last day of each month, the State Board of Finance shall provide the Department of Finance and Administration, Office of Accounting with the current balances in the Tobacco Settlement Cash Holding Fund, the Arkansas Healthy Century Trust Fund, the Tobacco Settlement Program Fund, the Tobacco Settlement Debt Service Fund, the Arkansas Tobacco Settlement Commission Fund, and each Program Account.

(f) The State Board of Finance is authorized and directed to perform all other tasks that may be assigned to the State Board of Finance pursuant to this Act.

SECTION 4. CREATION AND ADMINISTRATION OF TOBACCO SETTLEMENT CASH HOLDING FUND.

(a) There is hereby created and established a fund, held separate and apart from the State Treasury, to be known as the "Tobacco Settlement Cash Holding Fund," which fund shall be administered by the State Board of Finance.

(b) All moneys received as part of the Tobacco Settlement are hereby designated cash funds pursuant to Arkansas Code Annotated § 19-6-103, restricted in their use and to be used solely as provided in this Act. All MSA Disbursements shall be initially deposited to the credit of the Tobacco Settlement Cash Holding Fund, when and as received. Any and all NSA Disbursements received prior to the effective date of this Act shall be immediately transferred to the Tobacco Settlement Cash Holding Fund upon this Act becoming effective. The Tobacco Settlement Cash Holding Fund is intended as a cash fund, not subject to appropriation, and, to the extent practical, amounts in the Tobacco Settlement Cash Holding Fund shall be immediately distributed to the other Funds and Accounts described in this Act.

(c) The Initial MSA Disbursement shall be distributed from the Tobacco Settlement Cash Holding Fund to the Arkansas Healthy Century Trust Fund as an initial endowment pursuant to Section 7 of this Act.

(d) After the Initial MSA Disbursement has been transferred as set forth in Section 4(c), the State Board of Finance, beginning with MSA Disbursements for years 2001 and thereafter, shall receive all amounts due to the State from the MSA Escrow. In calendar year 2001, there shall first be deposited to the Arkansas Healthy Century Trust Fund from the MSA Disbursements attributable to calendar year 2001, the amount necessary to bring the principal amount of the Arkansas Healthy Century Trust Fund to one-hundred million dollars ($100,000,000). The remainder of any MSA Disbursements attributable to calendar year 2001 shall be deposited into the Tobacco Settlement Program Fund and distributed pursuant to Section 8 of this Act. Beginning in 2002, and for each annual MSA Disbursement thereafter, all MSA Disbursements shall be immediately deposited in the Tobacco Settlement Cash Holding Fund and then distributed, as soon as practical after receipt, as follows:

(1) The first five million dollars ($5,000,000) received as an MSA Disbursement in each calendar year beginning in 2002 shall be transferred from the Tobacco Settlement Cash Holding Fund to the Tobacco Settlement Debt Service Fund; and

(2) After the transfer described in Section 4 (d) (1), the amounts remaining in the Tobacco Settlement Cash Holding Fund shall be transferred to the Tobacco Settlement Program Fund.

(e) While it is intended that the Board of Finance will transfer funds from the Tobacco Settlement Cash Holding Fund immediately upon receipt, to the extent that any amounts must be held pending the transfers described in Sections 4(c) and 4(d), the State Board of Finance is

authorized to invest such amounts in suitable investments maturing not later than when the moneys are expected to be transferred, provided that such investments are made in compliance with Section 3(c) of this Act.

SECTION 5. CREATION AND ADMINISTRATION OF TOBACCO SETTLEMENT DEBT SERVICE FUND.

(a) There is hereby created and established a fund, designated as a cash fund and held separate and apart from the State Treasury, to be known as the Tobacco Settlement Debt Service Fund," which Fund shall be administered by the State Board of Finance. All moneys deposited into the Tobacco Settlement Debt Service Fund are hereby designated cash funds pursuant to Arkansas Code Annotated § 19-6-103, restricted in their use and to be used solely as provided in this Act.

(b) There shall be transferred from the Tobacco Settlement Cash Holding Fund to the Tobacco Settlement Debt Service Fund, the amount set forth for such transfer in Section 4(d) of this Act. All amounts received into the Tobacco Settlement Debt Service Fund shall be held until needed to make payments on Debt Service Requirements. The State Board of Finance is authorized to invest any amounts held in the Tobacco Settlement Debt Service Fund in suitable investments maturing not later than when the moneys are needed to pay Debt Service Requirements, provided that such investments comply with Section 3(c) of this Act, and further provided that the investment of such moneys may be further limited by the provisions of any trust indenture pursuant to which Bonds are issued or any related non-arbitrage certificate or tax regulatory agreement.

(c) Amounts held in the Tobacco Settlement Debt Service Fund shall be transferred to funds and accounts established and held by the trustee for the Bonds at such times and in such manner as may be specified in the trust indenture securing the Bonds. If so required by any trust indenture pursuant to which Bonds have been issued, amounts deposited to the Tobacco Settlement Debt Service Fund may be immediately deposited into funds or accounts established by such trust indenture and held by the trustee for the Bonds. The State Board of Finance is authorized to execute any consent, pledge, or other document, reasonably required pursuant to a trust indenture to affirm the pledge of amounts held in the Tobacco Settlement Debt Service Fund to secure Tobacco Settlement Revenue Bonds.

(d) On December 15 of each calendar year, any amounts held in the Tobacco Settlement Debt Service Fund, to the extent such amounts are not needed to pay Debt Service Requirements prior to the following April 15, shall be transferred to the Arkansas Healthy Century Trust Fund. At such time as there are no longer any Bonds outstanding, and all Debt Service Requirements and other contractual obligations have been paid in full, amounts remaining in the Tobacco Settlement Debt Service Fund shall be transferred to the Arkansas Healthy Century Trust Fund.

SECTION 6. ISSUANCE OF TOBACCO SETTLEMENT REVENUE BONDS BY ARKANSAS DEVELOPMENT FINANCE AUTHORITY.

(a) The Arkansas Development Finance Authority ("ADFA") is hereby directed and authorized to issue Tobacco Settlement Revenue Bonds, the proceeds of which are to be used for financing the Capital Improvement Projects described in Section 6(b) of this Act. The Bonds may be issued in series from time to time, and shall be special obligations only of ADFA, secured solely by the revenue sources set forth in this section.

(b) The Capital Improvement Projects to be financed shall be:

(1) University of Arkansas for Medical Sciences, Biosciences Research Building[,] provided, however, that no more than two million, two hundred thousand dollars ($2,200,000) of the annual transfer to the Tobacco Settlement Debt Service Fund shall be allocated in any one year to pay Debt Service Requirements for this project, and provided further that no more than twenty-five million dollars ($25,000,000) in principal amount of Tobacco Settlement Revenue Bonds may be issued for this project;

(2) Arkansas State University Biosciences Research Building[,] provided, however, that no more than one million, eight hundred thousand dollars ($1,800,000) of the annual transfer to the Tobacco Settlement Debt Service Fund shall be allocated in any one year to pay Debt Service Requirements for this project, and provided further that no more than twenty million dollars ($20,000,000) in principal amount of Tobacco Settlement Revenue Bonds may be issued for this project;

(3) School of Public Health[,] provided, however, that no more than one million dollars ($1,000,000) of the annual transfer to the Tobacco Settlement Debt Service Fund shall be allocated in any one year to pay Debt Service Requirements for this project, and provided further that no more than fifteen million dollars ($15,000,000) in principal amount of Tobacco Settlement Revenue Bonds may be issued for this project; and

(4) Only such other capital improvement projects related to the provision of health care services, health education, or health-related research as designated by legislation enacted by the Arkansas general assembly[,] provided that the deposits to the Tobacco Settlement Debt Service Fund are adequate to pay Debt Service Requirements for such additional projects.

(c) Prior to issuance of any series of Bonds authorized herein, ADFA shall adopt a resolution authorizing the issuance of such series of Bonds. Each such resolution shall contain such terms, covenants, conditions, as deemed desirable and consistent with this Act together with provisions of subchapters one, two, and three of Chapter Five of Title 15 of the Arkansas Code Annotated, including without limitation, those pertaining to the establishment and maintenance of funds and accounts, deposit and investment of Bond proceeds and the rights and obligations of ADFA and the registered owners of the Bonds. In authorizing, issuing, selling the Bonds and in the investment of all funds held under the resolution or indenture securing such Bonds, ADFA shall have the powers and be governed by the provisions of Arkansas Code Annotated §§ 15-5-309-15-5-310.

(d) The Bonds shall be special obligations of ADFA, secured and payable from deposits made into the Tobacco Settlement Debt Service Fund created pursuant to this Act. In pledging revenues to secure the Bonds, the provisions of Arkansas Code Annotated § 15-5-313 shall apply.

(e) If so determined by ADFA, the Bonds may additionally be secured by a lien on or security interest in facilities financed by the Bonds, by a lien or pledge of loans made by ADFA to the user of such facilities, and any collateral security received by ADFA, including, without limitation, ADFA's interest in and any revenue derived from any loan agreements. It shall not be necessary to the perfection of the lien and pledge for such purposes that the trustee in connection with such bond issue or the holders of the Bonds take possession of the loans, mortgages and collateral security.

(f) It shall be plainly stated on the face of each Bond that it has been issued under this Act, and subchapters one, two and three of Chapter 5 of Title 15 of the Arkansas Code Annotated, that the

Bonds shall be obligations only of ADFA secured as specified herein and that, in no event, shall the bonds constitute an indebtedness of the State of Arkansas or an indebtedness for which the faith and credit of the State of Arkansas or any of its revenues are pledged or an indebtedness secured by lien, or security interest in any property of the State.

(g) The Bonds may be issued in one or more series, as determined by ADFA. Additional Bonds may be issued in one or more series to fund additional Capital Improvement Projects subsequently designated pursuant to Section 6(b) (4) of this Act, so long as ADFA determines that revenues transferred to the Tobacco Settlement Debt Service Fund, in combination with other revenues available to secure the Bonds pursuant to Section 6(e) of this Act; will be sufficient to meet all Debt Service Requirements on such additional Bonds and any other Bonds then outstanding.

(h) Any funds remaining and available to ADFA or the trustees under any indenture or resolution authorized herein after the retirement of all Bonds outstanding under such indenture or resolution, and the satisfaction of all contractual obligations related thereto and all current expenses of ADFA related thereto, shall be transferred to the Arkansas Healthy Century Trust Fund.

(i) ADFA may issue Bonds for the purpose of refunding Bonds previously issued pursuant to this Act, and in doing so shall be governed by the provisions of Arkansas Code Annotated § 15-5-314.

(j) All Bonds issued under this Act, and interest thereon, shall be exempt from all taxes of the State of Arkansas, including income, inheritance, and property taxes. The Bonds shall be eligible to secure deposits of all public funds, and shall be legal for investment of municipal, county, bank, fiduciary, insurance company and trust funds.

(k) The State of Arkansas does hereby pledge to and agree with the holders of any Tobacco Settlement Revenue Bonds issued pursuant to this Act that the State shall not (1) limit or alter the distribution of the Tobacco Settlement moneys to the Tobacco Settlement Debt Service Fund if such action would materially impair the rights of the holders of the Bonds, (2) amend or modify the Master Settlement Agreement in any way if such action would materially impair the rights of the holders of the Bonds, (3) limit or alter the rights vested in ADFA to fulfill the terms of any agreements made with the holders of the Bonds, or (4) in any way impair the rights and remedies of the holders of the Bonds, unless and until all Bonds issued pursuant to this Act, together with interest on the Bonds, and all costs and expenses in connection with any action or proceeding by or on behalf of the holders of the Bonds, have been paid, fully met, and discharged. ADFA is authorized to include this pledge and agreement in any agreement with the holders of the Bonds.

SECTION 7. CREATION AND ADMINISTRATION OF ARKANSAS HEALTHY CENTURY TRUST FUND.

(a) There is hereby created and established on the books of the Treasurer of State, Auditor of State, and Chief Fiscal Officer of the State, a trust fund, to be created as a public trust for the benefit of the State of Arkansas, to be known as the "Arkansas Healthy Century Trust Fund," which Trust Fund shall be administered by the State Board of Finance. Such fund shall be restricted in its use and is to be used solely as provided in this Act.

(b) The Arkansas Healthy Century Trust Fund shall be a perpetual trust, the beneficiary of which shall be the State of Arkansas and the programs of the State of Arkansas enumerated in this

section. The State Board of Finance, as it may from time to time be comprised, is hereby appointed as trustee of the Arkansas Healthy Century Trust Fund. Such trust shall be revocable, and subject to amendment.

(c) The Arkansas Healthy Century Trust Fund shall be administered in accordance with the provisions of this Section 7, which shall, for all purposes, be deemed to be the governing document of the public trust.

(d) The Arkansas Healthy Century Trust Fund shall be funded in an initial principal amount of one hundred million dollars ($100,000,000) as provided in Section 4 of this Act. All earnings on investments of amounts in the Arkansas Healthy Century Trust Fund, to the extent not used for the purposes enumerated in Section 7(e) of this Act, shall be redeposited in the Arkansas Healthy Century Trust Fund, it being the intent of this Act that the Arkansas Healthy Century Trust Fund shall grow in principal amount until needed for programs and purposes to benefit the State of Arkansas.

(e) The Arkansas Healthy Century Trust Fund shall be held in trust and used for the following purposes, and no other purposes:

(1) investment earnings on the Arkansas Healthy Century Trust Fund may be used for:

(A) the payment of expenses related to the responsibilities of the State Board of Finance as set forth in Section 3 of this Act; and

(B) such programs, and other projects related to health care services, health education, and health-related research as shall, from time to time, be designated in legislation adopted by the general assembly.

(2) the principal amounts in the Arkansas Healthy Century Trust Fund may only be used for such programs, and other projects related to health care services, health education, and health-related research as shall, from time to time, be designated in legislation adopted by the general assembly, it being the intent of this Act that the principal amount of the Trust Fund should not be appropriated without amendment of this public trust.

(f) It is intended that the beneficiaries of the Arkansas Healthy Century Trust Fund be the State of Arkansas and its programs, and other projects related to health care services, health education, and health–related research, as such are now in existence or as such may be created in the future.

(g) The State Board of Finance, as trustee of the Arkansas Healthy Century Trust Fund, is authorized to invest all amounts held in the Arkansas Healthy Century Trust Fund in investments pursuant to and in compliance with Section 3(c) of this Act.

SECTION 8. CREATION AND ADMINISTRATION OF THE TOBACCO SETTLEMENT PROGRAM FUND.

(a) There is hereby created and established on the books of the Treasurer of State, Auditor of State and Chief Fiscal of the State a trust fund to be known as the "Tobacco Settlement Program Fund," which fund shall be administered by the State Board of Finance. All moneys deposited into the Tobacco Settlement Program Fund are hereby restricted in their use and to be used solely as provided in this Act. All expenditures and obligations that are payable from the Tobacco Settlement Program Fund and from each of the program accounts, shall be subject to the same fiscal control, accounting, budgetary and purchasing laws as are expenditures and obligations payable from other State Treasury funds, except as specified otherwise in this act.

The Chief Fiscal Officer of the State may require additional controls, procedures and reporting requirements that he determines are necessary to carry out the intent of this act.

(b) There shall be transferred from the Tobacco Settlement Cash Holding Fund to the Tobacco Settlement Program Fund the amounts set forth for such transfer as provided in Section 4 of this Act.

(c) Amounts deposited to the Tobacco Settlement Program Fund shall, prior to the distribution to the Program Accounts set forth in Section 8(d), be held and invested in investments pursuant to and in compliance with Section 3(c) of this Act[,] provided that all such investments must mature, or be redeemable without penalty, on or prior to the next succeeding June 30.

(d) On each July 1, the amounts deposited into the Tobacco Settlement Program Fund excluding investment earnings shall be transferred to the various Program Accounts, as follows:

(1) thirty-one and six-tenths per cent (31.6%) of amounts in the Tobacco Settlement Program Fund shall be transferred to the Prevention and Cessation Program Account;

(2) fifteen and eight-tenths per cent (15.8%) of amounts in the Tobacco Settlement Program Fund shall be transferred to the Targeted State Needs Program Account;

(3) twenty-two and eight-tenths per cent (22.8%) of amounts in the Tobacco Settlement Program Fund shall be transferred to the Arkansas Biosciences Institute Program Account; and

(4) twenty-nine and eight-tenths per cent (29.8%) of amounts in the Tobacco Settlement Program Fund shall be transferred to the Medicaid Expansion Programs Account.

(e) (1) All moneys distributed to the Program Accounts set forth above and remaining at the end of each fiscal biennium shall be transferred to the Tobacco Settlement Program Fund by the State Board of Finance. Such amounts will be held in the Tobacco Settlement Program Fund and combined with amounts deposited to such Fund from the annual MSA Disbursements, and then redeposited on July 1 pursuant to the formula set forth in Section 8(d).

(2) However, if the Director of any agency receiving funds from the Tobacco Settlement Program Fund determines that there is a need to retain a portion of the amounts transferred under this section, the Director may submit a request and written justification to the Chief Fiscal Officer of the State. Upon determination by the Chief Fiscal Officer of the State that sufficient justification exists, and after certification by the Arkansas Tobacco Settlement Commission that the program has met the criteria established in Section 18 of this Act, such amounts requested shall remain in the account at the end of a biennium, there to be used for the purposes established by this Act[,] provided that the Chief Fiscal Officer of the State shall seek the review of the Arkansas Legislative Council prior to approval of any such request.

(f) The State Board of Finance shall invest all moneys held in the Tobacco Settlement Program Fund and in each of the Program Accounts. All investment earnings on such funds and accounts shall be transferred on each July 1 to a fund hereby established and as a trust fund on the books of the Treasurer of State, Auditor of State and Chief Fiscal Officer of the State and designated as the "Arkansas Tobacco Settlement Commission Fund." Such fund is to be a trust fund and administered by the State Board of Finance. All moneys deposited into the Arkansas Tobacco Settlement Commission Fund are hereby restricted in their use and to be used solely as provided in this Act. Amounts held in the Arkansas Tobacco Settlement Commission Fund shall be used to pay the costs and expenses of the ATSC, including the monitoring and evaluation program

established pursuant to Section 18 of this Act, and to provide grants as authorized in Section 17 of this Act.

SECTION 9. CREATION OF PREVENTION AND CESSATION PROGRAM ACCOUNT.

(a) There is hereby created a trust fund on the books of the Treasurer of State, Auditor of State and Chief Fiscal Officer of the State within the Tobacco Settlement Program Fund maintained by the State Board of Finance an account to be known as the "Prevention and Cessation Program Account ." Such account shall be used by the Arkansas Department of Health for such purposes and in such amounts as may be appropriated in law.

(b) On each July 1, there shall be transferred from the Tobacco Settlement Program Fund to the Prevention and Cessation Program Account the amount specified in Section 8(d) (1).

(c) All moneys deposited to the Prevention and Cessation Program Account except for investment earnings shall be used for the purposes set forth in Section 13 of this Act or such other purposes as may be appropriated in law.

(d) Moneys remaining in the Prevention and Cessation Program Account at the end of the first fiscal year of a biennium shall be carried forward and used for the purposes provided by law. Such amounts that remain at the end of a biennium shall be transferred to the Tobacco Settlement Program Fund pursuant to Section 8(e) of this Act.

SECTION 10. CREATION OF THE TARGETED STATE NEEDS PROGRAM ACCOUNT.

(a) There is hereby created a trust fund on the books of the Treasurer of State, Auditor of State and Chief Fiscal Officer of the State within the Tobacco Settlement Program Fund maintained by the State Board of Finance an account to be known as the "Targeted State Needs Program Account." Such accounts shall be used for such purposes and in such amounts as may be appropriated by law.

(b) On each July 1, there shall be transferred from the Tobacco Settlement Program Fund to the Targeted State Needs Program Account the amount specified in Section 8(d) (2)[.]

(c) All moneys deposited to the Targeted State Needs Program Account except for investment earnings shall be used for the purposes set forth in Section 14 hereof, or such other purposes as may be appropriated in law. Of the amounts deposited to the Targeted State Needs Program Account, the following proportions shall be used to fund the programs established in Section 14 of this Act:

(1) Arkansas School of Public Health - thirty-three per cent (33%);

(2) Area Health Education Center located in Helena - twenty-two per cent (22%);

(3) Donald W. Reynolds Center on Aging - twenty-two per cent (22%); and

(4) Minority Health Initiative administered by the Minority Health Commission - twenty-three per cent (23%).

(d) Moneys remaining in the Targeted State Needs Program Account at the end of the first fiscal year of a biennium shall be carried forward and used for the purposes provided by law. Such amounts that remain at the end of a biennium shall be transferred to the Tobacco Settlement Program Fund pursuant to Section 8(e) of this Act.

SECTION 11. CREATION OF ARKANSAS BIOSCIENCES INSTITUTE PROGRAM ACCOUNT.

(a) There is hereby created a trust fund on the books of the Treasurer of State, Auditor of State and Chief Fiscal Officer of the State within the Tobacco Settlement Program Fund maintained by the State Board of Finance an account to be known as the "Arkansas Biosciences Institute Program Account." Such account shall be used by the Arkansas Biosciences Institute and its members for such purposes and in such amounts as may be appropriated in law.

(b) On each July 1, there shall be transferred from the Tobacco Settlement Program Fund to the Arkansas Biosciences Institute Program Account the amount specified in Section 8 (d) (3).

(c) All moneys deposited to the Arkansas Biosciences Institute Program Account except for investment earnings shall be used for the purposes set forth in Section 15 hereof, or such other purposes as may be appropriated in law.

(d) Moneys remaining in the Arkansas Biosciences Institute Program Account at the end of the first fiscal year of a biennium shall be carried forward and used for the purposes provided by law. Such amounts that remain at the end of a biennium shall be transferred to the Tobacco Settlement Program Fund pursuant to Section 8(e) of this Act.

SECTION 12. CREATION OF MEDICAID EXPANSION PROGRAMS ACCOUNT.

(a) There is hereby created a trust fund on the books of the Treasurer of State, Auditor of State and Chief Fiscal Officer of the State within the Tobacco Settlement Program Fund maintained by the State Board of Finance an account to be known as the "Medicaid Expansion Programs Account." Such account shall be used by the Arkansas Department of Human Services for such purposes and in such amounts as may be appropriated in law. These funds shall not be used to replace or supplant other funds available in the Department of Human Services Grants Fund Account. The funds appropriated for this program shall not be expended, except in conformity with federal and state laws, and then, only after the Arkansas Department of Human Services obtains the necessary approvals from the federal Health Care Financing Administration.

(b) On each July 1, there shall be transferred from the Tobacco Settlement Program Fund to the Medicaid Expansion Programs Account the amount specified in Section 8 (d) (4).

(c) All moneys deposited to the Medicaid Expansion Programs Account except for investment earnings shall be used for the purposes set forth in Section 16 hereof, or such other purposes as may be appropriated in law.

(d) Moneys remaining in the Medicaid Expansion Programs Account at the end of the first fiscal year of a biennium shall be carried forward and used for the purposes provided by law. Such amounts that remain at the end of a biennium shall be transferred to the Tobacco Settlement Program Fund pursuant to Section 8(e) of this Act.

SECTION 13. ESTABLISHMENT AND ADMINISTRATION OF PREVENTION AND CESSATION PROGRAMS.

(a) It is the intent of this Act that the Arkansas Department of Health should establish the Tobacco Prevention and Cessation Program described in this section, and to administer such programs in accordance with law. The program described in this section shall be administered pursuant to a strategic plan encompassing the elements of a mission statement, defined program(s), and program goals with measurable objectives and strategies to be implemented over

a specific timeframe. Evaluation of each program shall include performance based measures for accountability which will measure specific health related results.

(b) The Arkansas Department of Health shall be responsible for developing, integrating, and monitoring tobacco prevention and cessation programs funded under this Act and shall provide administrative oversight and management, including, but not limited to implementing performance based measures. The Arkansas Department of Health shall have authority to award grants and allocate money appropriated to implement the tobacco prevention and cessation program mandated under this Act. The Arkansas Department of Health may contract with those entities necessary to fully implement the tobacco prevention and cessation initiatives mandated under this Act.

Within thirty (30) days of receipt of moneys into the Prevention and Cessation Program Account, fifteen percent (15%) of those moneys shall be deposited into a special account within the prevention and cessation account at the Department of Health to be expended for tobacco prevention and cessation in minority communities as directed by the director of the Department of Health in consultation with the chancellor of the University of Arkansas at Pine Bluff, the president of the Arkansas Medical, Dental and Pharmaceutical Association, and the League of United Latin American Citizens.

(c) The Tobacco Prevention and Cessation Program shall be comprised of components approved by the Arkansas Board of Health. The program components selected by the Board of Health shall include:

(1) community prevention programs that reduce youth tobacco use;

(2) local school programs for education and prevention in grades kindergarten through twelve (K-12) that should include school nurses, where appropriate;

(3) enforcement of youth tobacco control laws;

(4) state-wide programs with youth involvement to increase local coalition activities;

(5) tobacco cessation programs;

(6) tobacco-related disease prevention programs;

(7) a comprehensive public awareness and health promotion campaign;

(8) grants and contracts funded pursuant to this Act for monitoring and evaluation, as well as data gathering; and

(9) other programs as deemed necessary by the Board.

(d) There is hereby created an Advisory Committee to the Arkansas Board of Health, to be known as the Tobacco Prevention and Cessation Advisory Committee. It shall be the duty and responsibility of the Committee to advise and assist the Arkansas Board of Health in carrying out the provisions of this Act. The Advisory Committee's authority shall be limited to an advisory function to the Board. The Advisory Committee may, in consultation with the Department of Health, make recommendations to the Board of Health on the strategic plans for the prevention, cessation, and awareness elements of the comprehensive Tobacco Prevention and Cessation Program. The Advisory Committee may also make recommendations to the Board on the strategic vision and guiding principles of the Tobacco Prevention and Cessation Program.

(e) The Advisory Committee shall be governed as follows:

(1) The Advisory Committee shall consist of eighteen (18) members; one (1) member to be appointed by the president pro tempore of the senate and one (1) member to be appointed by the speaker of the house of representatives, and sixteen (16) members to be appointed by the governor. The Committee members appointed by the governor shall be selected from a list of at least three (3) names submitted by each of the following designated groups to the governor, and shall consist of the following: one (1) member appointed to represent the Arkansas Medical Society; one (1) member shall represent the Arkansas Hospital Association; one (1) member shall represent the American Cancer Society; one (1) member shall represent the American Heart Association; one (1) member shall represent the American Lung Association; one (1) member shall represent the Coalition for a Tobacco-Free Arkansas; one (1) member shall represent Arkansans for Drug Free Youth; one (1) member shall represent the Arkansas Department of Education; one (1) member shall represent the Arkansas Minority Health Commission; one (1) member shall represent the Arkansas Center for Health Improvement; one (1) member shall represent the Arkansas Association of Area Agencies on Aging; one (1) member shall represent the Arkansas Nurses Association; one (1) member shall represent the Arkansas Cooperative Extension Service; one (1) member shall represent the University of Arkansas at Pine Bluff; one member shall represent the League of United Latin American Citizens; and one (1) member shall represent the Arkansas Medical, Dental and Pharmaceutical Association. The Executive Committee of Arkansas Students Working Against Tobacco shall serve as youth advisors to this Advisory Committee. All members of this committee shall be residents of the State of Arkansas.

(2) The Advisory Committee will initially have four (4) members who will serve one (1) year terms; four (4) members who will serve two (2) year terms; five (5) members who will serve three (3) year terms; and five (5) members who will serve four (4) years. Members of the Advisory Committee shall draw lots to determine the length of the initial term. Subsequently appointed members shall be appointed for four (4) year terms and no member can serve more than two (2) consecutive full four (4) year terms. The terms shall commence on October 1st of each year.

(3) Members of the Advisory Committee shall not be entitled to compensation for their services, but may receive expense reimbursement in accordance with Ark. Code Ann. § 25-16-902, to be paid from funds appropriated for this program to the Arkansas Department of Health.

(4) Members appointed to the Advisory Committee and the organizations they represent shall make full disclosure of the member's participation on the Committee when applying for any grant or contract funded by this Act.

(5) All members appointed to the Advisory Committee shall make full and public disclosure of any past or present association to the tobacco industry.

(6) The Advisory Committee shall, within ninety (90) days of appointment, hold a meeting and elect from its membership a chairman for a term set by the Advisory Committee. The Advisory Committee shall adopt bylaws.

(7) The Advisory Committee shall meet at least quarterly[;] however, special meetings may be called at any time at the pleasure of the Board of Health or pursuant to the bylaws adopted by the Advisory Committee.

(f) The Arkansas Board of Health is authorized to review the recommendations of the Advisory Committee. The Arkansas Board of Health shall adopt and promulgate rules, standards and

guidelines as necessary to implement the program in consultation with the Arkansas Department of Health.

(g) The Arkansas Department of Health in implementing this Program shall establish such performance based accountability procedures and requirements as are consistent with law.

(h) Each of the programs adopted pursuant to this act shall be subject to the monitoring and evaluation procedures described in Section 18 of this Act.

SECTION 14. ESTABLISHMENT AND ADMINISTRATION OF THE TARGETED STATE NEEDS PROGRAMS.

(a) The University of Arkansas for Medical Sciences is hereby instructed to establish the Targeted State Needs Programs described in this section, and to administer such programs in accordance with law.

(b) The targeted state needs programs to be established are as follows:

(1) Arkansas School of Public Health;

(2) Area Health Education Center (located in Helena);

(3) Donald W. Reynolds Center on Aging; and

(4) Minority Health Initiative administered by the Minority Health Commission.

(c)(1) Arkansas School of Public Health. The Arkansas School of Public Health is hereby established as a part of the University of Arkansas for Medical Sciences for the purpose of conducting activities to improve the health and health care of the citizens of Arkansas. These activities should include, but not be limited to the following functions: faculty and course offerings in the core areas of public health including health policy and management, epidemiology, biostatistics, health economics, maternal and child health, environmental health, and health and services research; with courses offered both locally and statewide via a variety of distance learning mechanisms.

(2) It is intended that the Arkansas School of Public Health should serve as a resource for the general assembly, the governor, state agencies, and communities. Services provided by the Arkansas School of Public Health should include, but not be limited to the following: consultation and analysis, developing and disseminating programs, obtaining federal and philanthropic grants, conducting research, and other scholarly activities in support of improving the health and health care of the citizens of Arkansas.

(d) Area Health Education Center. The first Area Health Education Centers were founded in 1973 as the primary educational outreach effort of the University of Arkansas for Medical Sciences. It is the intent of this Act that UAMS establish a new Area Health Education Center to serve the following counties: Crittenden, Phillips, Lee, St. Francis, Chicot, Monroe, and Desha. The new AHEC shall be operated in the same fashion as other facilities in the UAMS AHEC program including training students in the fields of medicine, nursing, pharmacy and various allied health professions, and offering medical residents specializing in family practice. The training shall emphasize primary care, covering general health education and basic medical care for the whole family. The program shall be headquartered in Helena with offices in Lake Village and West Memphis.

(e) Donald W. Reynolds Center on Aging. It is the intent of this Act that UAMS establish, in connection with the Donald W. Reynolds Center on Aging and its existing AHEC program,

health care programs around the state offering interdisciplinary educational programs to better equip local health care professionals in preventive care, early diagnosis and effective treatment for the elderly population throughout the state. The satellite centers will provide access to dependable health care, education, resource and support programs for the most rapidly growing segment of the State's population. Each center's program is to be defined by an assessment of local needs and priorities in consultation with local health care professionals.

(f) Minority Health Initiative. It is the intent of this Act that the Arkansas Minority Health Commission establish and administer the Arkansas Minority Health Initiative for screening, monitoring, and treating hypertension, strokes, and other disorders disproportionately critical to minority groups in Arkansas. The program should be designed:

(1) to increase awareness of hypertension, strokes, and other disorders disproportionately critical to minorities by utilizing different approaches that include but are not limited to the following: advertisements, distribution of educational materials and providing medications for high risk minority populations;

(2) to provide screening or access to screening for hypertension, strokes, and other disorders disproportionately critical to minorities but will also provide this service to any citizen within the state regardless of racial/ethnic group;

(3) to develop intervention strategies to decrease hypertension, strokes and other disorders noted above, as well as associated complications, including: educational programs, modification of risk factors by smoking cessation programs, weight loss, promoting healthy lifestyles, and treatment of hypertension with cost-effective, well-tolerated medications, as well as case management for patients in these programs; and

(4) to develop and maintain a database that will include: biographical data, screening data, costs, and outcomes.

(g) The Minority Health Commission will receive quarterly updates on the progress of these programs and make recommendations or changes as necessary.

(h) The programs described in this section shall be administered pursuant to a strategic plan encompassing the elements of a mission statement, defined program(s), and program goals with measurable objectives and strategies to be implemented over a specific timeframe. Evaluation of each program shall include performance based measures for accountability which will measure specific health related results.

(i) Each of the programs adopted pursuant to this section shall be subject to the monitoring and evaluation procedures described in Section 18 of this Act.

SECTION 15. ESTABLISHMENT AND ADMINISTRATION OF THE ARKANSAS BIOSCIENCES INSTITUTE.

(a) It is the intent of this Act to hereby establish the Arkansas Biosciences Institute for the educational and research purposes set forth hereinafter to encourage and foster the conduct of research through the University of Arkansas, Division of Agriculture, the University of Arkansas for Medical Sciences, University of Arkansas, Fayetteville, Arkansas Children's Hospital and Arkansas State University. The Arkansas Biosciences Institute is part of a broad program to address health issues with specific emphasis on smoking and the use of tobacco products. The Arkansas Biosciences Institute is intended to develop more fully the interdisciplinary opportunities for research primarily in the areas set forth hereinafter.

(b) Purposes. The Arkansas Biosciences Institute is established for the following purposes:

(1) to conduct agricultural research with medical implications;

(2) to conduct bioengineering research focused on the expansion of genetic knowledge and new potential applications in the agricultural-medical fields;

(3) to conduct tobacco-related research that focuses on the identification and applications of behavioral, diagnostic and therapeutic research addressing the high level of tobacco-related illnesses in the State of Arkansas;

(4) to conduct nutritional and other research focusing on prevention or treatment of cancer, congenital or hereditary conditions or other related conditions; and

(5) to conduct other research identified by the primary educational and research institutions involved in the Arkansas Biosciences Institute or as otherwise identified by the Institute Board of the Arkansas Biosciences Institute and which is reasonably related, or complementary to, research identified in subparagraphs (1) through (4) of this subsection.

(c) Arkansas Biosciences Institute Board. (1) There is hereby established the Arkansas Biosciences Institute Board which shall consist of the following: the President of the University of Arkansas; the President of Arkansas State University; the Chancellor of the University of Arkansas for Medical Sciences; the Chancellor of the University of Arkansas, Fayetteville; the Vice President for Agriculture of the University of Arkansas; the Director of the Arkansas Science and Technology Authority; the Director of the National Center for Toxicological Research; the President of Arkansas Children's Hospital; and two (2) individuals possessing recognized scientific, academic or business qualifications appointed by the governor. The two (2) members of the Institute Board who are appointed by the governor will serve four (4) year terms and are limited to serving two consecutive four (4) year terms. The terms shall commence on October 1 of each year. These members appointed by the governor are not entitled to compensation for their services, but may receive expense reimbursement in accordance with Ark. Code Ann. § 25-16-902, to [be] paid from funds appropriated for this program. The Institute Board shall establish and appoint the members of an Industry Advisory Committee and a Science Advisory Committee composed of knowledgeable persons in the fields of industry and science. These Committees shall serve as resources for the Institute Board in their respective areas and will provide an avenue of communication to the Institute Board on areas of potential research.

(2) The Arkansas Biosciences Institute Board shall establish rules for governance for Board affairs and shall:

(A) provide overall coordination of the program;

(B) develop procedures for recruitment and supervision of member institution research review panels, the membership of which shall vary depending on the subject matter of proposals and review requirements, and may, in order to avoid conflicts of interest and to ensure access to qualified reviews, recommend reviewers not only from Arkansas but also from outside the state;

(C) provide for systematic dissemination of research results to the public and the health care community, including work to produce public service advertising on screening and research results, and provide for mechanisms to disseminate the most current research findings in the areas of cause and prevention, cure, diagnosis and treatment of tobacco related illnesses, in order that these findings may be applied to the planning, implementation and evaluation of any other research programs of this state;

(D) develop policies and procedures to facilitate the translation of research results into commercial, alternate technological, and other applications wherever appropriate and consistent with state and federal law; and

(E) transmit on or before the end of each calendar year on an annual basis, a report to the general assembly and the governor on grants made, grants in progress, program accomplishments, and future program directions. Each report shall include, but not be limited to, all of the following information:

(i) the number and dollar amounts of internal and external research grants, including the amount allocated to negotiated indirect costs;

(ii) the subject of research grants;

(iii) the relationship between federal and state funding for research;

(iv) the relationship between each project and the overall strategy of the research program;

(v) a summary of research findings, including discussion of promising new areas; and

(vi) the corporations, institutions, and campuses receiving grant awards.

(d) Director. The director of the Arkansas Biosciences Institute shall be appointed by the President of the University of Arkansas, in consultation with the President of Arkansas State University, and the President of Arkansas Children's Hospital, and based upon the advice and recommendation of the Institute Board. The Director shall be an employee of the University of Arkansas and shall serve at the pleasure of the President of the University of Arkansas. The Director shall be responsible for recommending policies and procedures to the Institute Board for its internal operation and shall establish and ensure methods of communication among the units and divisions of the University of Arkansas, Arkansas Children's Hospital and Arkansas State University and their faculty and employees engaged in research under the auspices of the Institute. The Director shall undertake such administrative duties as may be necessary to facilitate conduct of research under the auspices of the Arkansas Biosciences Institute. The Director shall perform such other duties as are established by the President of the University of Arkansas in consultation with the President of Arkansas State University, the President of Arkansas Children's Hospital and with the input of the Institute Board.

(e) Conduct of Research. Research performed under the auspices of the Institute shall be conducted in accordance with the policies of the University of Arkansas, Arkansas Children's Hospital, and Arkansas State University, as applicable. The Institute Board and the Director of the Institute shall facilitate the establishment of centers to focus on research in agri-medicine, environmental biotechnology, medical genetics, bio-engineering and industry development. Such

centers shall be established in accordance with procedures adopted by the Institute Board, and shall provide for interdisciplinary collaborative efforts with a specific research and educational objectives.

(f) In determining research projects and areas to be supported from such appropriated funds, each of the respective institutions shall assure that adequate opportunities are given to faculty and other researchers to submit proposals for projects to be supported in whole or in part from such funds. At least annually the Institute Board shall review research being conducted under the auspices of the Institute and may make recommendations to the President of the University of Arkansas and the President of Arkansas State University and President of Arkansas Children's Hospital of ways in which such research funds may be more efficiently employed or of collaborative efforts which would maximize the utilization of available funds.

(g) The programs described in this section shall be administered pursuant to a strategic plan encompassing the elements of a mission statement, defined program(s), and program goals with measurable objectives and strategies to be implemented over a specific timeframe. Evaluation of each program shall include performance based measures for accountability which will measure specific health related results.

(h) Each of the programs adopted pursuant to this Section shall be subject to the monitoring and evaluation procedures described in Section 18 of this Act.

SECTION 16. ESTABLISHMENT AND ADMINISTRATION OF MEDICAID EXPANSION PROGRAMS.

(a) It is the intent of this Act that the Arkansas Department of Human Services should establish the Medicaid expansion programs described in this section, and to administer such program in accordance with law.

(b) The Medicaid expansion programs shall be a separate and distinct component of the Medicaid program currently administered by the Department of Human Services and shall be established as follows:

(1) expanding Medicaid coverage and benefits to pregnant women;

(2) expanding inpatient and outpatient hospital reimbursements and benefits to adults aged nineteen (19) to sixty-four (64);

(3) expanding non-institutional coverage and benefits to adults aged 65 and over; and,

(4) creating and providing a limited benefit package to adults aged nineteen (19) to sixty-four (64). All such expenditures shall be made in conformity with the State Medicaid Plan as amended and approved by the Health Care Financing Administration.

(c) The programs defined in this section shall be administered pursuant to a strategic plan encompassing the elements of a mission statement, defined program(s), and program goals with measurable objectives and strategies to be implemented over a specific timeframe. Evaluation of each program shall include performance-based measures for accountability which will measure specific health related results.

(d) Each of the programs adopted pursuant to this Section shall be subject to the monitoring and evaluation procedures described in Section 18 of this Act.

SECTION 17. ESTABLISHMENT OF THE ARKANSAS TOBACCO SETTLEMENT COMMISSION.

(a) There is hereby created and recognized the Arkansas Tobacco Settlement Commission, which shall be comprised of the following: the Director of the Arkansas Science and Technology Authority, or his designee; the Director of the Department of Education or his designee; the Director of the Department of Higher Education or his designee; the Director of the Department of Human Services or his designee; the Director of the Arkansas Department of Health or his designee; a health care professional to be selected by the senate president pro tempore; a health care professional to be selected by the speaker of the house of representatives; a citizen selected by the governor; and a citizen selected by the attorney general.

(b) The four (4) members of the commission who are not on the commission by virtue of being a director of an agency, will serve four (4) year terms. The terms shall commence on October 1st of each year. Committee members are limited to serving two (2) consecutive four (4) year terms. Members of the commission shall not be entitled to compensation for their services, but may receive expense reimbursement in accordance with Ark. Code Ann. § 25-16-902, to be paid from funds appropriated for this program.

(c) Members appointed to the commission and the organizations they represent shall make full disclosure of the member's participation on the commission when applying for any grant or contract funded by this Act.

(d) All members appointed to the commission shall make full and public disclosure of any past or present association to the tobacco industry.

(e) The commission shall, within ninety (90) days of appointment, hold a meeting and elect from its membership a chairman for a term set by the commission. The commission is authorized to adopt bylaws.

(f) The commission shall meet at least quarterly[;] however, special meetings of the commission may be called at any time at the pleasure of the Chairman or pursuant to the bylaws of the commission.

(g) ATSC is authorized to hire an independent third party with appropriate experience in health, preventive resources, health statistics and evaluation expertise to perform monitoring and evaluation of program expenditures made from the Program Accounts pursuant to this Act. Such monitoring and evaluation shall be performed in accordance with Section 18 of this Act, and the third party retained to perform such services shall prepare a biennial report to be delivered to the general assembly and the governor by each August 1 preceding a general session of the general assembly. The report shall be accompanied by a recommendation from the ATSC as to the continued funding for each program.

(h) The commission is authorized to hire such staff as it may reasonably need to carry out the duties described in this Act. The costs and expenses of the monitoring and evaluation program, as well as the salaries, costs and expenses of staff, shall be paid from the Arkansas Tobacco Settlement Commission Fund established pursuant to Section 8 of this Act.

(i) If the deposits into the Arkansas Tobacco Settlement Commission Fund exceed the amount necessary to pay the costs and expenses described in Subsection (h) of this Section, then the ATSC is authorized to make grants as follows:

(A) Those organizations eligible to receive grants are non-profit and community based.

(B) Grant criteria shall be established based upon the following principles:

(i) all funds should be used to improve and optimize the health of Arkansans;

(ii) funds should be spent on long-term projects that improve the health of Arkansans;

(iii) Future tobacco-related illness and health care costs in Arkansas should be minimized through this opportunity; and

(iv) funds should be invested in solutions that work effectively and efficiently in Arkansas.

(C) Grant awards shall be restricted in amounts up to fifty-thousand dollars ($50,000) per year for each eligible organization.

SECTION 18. MONITORING AND EVALUATION OF PROGRAMS.

(a) The ATSC is directed to conduct monitoring and evaluation of the programs established in Sections 13, 14, 15, and 16 of this Act, to ensure optimal impact on improving the health of Arkansans and fiscal stewardship of the Tobacco Settlement. ATSC shall develop performance indicators to monitor programmatic functions that are state and situation specific and to support performance-based assessment for governmental accountability. The performance indicators shall reflect short and long-term goals and objectives of each program, be measurable, and provide guidance for internal programmatic improvement and legislative funding decisions. ATSC is expected to modify these performance indicators as goals and objectives are met and new inputs to programmatic outcomes are identified.

(b) All programs funded by the Tobacco Settlement and established in Sections 13, 14, 15 and 16 shall be monitored and evaluated to justify continued support based upon the state's performance-based budgeting initiative. These programs shall be administered pursuant to a strategic plan encompassing the elements of a mission statement, defined programs, program goals with measurable objectives and strategies to be implemented over a specific timeframe. Evaluation of each program shall include performance-based measures for accountability that will measure specific health related results. All expenditures that are payable from the Tobacco Settlement Program Fund and from each of the Program Accounts, therein, shall be subject to the same fiscal control, accounting, budgetary and purchasing laws as are expenditures and obligations payable from State Treasury funds, except as specified otherwise in this Act. The Chief Fiscal Officer of the State may require additional controls, procedures and reporting requirements that he determines are necessary in order to carry out the intent of this act.

(c) The ATSC is directed to establish program goals in according with the following initiation, short and long-term performance indicators for each program to be funded by the Tobacco Settlement, which performance indicators shall be subject to modification by the ATSC based on specific situations and subsequent developments. Progress with respect to these performance indicators shall be reported to the governor and the general assembly for future appropriation decisions.

(1) Tobacco Prevention and Cessation: The goal is to reduce the initiation of tobacco use and the resulting negative health and economic impact. The following are anticipated objectives in reaching this overall goal:

(A) Initiation: The Arkansas Department of Health is to start the program within six (6) months of available appropriation and funding.

(B) Short-term: Communities shall establish local Tobacco Prevention Initiatives.

(C) Long-term: Surveys demonstrate a reduction in numbers of Arkansans who smoke and/or use tobacco.

(2) Medicaid Expansion: The goal is to expand access to health care through targeted Medicaid expansions thereby improving the health of eligible Arkansans.

(A) Initiation: The Arkansas Department of Human Services is to start the program initiatives within six (6) months of available appropriation and funding.

(B) Short-term: The Arkansas Department of Human Services demonstrates an increase in the number of new Medicaid eligible persons participating in the expanded programs.

(C) Long-term: Demonstrate improved health and reduced long-term health costs of Medicaid eligible persons participating in the expanded programs.

(3) Research and Health Education: The goal is to develop new tobacco-related medical and agricultural research initiatives to improve the access to new technologies, improve the health of Arkansans, and stabilize the economic security of Arkansas.

(A) Initiation: The Arkansas Biosciences Institute Board shall begin operation of the Arkansas Biosciences Institute within twelve (12) months of available appropriation and funding.

(B) Short-term: Arkansas Biosciences Institute shall initiate new research programs for the purpose of conducting, as specified in Section 15: agricultural research with medical implications; bioengineering research; tobacco-related research; nutritional research focusing on cancer prevention or treatment; and other research approved by the Institute Board.

(C) Long-term: The Institute's research results should translate into commercial, alternate technological, and other applications wherever appropriate in order that the research results may be applied to the planning, implementation and evaluation of any health related programs in the State. The Institute is also to obtain federal and philanthropic grant funding.

(4) Targeted State Needs Programs: The goal is to improve the health care systems in Arkansas and the access to health care delivery systems, thereby resolving critical deficiencies that negatively impact the health of the citizens of the state.

(A) School of Public Health:

(i) Initiation: Increase the number of communities in which participants receive public health training.

(ii) Short-Term: Obtain federal and philanthropic grant funding.

(iii) Long-term: Elevate the overall ranking of the health status of Arkansas.

(B) Minority Health Initiative:

(i) Initiation: Start the program within twelve (12) months of available appropriation and funding.

(ii) Short-Term: Prioritize the list of health problems and planned intervention for minority population and increase the number of Arkansans screened and treated for tobacco-related illnesses.

(iii) Long-term: Reduce death/disability due to tobacco-related illnesses of Arkansans.

(C) Donald W. Reynolds Center on Aging:

(i) Initiation: Start the program within twelve (12) months of available appropriation and funding.

(ii) Short-Term: Prioritize the list of health problems and planned intervention for elderly Arkansans and increase the number of Arkansans participating in health improvement programs.

(iii) Long-term: Improve health status and decrease death rates of elderly Arkansans, as well as obtaining federal and philanthropic grant funding.

(D) Area Health Education Center:

(i) Initiation: Start the new AHEC in Helena with DHEC offices in West Memphis and Lake Village within twelve (12) months of available appropriation and funding.

(ii) Short-Term: Increase the number of communities and clients served through the expanded AHEC/DHEC offices.

(iii) Long-Term: Increase the access to a primary care provider in underserved communities.

SECTION 19. Arkansas Code Annotated § 19-4-803 is amended to add a new subsection to read as follows:

"(e) The Tobacco Settlement Cash Holding Fund administered by the State Board of Finance shall be exempt from the provisions of this subchapter."

SECTION 20. The Director of the Department of Human Services, after seeking approval of the Chief Fiscal Officer of the State and review by the Arkansas Legislative Council, shall implement the Medicaid Expansion Programs established in Section [16] of this Act with such existing funds and unobligated appropriation as may be available during the biennial period ending June 30, 2001.

SECTION 21. The Director of the Department of Human Services shall use six hundred thousand dollars ($600,000) of existing funds and unobligated appropriation as may be available during the biennial period ending June 30, 2001, to offset federal cuts in the Meals on Wheels Program.

SECTION 22. If any provision of this Act or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions of this Act which can be given effect without the invalid provision or application, and to this end the provisions of this Act are declared to be severable.

SECTION 23. All laws and parts of laws in conflict with this Act are hereby repealed.

Appendix B.
RAND Evaluation of the Arkansas Tobacco Settlement Program
Evaluation Methods

The evaluation approach we have designed responds to the intent of the Tobacco Settlement Commission to perform a longitudinal evaluation of the development and ongoing operation of its funding program. We employ an iterative evaluation process through which information is tracked on both the program implementation processes and effects on identified outcomes. This information can be used to inform both future funding decisions by the commission and decisions by the funded programs on their goals and operations. Presented below is a description of each of the three major evaluation components: policy analysis, process evaluation, and outcome evaluation.

POLICY EVALUATION

The policy evaluation was performed to achieve two purposes. First, we documented the policy issues confronting the State of Arkansas, which was the context within which the Coalition for Healthy Arkansas Today (CHART) process and the Initiated Act were developed, and we identified the priorities and rationale for the funding decisions implemented in the Initiated Act. Second, the results of the program evaluation were synthesized and interpreted in the context of the State's policy issues to provide the commission and other policymakers with additional information to assist future decisions on Tobacco Settlement policy and funding priorities.

Sources of information for the policy evaluation included existing documents produced by various state agencies, federal agencies, or relevant policy research organizations, as well as discussions with program management and stakeholders involved in or affected by the use of the Tobacco Settlement funds or relevant programs.

PROCESS EVALUATION

We performed a process evaluation for each of the programs funded by the Tobacco Settlement Commission to document their development, implementation, and progress toward program goals. Process evaluations provide a rich context in which to interpret outcome results—a context that ties these results to the levers that produce them. Without a process evaluation, outcome evaluators may find themselves trying to explain outcomes as a function of services that may not have been delivered or that are different from what the program intended to deliver (Scheirer, 1994). Process evaluation also has a formative function (i.e., providing insights and understandings that can be continuously fed back to those involved in setting up the delivery of services) (Browne and Wildavsky, 1987). When performed as a continuous, collaborative, and iterative activity, an activity that draws upon multiple sources of data on an ongoing basis over the lifetime of the study, a process evaluation can grow and change as a program matures (Dehar, Casswell and Duignan, 1993; Shadish et al., 1991). Finally, a well-designed process evaluation can provide critical findings on facilitators and barriers to program implementation—findings that will be invaluable for future replication of an innovative program model.

The framework used to perform the process evaluation for each of the funded programs was the FORmative Evaluation, Consultation, and Systems Technique (FORECAST) model. In this process evaluation system, program staff and evaluators collaboratively decide what needs to be monitored and how (Goodman and Wandersman, 1994). It is especially well suited for this evaluation because the funded programs are pursuing very distinct program activities and interventions.

As the first step in the FORECAST process, we worked with the programs to develop logic models depicting what the program has identified as the underlying issues and how it will operate to successfully address those issues. In this case, the definition of issues was guided by the performance mandate that the Initiated Act defined for each program. The Action Plans built upon work already begun by the programs, as well as the priorities defined for each program in the initiation, short-term, and long-term performance indicators defined in the Initiated Act.

Documenting Program Development and Progress

To monitor the development and progress of the funded programs on a regular basis, we use a combination of annual site visits and periodic conference calls.

Annual Site Visits. Annual site visits have been conducted since 2003. At the site visits, we observe the programs in operation at their facilities, engage in dialogue with program leaders and participants, and conduct interviews with other stakeholders outside of the program management. The site-visit information represents annual "data points" in a longitudinal collection of data on a program's status over time. In the first two years, the site visit for each program consisted of two parts—meetings with the program management and staff to gather information on the program scope and operation, and interviews with other stakeholders who are users of the program or community leaders, to learn their perspectives on the program. Starting in 2005, the site visits were limited to meetings with program management and staff, to gather information on program progress and issues encountered, and to work with them in developing long-term goals for each program. Each site visit was planned in advance in consultation with the program lead. After each site visit, the RAND site-visit team uses what we learned from the discussions, interviews, and associated documents to develop a description of the program for the biennial report.

Periodic Conference Calls. Regular contact with the programs between site visits is maintained through periodic telephone conferences. During these calls, the programs inform RAND staff of significant events that have taken place over the past three months, including significant achievements and successes that should be given special notice, as well as ongoing barriers and challenges they face. At the initial site visits, we identified sets of key issues for each program. At each subsequent call, we document the status of the program in managing these issues, and we identify other new issues that have emerged. Collectively, these reports yielded a description of the evolution of each program over time.

From 2003 to 2006, the conference calls were conducted quarterly with each program in July, October, and January of each evaluation cycle. The fourth contact in the cycle was the annual site visit in March or April of each year. Starting in 2007, the conference calls have been conducted semiannually in January and July.

Process Indicators

A set of process indicators was developed for each of the funded programs. The purpose of the indicators is to provide information for the general assembly, Tobacco Settlement Commission, and the funded programs about the programs' progress in achieving the aims established in the Initiated Act. The process indicators consist of the following:

- *longitudinal measures* that can be evaluated on a periodic basis to track program trends over time (e.g., percentage of residents in a county who participated in an educational program)
- *single-event measures* that document the achievement of key program achievements (e.g., completing a needs assessment).

The process indicators were generated at the start of the evaluation through an interactive process with the funded programs. As RAND developed the indicators, we consulted with the program leads to ensure that the programs (1) were kept fully aware of the contents of the evaluation, (2) could assess the validity of the indicators from the program perspective, and (3) had an opportunity to identify key process measures they felt had been overlooked.

The indicators address policy-level aspects of the programs that relate directly to the program mandates specified in the Initiated Act. Differing numbers of indicators were developed for each program, depending on the complexity of the program and the level of detail the program preferred for tracking its progress. RAND selected the process indicators using the following criteria:

1. Closely related to the most important program outcomes
2. Early indicators of performance
3. Easy to measure
4. Creates incentives that are aligned with the goals of the program
5. Diverse in order to cover the range of markers
6. Either longitudinal to show change from year to year or a key program endpoint.

The programs' performance on the process indicators has been monitored on a semiannual basis. We gathered the data retrospectively for the time from initial program funding to the start of the evaluation, so that programming trends can be tracked from inception. The data collection has continued prospectively as part of the longitudinal evaluation. Trends in the indicators have been reported to the Tobacco Settlement Commission. This information is reported for each program as part of the process-evaluation results in Chapters 3 through 9.

Long-Range Program Goals

As described above, the RAND evaluation team worked with the funded programs in the FY 2005 evaluation cycle to develop long-range program goals that define the direction and level of activity that each program is planning to achieve. Many of these goals build upon the process indicators established for the programs; others address other desired achievements. Whenever possible, the long-range goals are quantified to enable their achievement to be measurable. In some cases, however, the goals are stated in qualitative terms, usually reflecting

uncertainty in the feasibility of achieving a goal or inadequate data to be able to measure it yet. The goals established for each program are stated in Chapters 3 through 9 and summarized in Chapter 12.

Analysis of Program Spending Trends

An important part of the process evaluation is documenting and assessing trends in the programs' spending of the Tobacco Settlement funds. The pace at which spending grew in the early months of the funding reflects the speed at which a program was able to initiate its new programming and bring it to full operational status. In addition, the extent to which the programs spent the available funds on the mandated services or other programming is a measure of their success in applying these valuable resources to addressing the health-related needs of Arkansans.

Since 2005, we have requested financial data from all the funded programs on their spending of the Tobacco Settlement funds they have received. Using the information provided, we prepared schedules of appropriations, funds received, and actual expenditures for each program. Quarterly or annual patterns of spending by line items were analyzed to identify any variances from trends, with particular attention to the line items with the largest expenditures. Wherever possible, we tracked spending by key program components so that trends could be followed for the mix of services provided by each program. The results of the spending analysis are reported in Chapters 3 through 9 as part of the process-evaluation results for each program.

OUTCOME EVALUATION

For an effective outcome evaluation, we examine program results relative to the over-arching goals to be achieved through application of the Tobacco Settlement money. For example, we examine whether the expenditures had a positive impact on the health of Arkansans. Such an analysis requires knowledge of counterfactuals: What would the health of Arkansans have been in the absence of the funded programs? What would the outcomes have been if the money had been spent on other programs instead?

The outcome evaluations presented in Chapters 10 and 11 use data from a variety of sources to measure the effect of the funded programs on the smoking-related outcomes and non-smoking outcomes of Arkansans. We describe here the data and methods used in the analyses, making references to particular sections of the chapters that provide examples of where these methods are used.

Measuring Outcomes

The scope of the outcome evaluation was defined by the outcome measures we selected for analysis. The first step in this process was to review the goals of the Tobacco Settlement expenditures. The measures selected had to be capable of providing information on how well the programs are meeting those goals. Then we worked with the program leads in identifying outcomes that would be expected to change as a result of the program interventions they were implementing. We used this information to define candidate measures, and we then assessed the availability of data needed to analyze each measure.

Two sets of outcome measures were defined for the evaluation: overall measures that addressed global outcomes for the state as a whole, and program-specific measures that addressed outcomes specific to the types of services provided by each program. All of the overall measures were measures of smoking behaviors and related health outcomes, which address one of the fundamental goals of the Initiated Act—reducing use of tobacco products across the state.

To accurately estimate program effects, two values of each outcome measure must be compared: the actual outcome that occurs in the presence of the program and a counterfactual value of the outcome that would have occurred if the program had not been implemented. Many outcome measures would change even without the program as a result of trends in demographics and economic conditions. Therefore, simple baseline outcome measures often do not provide adequate counterfactuals by which to measure program impact.

It is well documented that program changes require time to be translated into health outcomes for a given population. Furthermore, localized program activities will affect only the population exposed to the program. Some of the programs supported by the tobacco settlement funds are state-level programs. However, in many cases, the program interventions are not applied equally across the entire state but are focused on specific geographic areas or on a designated population subgroup. Therefore, state and national-level data from such instruments as the Behavioral Risk Factor Surveillance System (BRFSS) and Youth Risk Behavior Surveillance System (YRBSS) are not specific enough to detect and assess program effects for some of the funded programs. Other data sources had to be sought to address these outcomes.

Assessment of program impacts requires the ability to connect the effort undertaken by a program to the expected outcome in a way that takes into account other factors that influence the outcome. If this is not done, changes in an outcome could be attributed incorrectly to a program's interventions when in fact the changes were due to other factors. Examples of other factors include the following:

- Broader (nationwide or regional) trends that are independent of local program efforts
- Continuation of trends that predate the program and reflect effects of earlier actions or interventions
- Changes in the demographic composition of the population
- Efforts by other related programs

Assessment also requires that findings be presented with an indication of their statistical precision. Whenever survey data are collected and analyzed, it is important to report not only the size of the effect, but also the degree of certainty. The degree of certainty can be reported as a margin of error (+/- so many percent), as a confidence interval (the narrower the interval, the more precise the estimate), or as a significance level on a hypothesis test (whether or not the finding is reliable or could be expected by chance). Without this additional information, the reader does not know whether an apparent impact reflects changes in the underlying behavior or merely variability in the data or model.

The Use of Population Measures

In this appendix, we discuss the data and methods related to outcome measures for the entire target population rather than for program participants alone. For example, we measure changes in smoking rates for all adults in Arkansas rather than for a group who participated in a particular education or cessation program. In many cases the target population is restricted to a particular demographic group (e.g., youth) or a specific geographic region (e.g., the Delta), but in all cases we measure outcomes for that entire target population, and not for a specific group of program participants.

There are several advantages of this approach. First, some program components, either alone or in combination with other program components that have similar goals, have sufficient size that an impact should be measurable at a population level. In such a case, it is important to demonstrate that the program affects a broad segment of the population. Second, some components, such as media campaigns and other educational outreach efforts do not have participants per se, but are targeted at everyone in a particular population. Third, many programs have an impact that extends beyond the immediate participants. For example, programs that attempt to change the behavior of program participants through education can affect the behavior and health outcomes of other people who are in contact with the immediate participants. Finally, and perhaps most importantly from an evaluation standpoint, it is very difficult to distinguish between pre-program tendencies and the impact of the program under study if only outcomes for program participants are considered. The people who participate in a specific program frequently are the most motivated individuals in the population, and many would improve their outcomes even without participating in the program.

Only through comparison to a control group or through careful statistical modeling is it possible to determine whether the outcomes for a group of program participants are due to the program or simply reflect a high level of motivation on the part of program enrollees. Creating a randomized control group is neither cost-effective nor politically feasible. Collecting voluminous background information on participants to use in statistical modeling is also expensive and intrusive. Therefore, we focus our outcomes evaluation on programs that we judge to be sufficiently large to have a measurable impact on an identifiable target population and for which we have population outcome measures.

Data Sources and Outcome Definitions

Smoking-Related Outcomes

Table A.1 lists the main sources of data used for the analysis of outcomes in the target populations. The primary outcome of interest, smoking behavior, is measured by several of these data sources. The Behavioral Risk Factor Surveillance System is a survey that asks a random sample of each state's population a series of questions about behaviors related to health outcomes, including whether or not they smoke. The Youth Risk Factor Surveillance System records the answers to similar questions for a sample of youth. The Natality Data Public Use File records the answers to questions about smoking for all women who give birth.

The BRFSS is the primary source of information regarding smoking behavior for the adult population. The sample size, of approximately 3000 Arkansans per year is adequate to

obtain a fairly precise estimate of smoking prevalence among the adult population in the entire state, but precision drops considerably when using these data for analysis of specific subpopulations within the state.

The YRBSS is of similar size so the same comments apply. An additional limitation of the YRBSS is that it is only collected every two years and in the most recent collection the response rate in Arkansas was sufficiently low that it did not meet the CDC requirements for valid data.

Table B.1
Data Sources and Outcome Measures

Outcome	Figure	Data
Tobacco Prevention and Cessation		
Adult smoking prevalence *	10.2, 10.3, 10.4, 10.5, 10.6	Behavioral Risk Factor Surveillance System
Cigarette consumption	10.7	Cigarette excise tax revenue; Adult Tobacco Survey
Pregnant women smoking prevalence *	10.8, 10.9	Natality Data Public Use File (birth certificates)
Smoking prevalence among young people	10.10, 10.11, 10.12, 10.13	Youth Risk Behavior Survey, Natality Data Public Use File (Birth Certificates); Behavioral Risk Factor Surveillance System
Sales to minors	10.14	Synar inspections
Short-term health indicators	10.16	Arkansas Hospital Inpatient Data System, Health care Cost and Utilization Project (HCUP national hospitalization data)
Days of hospitalization	11.3, 11.4	Arkansas Hospital Inpatient Data System
Avoidable hospitalizations	11.1, 11.5	Arkansas Hospital Inpatient Data System
Adequate prenatal care	11.2	Natality Data Public Use File (birth certificates)

* Also analyzed for association between county programming activity and smoking.

The other source of smoking prevalence information has a different set of limitations. The information on the smoking behavior of pregnant women is collected for all women who give birth, which produces a sample of approximately 35,000 observations per year in Arkansas. This sample size is adequate for producing precise estimates of smoking prevalence of this population and many subpopulations defined by age, race and county of residence. However, the unique circumstances of this special population limit its usefulness as an indicator of changes in smoking behavior among the general population.

Two other direct data sources also provide information on smoking activity. Monthly revenue reports from the sales of cigarette tax stamps by the Arkansas Department of Finance to cigarette wholesalers allows for the calculation of the number of packs of cigarettes sold each month. Similar information is available annually for all other states. The Synar amendment requires random inspection of tobacco retailers to determine compliance with laws prohibiting sales to minors. Data from these inspections provide information regarding the success of a state in preventing such violations.

A final source of information regarding smoking behavior and attitudes toward smoking and smoking regulation is the Arkansas Adult Tobacco Survey. Conducted in 2002 and 2004, it asked a battery of questions of randomly selected adults. Unfortunately, comparisons with BRFSS and cigarette excise tax collection data suggest that the AATS undersampled smokers in 2004. Presumably, tobacco cessation and prevention programming had heightened awareness about smoking, and more smokers than nonsmokers declined to participate in the 2004 study. Other states have had similar difficulties. Although we report some findings from the AATS, we think they should be interpreted cautiously.

Non–Smoking Outcomes

We also use data sources that provide health status and health care utilization information in order to examine the effect of funded programs on these outcomes. The birth certificate data provide information on expectant mothers' use of prenatal care and on infant birth weight. As noted above, the birth certificate data also provide information on the age, race, and residential location of the mother, thereby allowing analysis of health and health care differences along these dimensions. When used in conjunction with population counts from the Census, the birth certificate information can provide estimates of teen pregnancy rates by residential location (i.e., counties or zip code within Arkansas or by state and metropolitan area for other states) and by demographic group.

The hospital discharge data provide information on the primary and secondary diagnosis as well as basic demographics, residential location, and type of payer for all hospital stays. These can be used to identify hospitalizations for smoking-related illnesses such as asthma, strokes, and acute myocardial infarctions as well as hospitalizations that are likely to be the result of inadequate primary care (McCall et al., 2001). Counts of these events are used in conjunction with Census data to estimate rates for subpopulations that are targeted by funded programs.

Program and Policy Information

As described below, these outcomes data are most useful when used with information that measures the program and policy efforts that have an impact on smoking and related health outcomes. We have assembled data on ATS-funded program effort within the state for the major community based programs (ADH, MHI, DHEC and AAI). For interstate comparisons, we have annual spending on prevention and control activities by state for years 2000 through 2005. We also have data on cigarette taxes by state for 1970 through the 2003.

Analytic Framework

This section describes a common analytic framework that we apply to the evaluation to many of the smoking-related and non–smoking outcomes. For many of these outcomes, we analyze administrative or survey data that provide information on individuals in the populations targeted by the funding programs. Although the analyses for each of the programs have many idiosyncratic features, most share four basic steps. The first step is to calculate the prevalence of a behavior or a condition in each year for which data are available. The second step is to use multivariate analysis to adjust for changes in demographic composition in order to isolate changes in behavior or health status for people of similar characteristics. In the third step, we estimate the baseline trend in the outcome for the adjusted population and compare the observed outcomes following program implementation to what would be expected based on this trend. Finally, in some cases we are able to investigate whether deviations from this baseline trend differ from those observed in other states or in other portions of the state with less intense programming.

Prevalence

The analyses require a stable sample frame for a sequence of years. For example, the BRFSS annually surveys a national random sample of all adults age 18 and over. From this sample, a consistently measured outcome is obtained. For example, the BRFSS used the same question about smoking behavior starting in 1996. Using the sample weights, which adjust for variation in sampling rate by demographic category, the estimated prevalence in the population can be defined, along with a measure of precision that indicates how much variation in the estimate would be expected if the sampling process was repeated. This most simple of the analyses is reported in Figure 10.2 for adult smoking prevalence in Arkansas.

A modification of this approach is used for the prevalence of smoking among pregnant women (Figure 10.8). In this case, the sample frame is all pregnant women, so no sampling weights are needed and sampling precision is not an issue.

Adjusting for Demographic Composition

Smoking prevalence, the proportion of a population who smoke, is not useful for measuring the effectiveness of antismoking programs when other factors are affecting this proportion. The first factor we address is the changing composition of the population. From year to year, the aging process as well as migration in and out of the sample frame changes the identity of the people in the sample frame. Since smoking rates differ among people of different ages, different racial and ethnic identities and between men and women, it is important to account for demographic changes that could influence smoking trends.

We do this by performing multivariate analysis of the outcome measures for individuals as a function of their demographic characteristics. We create measures of age, race, sex, and pregnancy status and include these as explanatory variables in a regression. The regression also includes measures of time, which allow us to measure the change in the outcome after controlling for changes in population demographics.

This multivariate analysis takes into account the sampling design using STATA 8's commands for clustered sampling. We use appropriate functional forms, such as logit for binary

outcomes (smoking versus not smoking) or least squares regression for continuous outcomes that have approximately normal distributions. See our previous report (Farley, et al., 2007) for additional detail on the regression methods used for creating baseline trends and extrapolating these trends into the period during which the programs were operating.

Comparative Analysis

The above analyses are based on a pre/post design. Inference about the effect of a program is based on deviations from the pre-program trend, making a comparison only between the target population prior to program implementation and the same population following implementation. An alternative is to make comparisons between the target population and a similar population at the same time. This could be done by completely relying on cross-sectional information, comparing the level of the outcome between populations with and without program exposure. This approach requires that all confounding factors that differ among the populations be measured and included in the analysis. Because this strong requirement is seldom met, we prefer alternative methods whenever available.

An alternative is to combine both longitudinal and cross-sectional variation. This improves upon the simple longitudinal design presented above because changes over time in unmeasured confounding factors—e.g., economic conditions or health care access—are accounted for as long as they change in the same way in both the target and nontarget population. However, if these unmeasured confounding factors change in ways that differ between the target and comparison populations, then this method can lead to erroneous inferences.

We make use of this type of analysis in two circumstances. We use this type of analysis for within-state comparisons between areas with and without program activity and among areas of varying levels of program activity. We also use it to compare outcomes in Arkansas with outcomes in other states.

Figure 11.2 presents the first type of analysis comparing prenatal care trends in counties with high and low percentages of pregnant women who are eligible for the expanded Medicaid benefits. Separate trend lines are fit for the two populations and a kink in each trend is permitted at the time of program initiation. It is possible that the trend in the comparison population might turn more positive or more negative at the time of program initiation for reasons unrelated to the program, e.g., unmeasured changes in the availability of contraception throughout the state. In fact, as shown in Figure 11.2, the trend in the counties with high percentages of eligible pregnant women does become more positive at the time of program implementation.

Another type of comparative analysis is to compare outcomes in Arkansas with outcomes in other states. The analysis of smoking rates in Arkansas and surrounding states presented in Figure 10.6 is an example of this type of analysis. Our assumption is that if unobserved factors such as national and regional advertising campaigns by cigarette companies and antismoking groups have a similar affect throughout the region, then smoking prevalence in Arkansas will change in a similar way as smoking prevalence in the surrounding states. Any divergence between Arkansas and the surrounding states can be attributed to differences in tobacco control programming and cigarette taxes. We track these two factors and control for demographic factors.

REFERENCES

Arkansas Department of Finance and Administration, Office of Personnel Management, State Employees, 2008. As of May 2008: http://www.state.ar.us/dfa/index.html.

Bindman AB, Grumbach K, Osmond D, Komaromy M, Vranizan K, Lurie N, Billings J, Stewart A. Preventable hospitalizations and access to care. *Journal of the American Medical Association*, 1995; 274: 305-311.

Browne A and Wildavsky A. What Should Evaluation Mean to Implementation? In. D.J. Palumbo (ed.), *The Politics of Program Evaluation*. Newbury Park, Calif.: Sage, 1987.

California Department of Health Services. *Adult Smoking Trends in California*. As of July 2006: http://www.dhs.ca.gov/ps/cdic/ccb/tcs/documents/FSAdulttrends.pdf

Centers for Disease Control and Prevention (CDC). Guidelines for school health programs to prevent tobacco use and addiction. *MMWR* 43, 1994 (No. RR-2).

Centers for Disease Control and Prevention (CDC). *Best Practices for Comprehensive Tobacco Control Programs—2007.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; October 2007.

Dehar M, Casswell S, Duignan P. Formative and process evaluation of health promotion and disease prevention programs. *Evaluation Review* 1993; 17(2): 204-220.

Evans WN, Ringel J, Stech D. Tobacco taxes and public policy to discourage smoking. In: James Poterba (ed.), *Tax Policy and the Economy*, vol. 13. National Bureau of Economic Research: Cambridge, Mass, 1999.

Farley DO, Chinman MJ, D'Amico E, Dausey DJ, Engberg JB, Hunter SB, Shugarman LR, Sorbero ME. *Evaluation of the Arkansas Tobacco Settlement Program: Progress from Program Inception to 2004*, Santa Monica, Calif: RAND Corporation, TR-221-ATSC, 2005(a). As of June 2008: http://www.rand.org/pubs/technical_reports/TR221.

Farley DO, Chinman MJ, D'Amico E, Engberg JB, Hunter SB, Lovejoy S, Schultz D, Shugarman LR. *Evaluation of the Arkansas Tobacco Settlement Program: Progress from Program Advancement in 2005*, Santa Monica, Calif: RAND Corporation, WR-272-ATSC, 2005(b). As of November 2008: http://www.rand.org/pubs/working_papers/WR272-1/

Farley DO, Engberg JB, Carroll B, Chinman MJ, D'Amico E, Hunter SB, Lovejoy S, Shugarman LR, Yu H, Kahan JP. *Evaluation of the Arkansas Tobacco Settlement Program Progress During 2004 and 2005*, Santa Monica, CA: RAND Corporation, TR-397-ATSC, 2007. As of June 2008: http://www.rand.org/pubs/technical_reports/TR397/

Farrelly MC, Davis KC, Haviland ML, Messeri P, Healton CG. Evidence of a dose response relationship between "truth" antismoking ads and youth smoking prevalence. *American Journal of Public Health*, 2005; 95(3): 425-431.

Fiore MC and Jaén CR. A Clinical Blueprint to Accelerate the Elimination of Tobacco Use. *JAMA*, 2008; 299: 2083-2085.

Floreani AA, Rennard SI. The role of cigarette smoke in the pathogenesis of asthma and as a trigger for acute symptoms. *Current Opinions in Pulmonary Medicine*, 1999; 5: 38-46.

Goodman RM and Wandersman A. FORECAST: A formative approach to evaluating community coalitions and community-based initiatives. *Journal of Community Psychology* (Center for Substance Abuse Prevention Special Issue), 1994: 6–25.

Institute of Medicine. *Access to Health Care in America*. Washington, DC: National Academy Press, 1993.

Lightwood JM, Glantz SA. Short-term economic and health benefits of smoking cessation: Myocardial infarction and stroke. *Circulation*, 1997; 96: 1089-1096.

Lightwood JM, Phibbs CS, Glantz, SA. Short-term health and economic benefits of smoking cessation: Low birth weight. *Pediatrics*, 1999; 104: 1312-1320.

McCall N, Harlow J, Dayhoff D. Rates of hospitalization for ambulatory care sensitive conditions in the Medicare+Choice population. *Health Care Financing Review*, 2001; 22(3): 127-145.

Nuorti JP, Butler JC, Farley MM, Harrison LH, McGeer A, Kolczak MS, Breiman RF, Active Bacterial Surveillance Team. Cigarette smoking and invasive pneumococcal disease. *New England Journal of Medicine*, 2000; 342: 681-689.

Senner J, Director of the DHHS Division of Health's C enter for Health Statistics, May 11, 2006.

Shadish WR, Cook TD, Levito LC. *Foundations of Program Evaluation: Theories of Practice*. Newbury Park, Calif.: Sage, 1991.

Siegel M, Biener L. The impact of an antismoking media campaign on progression to established smoking: results of a longitudinal youth study. *American Journal of Public Health*, 2000; 90(3): 380–6.

Solberg LI, Maciosek MV, Edwards NM, Khanchandani HS, Goodman MJ. Repeated tobacco use screening and intervention in clinical practice: health impact and cost effectiveness. *American Journal of Preventive Medicine* 2006; 31(1):62–71.

Sly DF, Hopkins RS, Trapido E, Ray S. Influence of a counteradvertising media campaign on initiation of smoking: the Florida "truth" campaign. *Am J Public Health*. 2001;91:233–238.

Thompson W, Wang H, Xie M, Rajan JKM, Tseng CL, Crystal S, Zhang Q, Vardi Y, Pogach L, Safford MM. Assessing quality of diabetes care by measuring longitudinal changes in hemoglobin A1c in the Veterans Health Administration. *Health Services Research*, Dec 2005; 40:6, Part I.

U.S. Department of Health and Human Services. *Reducing Tobacco Use: A Report of the Surgeon General.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.

US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA) and Arkansas Annual Synar Reports for FFY 2003–FFY 2007 (Center for Substance Abuse Prevention, no date).

Wooding S, Hanney S, Buxton M, Grant J. *The Returns from Arthritis Research*. Santa Monica, CA: RAND Corporation, MG-251-ARC, 2004. As of July 2006: http://www.rand.org/publications/MG/MG251/