

**THE INITIAL EFFECTS OF TENNCARE ON ACADEMIC HEALTH
CENTERS**

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EXECUTIVE SUMMARY

Academic health centers (AHCs) have a dual mission to care for the sickest patients and achieve excellence in patient care, research, and education. In today's competitive managed care environment, these costly services put them at a disadvantage, and many are scrambling for ways to become more efficient.

This case study of the University of Tennessee Health Sciences Center and Meharry Medical Center evaluates the impact of TennCare, the state's Medicaid managed care plan, and identifies important lessons that may show how the changing health care system will affect AHCs in other states.

TennCare, implemented virtually overnight on January 1, 1994, enrolled 25 percent of the state's population, including all Medicaid patients and low-income uninsured people, into managed care plans. Academic health centers in Tennessee have experienced long-term fallout from the transition. As large providers of Medicaid services, they are dependent on the program for clinical patients, revenues, and supplemental payments to offset the costs of charity care and graduate medical education.

The program has had mixed results. The state's goals of containing costs and expanding access were met in FY 1995, when it saw a billion dollars in savings and an increase of 438,000 in the Medicaid rolls. The first months, however, were a time of chaos--patients did not know where to go for care, health plans did not know who was enrolled or assigned to their care. Many providers have never been compensated for their services during that time. In addition, the traditional roles of the state's academic health centers (AHCs), which care for the sickest and poorest patients, conduct biomedical research, and educate the health care workforce, have been threatened.

Because TennCare was implemented in the context of a relatively immature private sector market, it presents a unique opportunity to examine the effect of public sector-driven health care reform on academic health centers. This report contains information gleaned from a review of the pertinent documentation and interviews of AHC executives and staff, state officials, and representatives of managed care organizations.

Since the inception of TennCare, the centers studied have experienced significant revenue shortfalls, the closure of some specialty services, loss of patent volumes for clinical research, and reduction in training program positions. Five critical challenges face the AHCs: decreased payments for services; decreased volumes of clinical services; decreased market share of the Medicaid population; adverse selection; and loss of graduate medical education payments, disproportionate share hospital payments, and capital funds.

The first challenge derives from the translation of the program's spending cap into lower per service payments. One AHC saw its Medicaid revenues declining from 65 cents per \$1.00 before TennCare to 38 cents per \$1.00 after TennCare. AHCs also reported decreased volumes of clinical services--including reductions of 15 to 20 percent in hospital lengths of stay and emergency room utilization--and a significant loss of Medicaid and medically indigent

populations, which had formerly comprised a large portion of their inpatient and outpatient cases. During the rapid and tumultuous transition to TennCare, one AHC was assigned only 20% of its former Medicaid population.

The centers also reported the occurrence of "adverse selection" resulting from the sickest patients opting for AHC care when given a choice of providers. One center studied by the authors saw OB-GYN deliveries decrease from 8,000 to 4,000, of whom 3,500 were high-risk patients. Adverse selection means a greater proportion of patients tend to be sicker, but payments from managed care organization may not cover the increased expenses of caring for them.

The uncertainty surrounding Medicaid payments has been particularly difficult for Tennessee's AHCs. As large providers of Medicaid services, they are dependent on the program for supplemental payments to offset the costs of charity care (called disproportionate share hospital payments, or DSH), payments for graduate medical education (GME), and capital funds. Under TennCare, DSH and GME payments were suspended, and payments for services covered by Medicaid were reduced. Although this funding was eventually restored, the temporary suspension of payments resulted in a loss of \$20 million for the centers in 1995.

The positive effects of TennCare must also be considered, including the cost-savings to the state and extension of care to more uninsured people. Potential future benefits for AHCs may include the integration of community-based services into academic missions, the acceleration of clinical diversification, and the attainment of experience in managed care.

Like AHCs facing private sector reform, the centers facing TennCare have developed a number of strategies to deal with the challenges of health care reform. They are taking measures to increase the sale of clinical services through networking and product line development; reducing the costs of producing clinical services and of education and research; networking with government; and developing new markets for their special missions. During the initial years of TennCare, two AHC-based managed care organizations were formed in the state, and centers successfully lobbied to restore special funding for GME.

The challenges of public sector health care reform for AHCs are in some ways similar to those of private sector reform. Important differences include the rapidity with which the public sector can transform the AHC market, the centers' vulnerability to such special payments as GME and DSH, and the accountability of managers of public sector initiatives to the political process.

The long-term consequences of TennCare for the academic missions of AHCs and the welfare of local populations will undoubtedly be both negative and positive. As experience with the TennCare revolution and other public sector health care reform initiatives evolve, their impact on AHCs and their teaching, research, and vulnerable care missions should be followed closely.

Recent reports suggest that a final chapter to the TennCare experience has not yet been written. Because the state closed enrollment of TennCare to the uninsured at the beginning of 1995 and began more strictly enforcing premium collection, the number of newly covered has been reduced. A definitive evaluation must await the test of time.

INTRODUCTION

In our early efforts to assess effects of the changing health care system on academic health centers (AHCs), the case study approach has proved illuminating. Case studies of initial effects of managed care on the operation and mission of AHCs in high managed care regions, for example, have shown the transformation of tertiary care centers into integrated health care systems with far-flung networks of primary care providers, non-academic hospital affiliates, and home-health agencies with new information systems and more professional management. These same AHCs also responded to changes in the health care system by re-engineering clinical processes, reducing teaching costs, and streamlining research efforts.¹ Whether they achieved savings by reducing central mission-related activities or by providing more efficient care remains to be seen.

Medicaid reform in the state of Tennessee provides a particularly interesting case study in terms of understanding the impact of managed care on AHCs. This is partly because until now studies of the potential impact of the changing health care system on AHCs have focused on the effects of developments in the private health care sector. In addition, the introduction of Medicaid managed care in Tennessee differs fundamentally from efforts in other states because Tennessee had virtually no pre-existing managed care penetration (less than 6% of the insured before the introduction of the new program). As a result, the introduction of the Medicaid reform program, known as TennCare, on January 1, 1994, produced an overnight enrollment of 25% of the state's population (1.2 million residents) in a new managed care program. Unlike other geographic areas, Medicaid managed care in Tennessee preceded growth in private employment-based managed care coverage. The transition occurred despite a history of antagonism to managed care in the Tennessee legislature. Of the 12 managed care organizations (MCOs) that successfully competed in the state's request for proposals, only Access MedPlus and John Deere existed prior to TennCare.

Despite its uniquely rapid implementation and the pre-existing low penetration of managed care in the state, the response of Tennessee's AHCs to TennCare still provides ample lessons for other AHCs across the country. Indeed, in this era of "returning power to the states" and budgetary constraints on entitlement spending, the TennCare experiment has great appeal to policymakers: it is a model of public sector intervention to promote control of spending while expanding access. The implications for other AHCs are considerable, since the TennCare reforms, like other managed care changes throughout the nation, have profoundly affected each of the central missions of AHCs: teaching, research, and providing care to vulnerable populations. This paper analyzes the impact of the development and initial implementation of the TennCare program on AHCs by focusing on the period from June 1993 through March 1995. Discussion of subsequent ramifications of TennCare for AHCs will be published in the future.

OVERVIEW OF TENNCARE

The state of Tennessee has one of 10 existing state waivers to experiment with health care delivery through the Medicaid program. These "1115 waivers" (named after the pertinent section of the Social Security Act) were designed to make future growth of state expenditures for Medicaid more predictable. The approved waivers all enroll Medicaid beneficiaries into some form of managed care, and most extend insurance to the working poor and their families who were previously ineligible for Medicaid. As a result, these programs pass along some of the costs of caring for the uninsured to the federal government.²

As a state-wide managed care program, TennCare is not unique: other states such as California, Massachusetts, and New York are also moving their Medicaid recipients into managed care. The state context, implementation, and scope of TennCare, however, are unique features that have attracted national interest.

The State of Tennessee

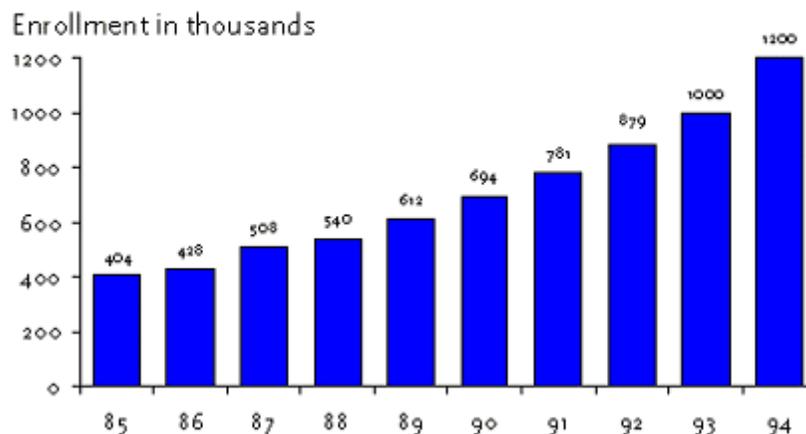
Roughly 2 million of the 4.9 million total Tennesseans live in its four urban centers, Memphis, Nashville, Knoxville, and Chattanooga (39%, compared with U. S. average of 25% in urban areas). There is considerable intrastate variation in demographics, with East Tennessee being predominantly white and Republican, central Tennessee having a mixed population and politics, and West Tennessee being predominantly black and Democratic. The state has no income tax and supports its programs through a variety of sales taxes. This means that the funding pool for state programs is intimately tied to the economy.

TennCare recipients are almost evenly divided between the urban centers and rural areas, with 58% of TennCare enrollees living outside urban centers. As a result, rural health issues are especially important in the program. In particular, a number of these areas are underserved, with rural areas having a population-to-physician ratio of 2547:1, compared to 723:1 in urban areas. To serve areas with limited access to health care, there are 48 federally qualified Community Health Centers serving 140,000 individuals.

Tennessee's Medicaid Program

Approximately 18% of Tennesseans were insured under the state's old Medicaid program. In comparison to Medicaid in many other states, Tennessee's program paid generously, with reimbursement at 93% of Medicare rates (comparing to an average of 73%) and additional payments to hospitals for graduate medical education. The latter were calculated on a formula basis similar to that employed by Medicare.

Figure 1
Tennessee Medicaid Enrollment



Like many states, Tennessee experienced an explosive growth in both Medicaid eligibility and cost/beneficiary ratio over the last 10 years (Tennessee Medicaid eligibility grew from 694,000 in 1990 to 1.1 million in 1994, and half of all children in Tennessee were on Medicaid by 1994). Since 1987, a tax on hospital funds has supported much of that growth. The hospital tax supplied an increased pool of state matching funds that, when supplemented with federal monies, provided a key source of revenue for the program. The hospital tax served well hospitals that were major providers of Medicaid services, since they got back more in matched funds than they contributed in hospital tax. However, the tax was also essentially a cross-subsidy to Medicaid-intensive hospitals from hospitals that had a higher proportion of privately insured patients. As a result, the latter institutions bitterly opposed the hospital tax when it was up for reauthorization in 1994 and lobbied against it through the Tennessee Hospital Association.

The TennCare Experiment

Tennessee's experiment with Medicaid reform is as much a product of necessity and political opportunism as of deliberate social planning. The state lowered its general fund contributions to Medicaid from 1990-1993 by \$48 million, more than compensating for this loss by increasing hospital tax revenues. But in 1993, the Health Care Financing Administration (HCFA) cited Tennessee (and eight other states) for using provider taxes to increase federal matching payments. Overnight this put into question \$120.7 million in federal funds and the solvency of the Medicaid program.

The impending financial crisis coincided with a window of opportunity for lame duck Governor Ned McWherter, who had maintained enough political power to push his vision of expanded access to Medicaid. McWherter had the state Commissioner of Finance and

Administration, David Manning, and the Bureau of Medicaid Director, Manny Martins, develop a program to control costs and expand eligibility to an additional 400,000 uninsured Tennesseans.

Both Manning and Martins believed the Medicaid problem was one of management, not money. Under the new TennCare program the state would move all of its Medicaid recipients into managed care organizations (MCOs). Savings in Medicaid spending realized through managed care were to be applied to expanded coverage, in this case up to 100% of the poverty line. Residents earning up to 400% of the federal poverty line would have the option to buy into the program through a sliding scale premium schedule. Covering the uninsured would help limit cost-shifting and the delay of necessary care.

Under TennCare, the state would have absolute control over Medicaid spending by setting capitation rates and limiting enrollment. The growth in the TennCare budget would be pegged to state tax revenues. Although Manning wanted a block grant from HCFA to reduce hassle, in the final waiver federal funds were to be appropriated through the existing matching scheme with the maintenance of federal oversight.

Although some national advocacy groups, including the National Association of Public Hospitals, opposed TennCare, local groups representing the interests of recipients generally supported the initiative because it enhanced access and created an irrevocable entitlement. In addition, local support has been attributed to erasing the "welfare stigma" of the Medicaid program by liberalizing traditional Medicaid eligibility rules. This new beneficiary pool of the working poor is a key advocacy group for the program.

Some strings were attached to the final approval of the 1115 waiver. For example, condition eight of the Medicaid waiver dictates that plans either offer contracts to federally qualified health centers or have sufficient providers in the network to cover the area.

Implementation

Much like the original Medicaid bill, the TennCare program was developed rapidly by a small group of individuals. In fact, TennCare was conceived and implemented within a year's time. Such rapid implementation in the context of a limited infrastructure for providing managed care has proven especially challenging. Pragmatically, there may have been little alternative to the "shock therapy" of moving all of Medicaid (plus an expanded recipient pool) into managed care overnight because the impending repeal of the hospital tax necessitated quick control of Medicaid spending. In addition, quick implementation prevented successful organized opposition from traditional health care stakeholders (physicians, hospitals, and insurance companies) and may have avoided political stalemate. The downside of the strategy, however, has been that powerful constituencies--especially the Tennessee Medical Association and Tennessee Hospital Association--were excluded from the planning process, which increased their hostility to TennCare.

The necessity of quickly developing a statewide managed care infrastructure where none existed previously also led to one of the most controversial aspects of the TennCare program, the "cram down" rule. Recognizing that only the state Blue Cross/Blue Shield program had a statewide "network" of physicians that penetrated into rural areas, TennCare administrators and

BC/BS agreed that BC/BS (which covers about 50% of TennCare recipients) had to be one of the state's 12 managed care organizations. Realizing their reimbursement for Medicaid was likely to decline, approximately 40% of BC/BS providers dropped out of the network in the months immediately preceding implementation (under TennCare the state pays \$106 per member per month to the managed care organizations, translating into a primary care capitation rate as low as \$13.50 per member per month to cover a probably more costly population).³ Fearing a statewide access crisis, BC/BS modified its contract with providers to demand all network physicians accept TennCare as a condition for participation in BC/BS. Because BC/BS had been one of the better payors in the state, few providers could afford to resist this "cram down" provision. Most providers rejoined the network, and TennCare met a major challenge at the price of creating a cadre of disenchanted providers. Although Tennessee's new Governor, Don Sundquist, campaigned on the repeal of the cram down, continuing access concerns have frustrated his administration's efforts to reverse it.

Another consequence of TennCare's rapid implementation has been transitional disruptions in the healthcare system for TennCare recipients. In the first few months of the program, there were a host of administrative nightmares, including patients who did not know who their provider was and providers who did not know who their patients were. For example, some families had children assigned to different primary care providers, often miles apart. The resulting chaos has increased animosity between providers, the TennCare program, and the managed care organizations that administer it, especially because many services provided to patients during the first few months of the program will probably never be reimbursed.

Many access issues have been left unresolved despite TennCare. Of the twelve MCOs--eight of which were created expressly in response to TennCare--only two, Access MedPlus and BC/BS, are statewide (Access had changed its name to appear before BC/BS on the enrollment forms). In addition to persisting problems with rural health care delivery, TennCare has created some new difficulties in access to specialty services. For example, only 13 of 394 orthopedic surgeons in the state signed up with Access MedPlus. An August 1994 survey by the University of Tennessee indicated a 3% drop from 9 to 5.9% in the state uninsured rate since the advent of TennCare but also found that satisfaction with Medicaid dropped from 82% in 1993 to 61% eight months into the TennCare program.⁴

Governor Sundquist's new administration is making some important changes to the program. It moved TennCare from the Department of Health to the Department of Finance and Administration. Sundquist is also putting together a 29 member TennCare Roundtable of doctors, hospitals, business leaders, and the public to try building support from many of the constituencies alienated by the original process. The new leadership of the program and the roundtable have identified five key issues for the programs future. These issues include:

- Whether to maintain the "cram-down"
- Whether to allow providers to restrict the number of TennCare patients in their panels

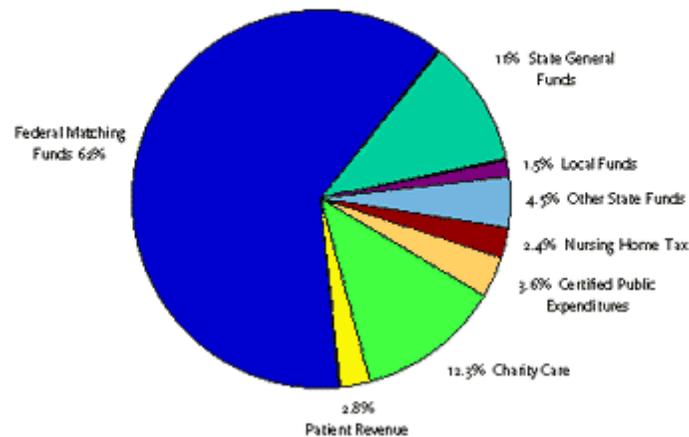
- Whether the state should go forward with plans to integrate mental health and special populations (e.g., blind and disabled) into the capitation rate
- How to strengthen oversight of plans
- Whether the system will be financially viable with current eligibility and benefits.

Not surprisingly, the last question claimed the lion's share of attention.

TennCare Finances

The 1995 TennCare budget is \$3.3 billion (\$1.1 billion from state and \$2.2 billion from federal government). TennCare is one of the state's three highest funding priorities after K-12 education and corrections. The generation of state contributions, however, has remained problematic without the tax on hospital revenues. Although much of the increase in cash available to providers through TennCare has resulted from the end of this tax, there is no mechanism to assure that the hospitals will pass on their tax savings for TennCare patients. For hospitals with few TennCare patients, moreover, the end of the tax has meant a windfall that will not go back to TennCare, even indirectly.

Figure 2
Sources of TennCare Revenue, 1994-95

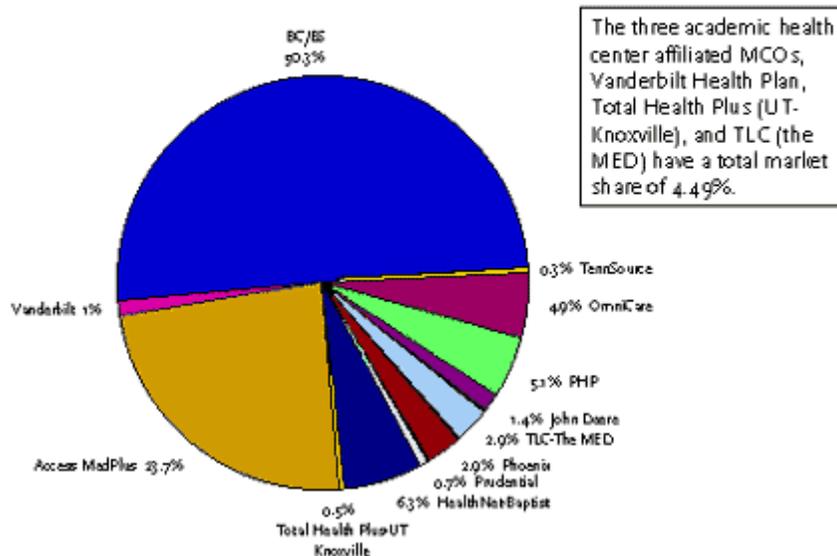


Despite one-time "savings" due to transitional chaos and disallowed claims, moreover, the program ran a deficit of nearly \$100 million in its first two years. With the change of state administration in January 1995, a serious funding crisis developed when HCFA decided to rescind \$106 million in matching federal Disproportionate Share (DSH) funds.

This revenue shortfall profoundly affected academic health centers (AHCs). In calculating funds available to TennCare, the state imputed nearly \$0.5 billion in charity care by assuming that providers utilized 5% of their gross revenues to provide care for the poor. Because these funds could not be "captured" by the state in the form of a new provider tax, the state decided to obtain

the funds indirectly by discounting the capitated rate. This lowered capitation rate also represented a direct hit on the pocketbooks of individual physicians, who had not been paying a provider tax and thus had no concomitant tax relief. Another option for budget relief was to allow normal attrition to shrink TennCare enrollment, but this would reverse any gains in access. To reduce expenditures without cutting enrollment, therefore, the state not only lowered its capitation rate but also decided to eliminate subsidies to AHCs.

Figure 3
TennCare Market Share as of 6/15/96



During its first year (1994) TennCare paid the 12 MCOs an average (adjusted for age and sex) of \$117.84 per member per month (PMPM), a 17% increase in average cash available per covered life under the old Medicaid program. Four of the managed care plans are paying providers on a discounted fee-for-service basis. Among these the BC/BS network, with about 50% of the statewide market share, has the strongest position. The second largest MCO, Access MedPlus, and the remaining seven MCOs pay providers on a capitation basis. After subtracting the state's administrative load and discounting for member co-payments, this works out to be around \$90 PMPM for most of the plans. For FY 1995-1996 the rates have been set by the state at an average of \$136.75 and are sex, disability, and age-adjusted. This translates into a little over \$100 PMPM to the plans after administrative and co-payment discounts. Figure 3 shows the relative market share of each of the 12 MCOs involved in TennCare. Three of these MCOs--Vanderbilt Health Plan, Total Health Plus, and TLC, are affiliated with AHCs.

Two health plans, Phoenix and John Deere appear to be thriving under TennCare. Phoenix has only 415 bed days / 1000 members (less than 50% of the 1000 days / 1000 population under the old Medicaid program). Although this may be due to superb case management, the ability to clamp down on utilization so quickly raises questions of risk selection. John Deere, which was one of the few existing MCOs prior to TennCare, claims that its

experience and modest size were important in minimizing the organization's risk. Among providers BC/BS and Vanderbilt are seen as inadequate payors while Access MedPlus is seen as more reasonable.

TENNCARE AND ACADEMIC HEALTH CENTERS

There are four AHCs in Tennessee: East Tennessee State University (ETSU), Vanderbilt University (VU), Meharry Medical College (MMC), and the University of Tennessee (UT). Site visits to two of these AHCs--Meharry and UT, described briefly below--yielded data that help bring some of TennCare's challenges into context. Following standard methods for qualitative investigation of comparative case studies,⁵ we reviewed pertinent documents related to the AMCs' response to TennCare, visited both institutions during the summer of 1995, and interviewed state officials and representatives of MCOs serving TennCare beneficiaries. Additional information on the effect of TennCare on one of the state's other two AMCs, Vanderbilt University Medical Center (VUMC) was obtained from published sources.

Meharry Medical College

Meharry Medical College (MMC) in Nashville is one of three predominantly black U. S. medical schools and over its 113 year history has trained a significant percentage of America's African American physicians. In this special role MMC, which graduates eighty medical students annually, has also had a history of responding to the medical concerns of minority and other vulnerable populations. Meharry Medical College includes the International Center for Health Sciences (which coordinates internships and field studies to help African and American health professionals improve maternal-child health in Africa) and the now closed Hubbard Hospital.

Beginning around 1984 the Hubbard Hospital faced financial difficulties due to a high proportion of non-paying patients who used the facility for primary and secondary care. During the following decade the Hubbard lost about \$3.5 million / year. In addition, the physical plant began to deteriorate, resulting in further financial difficulties.

After negotiating with the city of Nashville, which desperately needed to renovate the city hospital, the Metropolitan Nashville General Hospital (MNGH), it was decided in 1995 to close the Hubbard and move the MNGH to the new facility, which would be rented to the city and renovated with the resulting income. The match between MMC and the MNGH makes sense philosophically as well as financially, since the main business of MNGH has been indigent care. Nashville is overbedded, so the local business community has welcomed the reduction in beds. The renovated MNGH (on the site of the Hubbard Hospital) is scheduled to open this year.

The University of Tennessee

The University of Tennessee Health Sciences Center (UT) dates back to the original medical school that was founded in 1856. The present UT was a post-Flexner consolidation of five medical schools and was moved to Memphis from Nashville to serve the former's indigent

population early this century. In addition to the College of Medicine (which graduates 150 medical students annually), UT has colleges of Allied Health, Pharmacy, Dentistry, Nursing, and Graduate Health Sciences. Clinical teaching sites are located in Memphis, Knoxville, and Chattanooga.

In Memphis the Regional Medical Center (the MED), a county hospital, has been the primary teaching site. The MED was created to meet the need for a public health delivery system for the urban poor around Memphis (50% black and 50% white). In 1981 the county privatized the MED, enabling it to receive bonded indebtedness. Nevertheless, the MED continues to receive \$24.5 million annually from the county, a figure that has declined in recent years but that still represents 12-14% of the operating budget.

There is also a small (less than 100 bed) specialty service hospital, the Bowld, which is owned by the UT and located on the Memphis clinical site. The Bowld and the MED have had a close affiliation. For example, all cardiothoracic (CT) surgery cases on patients admitted to the MED (which does not have a CT surgery service) are transferred to the Bowld. In addition to those facilities there are several large private hospitals near the Memphis campus including the Baptist Medical Center. The University of Tennessee also owns a second hospital, the UT Memorial, in Knoxville. Graduate medical education (GME) at UT depends on a number of hospitals and the small university hospital. The University of Tennessee now has 900 residents in training at 19 teaching hospitals.

CHALLENGES FACING ACADEMIC HEALTH CENTERS

As large providers of Medicaid services, academic health centers depend on this program for clinical volumes, clinical revenues, DSH payments (which help offset the costs of charity care), and graduate medical education payments. On the basis of our site visits and documentation concerning the TennCare program, we have identified five critical challenges for AHCs resulting from TennCare:

- Loss of GME, DSH, and capital funds
- Decreased volume of clinical services
- Decreased payment for services
- Decreased market share of traditional AHC populations
- Adverse selection

Loss of GME, DSH, and Capital Funds

Perhaps the most significant challenge for AHCs brought by TennCare is the uncertainty surrounding previous Medicaid payments for Graduate Medical Education (GME), Disproportionate Share (DSH) funds, and capital expenditures. Tennessee AHCs had become

relatively dependent on these revenue sources, particularly for the funding of education and care of the uninsured. Other challenges posed by TennCare, though perhaps more formidable in the long run, will only have an indirect and delayed impact on academic missions. In contrast, loss of these revenue sources has had an immediate impact on the Tennessee AHCs and has thus been their primary focus of concern.

Graduate medical education payments have been especially problematic under the new program. Commissioner Manning believed the Clinton Health Security Act would pass and thus deal with the AHC problem, so TennCare did not make contingencies for these institutions in its original plan.

In TennCare's first year the state did set aside "essential provider" funds equivalent to what hospitals had been getting under Medicaid for GME and as federal compensation for their disproportionate share of Medicaid and uncompensated care (DSH payments). Although this fund was temporary, it was to provide an important source of "bridge" funding for AHCs and other major Medicaid providers. The funding stream, however, proved to be quite vulnerable because it consisted of unspent capitation money from incomplete TennCare enrollment and continued DSH payments from the federal government. As enrollment increased, this funding diminished. Thus, the essential provider funding made payments to academic health centers a direct function of their indigent care mission, dissociating the payments from their concurrent educational mission. In addition, separate funding for capital spending was eliminated. This turned the global budget process of TennCare into a zero sum game in which any funds allocated to AHCs through essential provider funding decreased funds available for capitation payments. The process assures an adversarial relationship between AHCs and other providers. Furthermore, the state discontinued essential provider payments abruptly on January 1, 1995 to cover their TennCare budget shortfall (precipitated by the discontinuation of federal DSH payments and the failure of the state to collect premiums from some of the newly insured under the TennCare program).

Although all of the state's AHCs were hurt by the discontinuation of GME and DSH payments, MMC and UT were particularly afflicted because of their meager capital reserves. The MED had previously received about \$5 million in Medicaid GME and about \$7 million in DSH payments. Meharry also received a total of approximately \$12 million from these sources

Although both the MED and the MNGH receive funding from local government, these sources could not make up the shortfall. In Nashville the city could not underwrite the loss of GME funds without a politically untenable 6-8% property tax increase. The MNGH could also make up the shortfall through programmatic cuts, but its status as the final safety net for the community has made it reluctant to pursue this option.

With increasing competition from the Baptist, Methodist, and community hospitals for the MED, and the costs of the transition to the new MNGH on the MMC campus, the timing of these cuts is particularly important to the competitive position of these AHCs. For example, medical education reimbursement was to be a key factor in paying for the newly recruited faculty for the merged MMC/MNGH hospital. Meanwhile, the MED lost 20% of its Medicaid revenue with the cuts to GME and DSH payments. Their loss of GME funding was compounded by the

fact that the hospital lost some of its county subsidy for the uninsured when some of these patients were enrolled in the TennCare program.

Loss of essential provider funds has greatly compounded financial crises at all of the state's AMCs. MNGH, in particular, faces an unprecedented \$20 million loss. Under its new contractual relationship with the school, \$1 million of this loss will be passed on to MMC.

TennCare also has meant the loss of capital reimbursement. Because MMC's facilities are in such disrepair, they are at a disadvantage in capturing market share in the new competition-based managed care market. One administrator at Meharry concluded that "if [they] are to continue to provide quality healthcare service to the poor and underserved, then the financing for that historical, current and future mission must be made available to them."

The immediate future for these institutions under TennCare is brightening, however. Pressure from the MED and the local community was instrumental in getting essential provider funds (from the TennCare pool) restored, and there were plans to supply MNGH and the MED with essential provider support (\$6 and \$12 million respectively) along with separate GME funds of unknown size beginning in the summer of 1996. In addition, the state's congressional delegation has rescued their center of excellence funds.

Decreased Volume of Clinical Services

Decreased volumes of clinical services are a natural (and, from a state view point, desired) result of the introduction of managed care. In particular, hospital lengths of stay and emergency ward utilization have proved very responsive to heightened case management, with reductions of 15-20% in each. Although these reductions are not unique to AHCs, the dependence of this small group of institutions on the Medicaid population and their high Medicaid payer mix make these effects of managed care particularly dramatic.

The early experience with TennCare provides some evidence that managed care can drive utilization. At Vanderbilt the average length of stay for Medicaid patients has gone from 6.97 to 5.67 days since the introduction of TennCare. Vanderbilt also reports a dramatic drop in overall Medicaid volumes, from 1100 bed days/1000 population to 461/1000 population between calendar years 1993-1994. At MNGH there were 35,000 emergency room visits pre-TennCare, but only 28,000 after the program's introduction.

Staff at the University of Tennessee's MED have noted a 10% reduction in volume of services overall and a reduction of 50% in Medicaid revenue since the advent of TennCare. They attribute these reductions to the decreased admissions and bed days that resulted from TennCare. In the same period of time, routine Medicaid deliveries have moved outside the university hospitals. Deliveries at the MED have decreased from 8000 to 4000, with 3500 of those remaining being high-risk patients. The Medical service has also decreased beds from 95 to 64. With the closure of the MED's cardiac service, moreover, 90-100 out of the 300 patients annually who had gone from the MED to the Bowld for cardiac catheterizations were lost to local competitors. This reduction in volume was directly responsible for the departure of a CT surgeon at the Bowld Hospital. Because of its small size the Bowld is particularly sensitive to its volumes.

This susceptibility is compounded by the fact that, with the exception of transplants, the Baptist Hospital next door provides identical services to the Bowld. If the Baptist could create a profitable transplant business, they could almost certainly take over this core business and quickly destroy the Bowld. It appears that the Bowld's only hope of survival hinges on the difficulty Baptist will probably have turning a significant profit on this often money-losing enterprise.

At Meharry Medical College some departments have been particularly hard hit. Family Practice has lost 10-15% of its former volumes, and Pediatrics has seen significant reductions as well. Thus far MMC has not been receiving any reciprocal gains in the outpatient arena from TennCare (via expanded coverage of the uninsured), since no new patients have been assigned to their clinical site.

Decreased Payment for Services

TennCare generated decreased payment for AHC services because the program's spending cap translated into lower per-service payments. These lower payments took the form of higher discounts on fee-for-service or through a lower conversion factor in the RB-RVS formula that some payers use for reimbursement. As noted earlier, Tennessee's Medicaid program had been a relatively good payer compared to Medicaid programs in other states. Consequently, the reimbursement reductions that came with TennCare were particularly noticeable. The MNGH reports that its Medicaid revenues have declined from 65¢ on the dollar pre-TennCare to 38¢ on the dollar post-TennCare. A study sponsored by the Tennessee Hospital Association showed that TennCare payments were 58¢ on the dollar for urban hospitals and only 35¢ on the dollar after charity care was figured in for inpatient care. For outpatient care those figures are 52¢ and 45¢ respectively. This study also estimated that urban hospitals in Tennessee would have to increase revenue from non-TennCare payors by a median of 12%, either through cost shifting to private patients or by decreasing cost structure by 8%, to offset their TennCare losses.

These options are improbable. Like other providers with high TennCare payer mix, the AHCs, have a limited ability to cost-shift to private patients. And because of earlier financial challenges, both UT and MMC had relatively lean cost structures going into TennCare, thus limiting opportunities for immediate and relatively painless cost reductions as well. As a result, the decreased reimbursement translates into relatively large operational revenue reductions. OB-GYN at MMC is comprised of 80% TennCare/indigent patients on which they get only 30¢ on the dollar. Vanderbilt University Hospital claims they lost \$7 million on TennCare during the first six months of 1994 while the MED lost \$12 million over that same period. An administrator at the Vanderbilt Health Plan noted that he believed TennCare was adequately funded, but the distribution of funds was a central problem to the program. Both VU and the MED have formed their own MCOs to allow them access to the complete capitated dollar.

TennCare's initial start-up period was especially costly to MMC because patients unknowingly assigned to other providers still came to Meharry. As a result of transitional chaos, MMC was never compensated for services to these patients. TennCare's delay in reimbursement has also hurt MMC. However, losses due to lower inpatient reimbursement from TennCare have

been partially offset through the coverage of the previously uninsured. TennCare now covers over 25% of MNGH's previously uninsured population.

Decreased Market Share of Traditional AHC Populations

Academic health centers in Tennessee, like many other AHCs, have a tradition of providing services to vulnerable populations. Over time the Medicaid population and the medically indigent have come to identify these institutions as primary sites for both inpatient and outpatient care. With the TennCare program, some of these formerly non-paying patients have become desirable to other MCOs overnight. As a result, AHCs have been forced to compete fiercely for the patients they previously took for granted.

Both Meharry Medical College and the University of Tennessee (especially the MED) have a predominance of Medicaid and uninsured patients in their payer mix. As a result, retaining the TennCare population is critical to both institutions. TennCare has a huge impact on the MED in particular because this AHC has few privately insured patients (80% of their market share is Medicaid/TennCare or charity).

TennCare assigned MMC only about 20% of their former Medicaid population. Although they are re-enrolling patients, MMC administrators are not confident that they can regain 100% of those traditional patients. The drop in Medicaid patients has translated into decreased volumes of 20-25% in Pediatrics. In addition, MMC pediatricians say they are unpaid for nearly 70% of the patients they do see because although these patients have been assigned elsewhere (unknowingly), the MMC physicians feel obligated to provide their care.

Admittedly, MMC retains an apparent competitive advantage in that the MNGH is one of the lowest cost providers in the area. Nevertheless, the MNGH currently projects their local TennCare market share to be only 17.4%, with 70% of the hospitalizations for that population being at the MNGH. These projections would generate \$15.7 million in TennCare revenue, far below the \$25.5 million (from a 34.5% TennCare market share) revenue MMC needs to break even.

Patients were moved from MMC by both HealthNet (Baptist) and VU's plan, neither of which has a Meharry relationship. Omni, Phoenix, and Access MedPlus all supported the Meharry-MNGH merger because the academic health center is a low cost provider for procedures but so far have not provided the expected stream of patients. For example, one MCO reputedly promised Pediatrics at Meharry a thousand patients but came through with only a hundred.

Administrators at both the MNGH and MMC hope that the newly renovated facility will allow them to recapture many of their former patients, but in the interim their loss of market share is projected to have a devastating impact on their clinical revenues. MNGH has attempted to get their traditional patients to sign up with them. Unlike the MED, however, they lacked the money for the significant up-front costs required to start a MCO of their own.

Meharry Medical College does have a local market advantage in that it has a primary care base, community orientation, and clinical tradition. In contrast, Vanderbilt University (the state's

highest cost provider) has a specialist "ball and chain" due to a paucity of primary care faculty members and a plethora of high-end specialists. Officials at MMC noted that despite some newly insured indigent patients, many of the uninsured still come to them. In the end they feel that they have lost more insured Medicaid patients through TennCare reassignments than gained newly insured patients.

The University of Tennessee is responsible for the first (the MED) and third (UT Memorial Hospital, in Knoxville) largest TennCare provider hospitals in the state (VU University Hospital is the second largest). Even so, the MED is in a particularly disadvantageous position in terms of retaining its market share of TennCare patients. First, compared to other hospitals in Shelby county, the MED is relatively expensive. Secondly, the existence of the UT MCO may make other MCOs reluctant to contract with them. The UT cardiology group has already faced difficulties with loss of market share. The MED closed cardiovascular services after a \$6 million loss, which they attributed to TennCare.

As noted above, there has been a shift of "MED patients" into the Memphis's Baptist and Methodist Hospitals. Many long time MED patients signed up with Access MedPlus thinking that they were actually signing up for the MED, but in fact they were assigned to other providers. These losses have been partially stanchd by the reluctance of private physicians to take on TennCare patients, leaving a core group to the MED. Nevertheless UT fears that organized primary care groups in their region will soon develop and become considerable competitors.

Adverse Selection

The final challenge posed by TennCare to AHCs is a direct consequence of the competition for their traditional patient population. Patients most likely to stay with the AHC (when given a choice of providers) are those most dependent upon its services. As a result, AHCs find it easy to retain their sickest patients but find other providers wooing their healthier ones. Although TennCare does make sex, disability, and age adjustments in its payment formula to MCOs, there is no guarantee that these differentials will be passed on to providers. Even if they are, it is unclear that these relatively crude adjustments will be able to capture the increased risk of patients who choose to remain with AHCs. TennCare administrators are currently considering the restoration of a \$40 million fund for adverse selection, to be distributed by a chronic conditions and utilization formula.

There is a legitimate question of whether AHC-owned MCOs can grow large enough to ameliorate the adverse selection that comes with AHC status. Adverse selection has enormous potential to endanger AHCs. Original plans for BC/BS to provide a mechanism to disperse TennCare patients among providers have not materialized. The original TennCare program did have an adverse selection pool, but this pool was eliminated in 1995 along with essential provider funding. Thus, the special nature of AHC care may directly affect the clinical bottom line.

Vanderbilt Health Plan has documented its adverse selection for a number of costly conditions including AIDS, cystic fibrosis, and low birthweight babies. For these conditions they had approximately 200% of the patients that would be expected based on local incidence rates.

For one condition in particular, growth hormone deficiency, VU attracts 2500% of their expected number of patients with this condition because of their AHC/center of excellence status. They note that the very sick patients will continue to come there regardless of their MCO and whether or not VU participates in it.

In Internal Medicine at MMC the acuity and complexity of Medicaid patients has increased with TennCare, suggesting some adverse selection. In the Memphis community most orthopedists do not accept TennCare, so the access point is the MED's resident clinic. Here the MED also has some convincing evidence that adverse selection is taking place among their TennCare population. Despite a dramatic drop in Medicaid deliveries, the MED's neonatal intensive care unit (NICU) utilization has remained unchanged. Although this may be seen as representing appropriate referral processes, the MED's administration notes that the vast majority of the mothers of future NICU patients identify the MED as their source of care prior to the delivery. Thus, the MED has differentially lost its healthy Medicaid deliveries to the community.

The MED faces special problems because of its location at the border of Arkansas and Mississippi. The poor of these two states account for 25% of the deliveries at the MED. Tennessee DSH once subsidized care for Mississippi and Arkansas (the MED is among the top five providers for both states), but with its elimination the MED is now trying to cover these costs from operations. This geographically-based adverse selection appears could be repeated by other "border" AHCs.

IMPACT OF TENNCARE ON ACADEMIC MISSIONS

In its first 18 months TennCare has already profoundly affected some of the special missions of AHCs. Examples of these effects follow for each of the three special missions of AHCs: teaching, care of vulnerable populations, and research. Throughout our interviews, TennCare was cited as the major catalyst for these effects.

Teaching Mission

Because of the abrupt loss of GME and essential provider funding, the effects of TennCare on the teaching mission have been the most dramatic. MNGH cannot continue to support its current residency program without the 20% of its budget it received from GME and DSH. Prior to TennCare MNGH had forty-four residents and eighteen subcontracting attendings but now have downsized to twenty-two internal medicine and family practice residents. Staff physicians are substituting for the loss of resident manpower at considerable expense. The loss of GME is a direct hit on MMC since they must still pay residents under the agreement with MNGH. At MMC the hospital dentistry residency program has been cut altogether and psychiatry's coordinator of residency programs was terminated.

In total, MMC has funding for only fifty of its projected fifty-five residency slots this year (twenty of which are VA funded). In internal medicine only the VA slots would survive a major cut. Loss of residents and need to hire substitutes would also lead to cutbacks in services. One of the departments is considering a transition to private practice if further cuts occur. The timing of these downsizings has been particularly difficult for MMC because they will need a larger faculty to meet Residency Review Committee requirements. At a meeting of clinical chairs this phenomenon was called the "TennCare academic bind."

University of Tennessee administrators also cited TennCare's problematic effect on its teaching mission. Since the advent of TennCare, they have had to downsize training programs from 150 to 110 residents. Overall, UT has decreased PGY-1 slots by 35-40 to achieve these reductions because of an ethical obligation to current residents. Most of these cuts were in primary care because specialties had already matched in the fall preceding the termination of essential provider funding. The MED also has experienced an indirect effect on its teaching mission through a decrease in billings that had previously provided \$26 million in faculty support.

The Bowld plans to increase its number of residents in medical-surgical subspecialties from thirty-five to forty-two full-time equivalents (FTEs) to partially offset the MED's reductions. From a service perspective the hospital doesn't need these residents. Because of losses among the TennCare population in terms of volumes and revenues, the MED cut many of its cardiac services. As already discussed, the consequence has been a 30% decrease of CT surgery volumes at Bowld, a direct threat to the hospital's viability. To maintain an active cardiac program, the Bowld plans to build a new CCU--a business decision acknowledged by administrators as undesirable but necessary, since to remain competitive the Bowld must maintain its transplant product line. Meanwhile, residents will get most of their CT surgery exposure at the VA because,

with the loss of one of the CT surgeons due to TennCare, volumes at the Bowld are expected to fall by up to 50%.

Care of Vulnerable Populations

For the most part, the effect of TennCare on the vulnerable population mission of Tennessee AHCs remains *sub judice* because improved coverage of the uninsured may offset some of TennCare's negative revenue impact. In the case of Meharry Medical College, however, department chairs complained that TennCare has diverted their focus from the care of vulnerable populations and the training of minority physicians to a preoccupation with balancing budgets. Meharry's small size belies its local and national importance as an institution dedicated to these primary missions.

Despite the major internal transitional issues and adverse selection at MMC and the MNGH, these institutions have maintained and will continue to embrace a loyal patient population. Revenue shortfalls resulting from TennCare could have an impact. For example a 20% cut in Medicaid revenues would impair MMC's ability to provide emergency services.

Research Mission

Research is not a priority for TennCare according to its new administrator. Not surprisingly, the research missions at the two AHCs we visited have suffered under this program. The primary challenges of TennCare to the research mission have been a loss of patient volumes for clinical research and the attrition of some researchers.

The effects of TennCare on research at MMC and UT are less direct than those on the educational mission and the care of vulnerable populations. Meharry has minimal cross-subsidy from clinical revenues to research (the total extramural funding is only \$8.2 million, and tight budgeting makes unsponsored research untenable for most departments). Nevertheless, OB-GYN at MMC did attribute a lost Ph.D. research slot to TennCare.

TennCare's effects on research at the University of Tennessee have been indirect in that the program scares away faculty--who take their research grants along with them. For example, the chairman of OB-GYN is leaving due to TennCare, along with two faculty members and some grants. Some of the MED's research is unsponsored and has been covered by state appropriations, which have remained flat. The University of Tennessee taxes all professional fee income at 12.3%, with 5% going to the school, 5% to University of Tennessee Medical Group (UTMG), and the balance to a research and development fund for new faculty (about \$150,000). The latter fund has diminished since the advent of TennCare.

The MED does \$3.5 million in extramural clinical research, especially in obstetric (OB), trauma, and HIV care. Most of these programs are federally funded and thus changed minimally under TennCare. The Bowld also has a NIH-funded Cancer Research Center that should be relatively insulated from TennCare. The trauma center research is not fully federally funded and is thus more vulnerable to TennCare than obstetrical research. Even so, by decreasing available patients, TennCare has still diminished federally funded obstetrical research.

INSTITUTIONAL STRATEGIES TO MEET THE CHALLENGES OF TENNCARE

As we discussed in an earlier paper,⁶ AHCs have developed a number of strategies to deal with the challenges of health care reform: increasing the sale of clinical services through networking and product line development, reducing the costs of producing clinical services, networking with government, reducing the costs of education and research, and developing new markets for their special missions.⁷ Many of these strategies are now being developed and implemented at the AHCs we visited to respond to the challenges of TennCare.

Networking, MCO Development and Product Line Development for Specialized Services

For Meharry Medical College, the transitional chaos of TennCare was particularly ill-timed; the loss of Medicaid patients to community primary care providers came just when the hospital was trying to increase outpatient services. Nevertheless, MMC's primary care patient base remains an important asset. As a result, the most important long-term challenge for MMC is developing a "prepaid culture" to transform this asset into a competitive advantage in the marketplace. This paradigm shift is especially complicated for MMC because it must also accommodate a change in corporate culture from a city/tertiary to community/secondary hospital mentality.

MMC administrators have identified two complementary strategies to achieve this shift: the creation of an integrated healthcare delivery system and the development of a "medical college without walls." To develop its delivery system, MMC hopes to transform existing structures rather than creating new ones. For example, the old MNGH will remain open as an outpatient site staffed primarily with nurse practitioners. MMC is also developing a primary care center in town to move patients to MNGH and thus provide a feeder site. The overall aim is to maintain the MNGH as a community hospital that produces only limited high-tech services. MMC is also developing a more formal relationship with existing community health centers to create a network. In this plan the city's public health facilities are to become primary care "pods" which will allow MMC to establish a presence in nearby communities and thus retain some commercially insured patients.

Because of their limited ability to invest, MMC is trying to create an expanded system of medical education without owning a facility. For continuity and training, MMC needs other community hospitals and is thus considering affiliation agreements to create a "college without walls." For example, they are considering an affiliation with a more subspecialty-driven institution, the St. Thomas Hospital, to provide an additional training site where residents can get some exposure to tertiary care services.

MMC has also been making some major organizational changes to respond to managed care in general and TennCare in particular. It has recently created a new faculty practice plan to represent faculty in contracting. Nor will MMC any longer tolerate "side practice" by its faculty.

The college is also forming an Independent Practice Association (IPA) and creating a modest Medical Service Organization (MSO). They currently have twenty interested physicians for this new group and are hoping to target a total of eighty. In their alliance of community health centers, hospitals, and the IPA, they hope to cover 50–100,000 lives.

To develop niche markets that they can sell to MCOs and to attract a share of the commercially insured, MMC is also staking out preventive and occupational medicine. Specifically, these programs are intended to be vehicles to capture more of the blue collar insured population in Northwest Nashville. In addition, MMC is looking into developing an institute for outcomes studies in these areas.

Unlike Meharry, which has a history of primary care, the University of Tennessee must build much of this capability. The faculty practice, the UTMG, has 415 physicians, 97% of whom are specialists. The UTMG had \$100 million in income last year with an operating deficit--attributed to TennCare--of \$6 million.

Although the UTMG provides care to patients from other MCOs (Omni, Access, BC/BS), it has its own MCO (TLC) that was formed in partnership with the MED. Using the MED as its major practice site, TLC was to provide a mechanism for ensuring that the UTMG and the MED retained their patients and for providing UT with a means of access to the capitated dollar. Originally TLC aimed to cover 75,000 – 80,000 lives, but so far it has managed to enroll only about 38,000. TLC has a hospital base at the MED, which has a loyal clientele. This may prove to be problematic, however, because many of the enrolled patients are particularly high-risk. Despite these difficulties, TLC nearly broke even during its first full year of operations.

Presently 50% of the TennCare patients who had previously used the MED for their care have been captured by TLC at the MED's community-based clinics. To improve market share, the MED has now begun to enroll patients directly at the clinics. In addition to its practice sites at the MED, TLC is trying to acquire some outlying clinics, especially in more affluent neighborhoods. In Memphis the health department set up some community-based clinics to provide TLC with a community-based network, although it has not materialized as yet.

A key challenge to TLC in expanding the MED's market share is reconfiguring practice to a greater primary care orientation and pulling in family practice. Family practice had been ostracized by the UTMG and was essentially shut out of the MED. Nevertheless, family practice at UT has support directly from state appropriations, which were provided to mitigate concerns with the lack of rural physicians. The University's Department of Family Physicians has flourished by taking TennCare risk contracts. This generated a \$1 million increase in income (off a revenue base of only \$2 million) for one group on the same amount of visits. The UTMG is now actively recruiting this group to participate in their contracting.

Thus far TLC has performed somewhat better than the two other AHC-owned managed care organizations under TennCare, Vanderbilt Health Plan and the UT Knoxville's Plan. Nevertheless TLC remains modest in size and has considerable weaknesses in controlling utilization and improving turn-arounds on claims. Table 1 below presents selected data on the

performance of the AHC-affiliated MCOs compared with the for-profit Phoenix and Access MedPlus MCOs.

Table 1: Performance of Selected TennCare MCOs as of 12/31/94

MCO	Phoenix	Access	TLC*	Vanderbilt*	UT Knoxville*
Enrollment	44041	335259	41380	15712	9093
Hospital Days/1000	415	360	765	641	999
Average \$ Paid PMPM	102	109	96	113	112
Net Operational Income \$000's	1022	66	1233	-4302	-1017
Administrative Costs/Total Costs	0.15	0.08	0.07	0.21	0.14
Claims Turnover, in Days	80	58	116	37	172

*AHC owned

The University of Tennessee recognizes that TLC will be unable to support their core university faculty; to do so they would need one million covered lives. They are therefore also working on developing special services to compete for patients from other MCOs. For example, their Chief Medical Officer would like to create a primary care network of nurse managers with specialty backup from UT. The network would concentrate on selling efficient care along product lines in which early interventions by a specialist can make a difference (e.g., an innovative system of asthma care that has reduced emergency room visits by two-thirds). TLC is also looking to market some special ophthalmology services (to take advantage of the expertise of a new department chairman) to other MCOs. In addition, the University hopes to receive some funding for outside faculty by providing care for TennCare patients in non-UT hospitals when the patients' own providers are reluctant to do so.

Meanwhile, the Bowld is trying to attract some patients ("carve outs") from other MCOs for its unique programs (e.g., transplantation) and has hired its own marketing director. The TennCare portion of payer mix has recently doubled at this hospital (10% Medicaid and 18% TennCare), and it has managed to get increased payment from BC/BS for liver transplants under TennCare. The fate of these "carve outs" will be crucial in determining the Bowld's viability.

According to UT's Chief Medical Officer, developing an effective and marketable provider network would have been necessary without TennCare; TennCare merely pushed up the timetable. The urgency it has created, however, is a continuing challenge, as UT must avoid alienating existing faculty and referral relationships as it moves out into the community. For example, UT has not yet faced town-gown admitting-privilege issues. These are likely to be contentious.

Reducing Costs of Clinical Services

Both the MNGH and the MED are attempting to reduce costs in response to TennCare. So far, most measures have been restricted to conventional means such as downsizing and salary reductions. At both institutions bed size reduction has been the principal means of reducing costs.

The MNGH is a true public hospital funded by city government and challenged by a global budget for some time. Consequently, it has considerable experience in cost reduction. Presently the MNGH is licensed at 229 beds but staffs only 105 of those. Similarly, the MED has been downsizing from its pre-TennCare size of 500 beds to 370, and it plans to go down to 325 operational beds in the next few months.

The MED has also begun to lay off employees, although this move has been complicated by their unionized workforce. To reduce costs, the Bowld will try outsourcing much of the clinical laboratory work, and Marriott will be taking over the food service. TennCare has also prompted salary reductions at UTMG for the Departments of Medicine and Surgery. To avoid salary cuts, the MED's Department of Radiology has adopted a 3 day work week. Additional cost savings in the Department of Medicine have come through improved patient care management.

At MMC operating costs have also been reduced by \$3-4 million by cutting central administration and by removing faculty without research grants from the budget. Meharry will also reduce an additional 3-4 FTE faculty through the hospital consolidation. Salary reductions have also begun (e.g., in radiology).

Despite these cost-cutting measures, thus far neither institution has worked extensively with non-traditional approaches such as total quality management, critical pathways, or re-engineered processes of clinical care. As cost savings from traditional approaches are exhausted, more of these non-traditional approaches should develop.

Government Relations Efforts

Not surprisingly, Tennessee's AHCs are actively lobbying for the restoration of GME funding. Representatives from Vanderbilt University have even pleaded their case to the *Wall Street Journal*.⁸ Although TennCare reduces hospital income, both UT and MMC are convinced that restored GME funding would largely compensate for the loss. The University of Tennessee is also lobbying for the restored GME funding to be redirected. Specifically, it would like TennCare's GME money to go directly to the University. They argue that through this arrangement the funds could be targeted to education rather than sidetracked to hospital operations. The latter is less of an issue with MMC because MNGH and MMC will share future GME funds.

The MNGH can also count on the city of Nashville as a continuing funding source, although this means that MMC must continue to work with local government. MMC is also active on the federal level to ensure the continuation of its special funding under the Health Professions Act for Training Minorities. Officials there regard the current Congress's budget-slashing mood as a special threat, since federal funding supplies 30-40% of their revenue. Meharry Medical College also works extensively with several private foundations that provide another important revenue source. Even with these funding streams, the college has almost no capital reserve and must survive on partnerships and donations--a difficult feat in today's competitive market.

Reducing Costs of Teaching and Research Missions

Both Meharry Medical College and the University of Tennessee have been exploring means of adapting their teaching and research missions to the new realities of TennCare. Thus far, most of this exploration has involved the teaching mission in particular. For MMC the advent of TennCare has forced them to expand existing relationships (such as the use of Fort Campbell as an OB training site) and to develop new ones. For example, MMC is currently considering an integrated pediatrics program with Vanderbilt University. MMC also has longstanding relationships with the many community practitioners in the South who for years have welcomed MMC students and residents. These relationships have spawned MMC's Mississippi Delta project, an ambitious attempt to link the college with multiple clinical sites via telemedicine. Funded by the Centers for Disease Control (CDC) and the Tennessee Valley Authority (TVA), this project will provide a network of environmental medicine training sites for new programs. Meharry officials hope that the critical mass of community ambulatory care sites will provide more and better training and increase the population size available for research.

Meharry is also continuing to develop new means of covering educational costs. The Metropolitan Nashville General Hospital currently pays MMC \$6 million for its faculty and staff, but this figure covers only about half of the school's actual staffing costs. To help compensate, MMC has managed to obtain the difference from earmarked HCFA grants and foundations.

As noted earlier, the financial crisis and dramatic loss of patient volumes at the MED have also produced a number of changes in training programs. For example, to ensure proper volumes of normal deliveries for training purposes, the obstetrics department has had to move residents out into community hospitals. In other specialties there has been talk of combining residencies with the Baptist and Methodist Hospitals, but the competition between these private hospitals is complicating such plans.

TennCare has already led to the restructuring of some of the MED's teaching pattern. With the decreased pool of medicine patients and a downsized faculty, attendings are now responsible for double the number of patients on the wards. There is little doubt among administrators that full-time attendings can carry this load with some re-engineered teaching. Nevertheless, the need to convince the attending staff that such changes are necessary or desirable is an important internal challenge resulting from TennCare.

Like MMC, changes brought by TennCare have forced the MED to move out into the community, but the effect of this expansion on clinical education remains unknown. Nor has the potential of TLC to expand the capacity for ambulatory teaching been explored yet.

Increasing Private Market Sales of Non-Clinical Services

Like other AHCs, both UT and MMC are developing some new private markets for their non-clinical services. The University of Tennessee has accepted some community-sponsored medical students who plan to return to rural practice, a means of selling their educational "product" directly to community "customers." The University of Tennessee also hopes that its private managed care organization, TLC, will provide new marketing opportunities. Meanwhile, MMC

is considering a partnership with other medical schools; its added value might come from its rural practice experiences. Meharry is also developing a primary-care-oriented computer-based patient record system, which they hope to market more widely in the future.

LESSONS LEARNED FROM TENNCARE FOR OTHER AHCS

The most remarkable aspect of the TennCare experience has been the rapidity with which the public sector has transformed the health care market. As a result of legislative fiat, Tennessee was abruptly transformed from a state with very little managed care activity to a state with the managed care systems resembling those of much more mature markets. The price of that transformation has been the disruption of many of the traditional academic health center missions, especially teaching.

One of the most important questions regarding the TennCare program and AHCs is whether its rapid implementation, likened to shock therapy, has permanently damaged or only temporarily disrupted the academic missions. Thus far, AHC leaders believe the most pernicious changes could be reversed by restoring some of the former GME/DSH funding. At this time, moreover, that reinstatement appears likely, at least according to some specific recommendations recently issued by the Governor's roundtable. These recommendations include raising the capitation rate, funding GME, adjusting the sliding scale premium to the market, standardizing the formulary, increasing MCO accountability, and disbursing adverse selection payments.

The new TennCare leadership has also voiced a clear interest in AHCs and views the long-term contribution of the program to GME as important. For the next year they are budgeting a \$48 million "set-aside" for the AHCs (following historical precedent). The price the AHCs must pay for this funding, however, is increased accountability. TennCare's director wants to continue to maximize patient choice, and this will force AHCs to be more customer-driven.

According to TennCare administrators, the justification for continuing GME payments will be AHCs production of a desirable product, i.e., primary care physicians who stay in Tennessee. From the state's perspective, the indigent care mission of AHCs will disappear as insurance coverage expands. In reality, however, 100% coverage of the state's population is unlikely without considerable increases in TennCare funding, and AHCs will be expected to continue to care for the indigent population. They can expect little governmental support for covering this marginal group.

As a result, the product of the teaching mission will become the deciding factor in future GME funding decisions. If the AHCs do respond to this challenge, an all payer pool for GME may eventually develop from the TennCare experience. However, even if GME funding is restored, it will remain controversial (and vulnerable) because, as some non-AHC providers are quick to note, increasing GME payments decreases the overall cap available to other providers.

Even if restored GME funds were guaranteed, moreover, the belief that these funds will solve the entire TennCare/AHC dilemma (a belief voiced at both the AHCs we visited) may be shortsighted. Other aspects of Medicaid managed care, particularly the loss of a previously

"guaranteed" patient population and adverse selection, may not yet have had time to develop into formidable problems. With enhanced coverage of the uninsured, and greater choice in health care options, the potential loss of market share and patient numbers precipitated by Medicaid managed care may create a volume crisis for both teaching and research. Indeed, the loss of the CT surgery program at the Bowld may foreshadow grave future trends that cannot be resolved simply by restoring GME funds.

Successes of TennCare

Although this paper has highlighted the detrimental effects of TennCare on AHCs, these effects must be considered in the context of some of the program's remarkable successes. TennCare's primary goal, avoiding fiscal collapse for the state, has been met. TennCare achieved \$1 billion in savings in FY 1995. Future projected savings are the result of tying the projected growth of TennCare's budget to that of the state's economy (5%). Over its first five years, TennCare is projected to save \$7.2 billion (compared to projected growth of Tennessee's original Medicaid program).⁹ In addition, TennCare has expanded coverage to 438,000 previously uninsured Tennesseans.

Even from the AHC perspective, TennCare has brought some undeniable benefits. To some extent, the program has acted as a catalyst in a state that had been an enclave of traditional practice. TennCare's rapid implementation certainly forced faculty at AHCs around the state to pay attention to health care reforms, and this in itself may be a lasting benefit. In a moment of candor, administrators at the MED conceded that TennCare has precipitated changes that should have started long ago such as clinical and geographic diversification with an emphasis on primary care. An administrator at another AHC noted that the learning experience in HMO management has been "almost worth it."

TennCare shares one core mission with AHCs, the provision of care for the state's most vulnerable citizens. Not surprisingly, therefore, some effects of TennCare may prove to be of lasting benefit to Tennessee AHCs in this area. For example, TennCare has forced the University of Tennessee to accelerate their clinical diversification. The longstanding conflict between the family practitioners and the remainder of the faculty will probably be resolved as a direct result of the need to respond to TennCare. The movement of patients out of the AHC has also forced programs such as obstetrics and medicine to move residents out into the community, a move in concert with the Council on Graduate Medical Education (COGME), the Institute of Medicine (IOM), and professional board recommendations.

The increased competition from community providers is also creating an urgency to improve community responsiveness and patient/customer service. For example, the MED is setting up several community health centers to improve access for their local population. The networking plans of MMC can be expected to have a similar effect. Another positive effect of TennCare (at least from the state's perspective) would be the increased accountability hoped to occur if the AHCs indeed supply of primary care physicians to meet the state's needs (as required under current funding proposals). On the other hand, future conflicts between AHCs and

TennCare are most likely to arise where their missions fundamentally differ. From this perspective, the research and educational missions of the AHCs are most vulnerable to TennCare.

Applicability to Other AHCs

Although much of the discussion of TennCare's effect of TennCare on AHCs is applicable to all markets undergoing the transition to managed care, some unique aspects of the Tennessee experience must be remembered. The most important of these is that TennCare represents a remarkably pure "culture" of public-sector-based health care reform. The unique financial and political circumstances surrounding TennCare's creation produced an advanced public sector health care market out of a stage I private sector market.¹⁰ In other states, such dramatic public sector reform will probably be on an existing base of market-driven, private-sector reform.

One intriguing question that arises from the TennCare experience concerns whether Tennessee's AHCs will in fact be "ahead of the market" as a result of the program. Because they depend on Medicaid, these AHCs had no choice but to respond aggressively to the TennCare challenge. Community providers with a more balanced payer mix were able to minimize TennCare's effects on their institutions and practices or avoid the program altogether. As the private sector market evolves, the "trial by fire" experience from TennCare may give the AHCs some long-term competitive advantage.

ENDNOTES

- ¹ See The Commonwealth Fund, *Report to the Board*, November 18, 1994, p. 91.
- ² Iglehart, J.K. "Medicaid and Managed Care," *New England Journal of Medicine*. 1995;332:1727-31.
- ³ Walker, L.M. "How NOT to Launch Health Reform," *Medical Economics*. June 26, 1995.
- ⁴ Gold M., Frazer H., Schoen C. *Managed Care and Low-Income Populations: A Case Study of Managed Care in Tennessee*. The Commonwealth Fund, July 1995.
- ⁵ Miles M., Huberman M. *Qualitative Data Analysis*. 2nd edition. Thousand Oaks, CA: Sage, 1994; and Yin R. *Case Study Research: Design and Methods*. Beverly Hills, CA: Sage, 1984.
- ⁶ Blumenthal D, Meyer G.S. "Case Studies of Academic Health Centers and Health Care Reform," draft report to The Commonwealth Fund. Spring 1995. Fox P., Wasserman J. "Academic Medical Centers and Managed Care; Uneasy Partners," *Health Affairs*. Spring 1993;12:86-93.
- ⁷ Fox P., Wasserman J. "Academic Medical Centers and Managed Care; Uneasy Partners," *Health Affairs*. Spring 1993;12:86-93.
- ⁸ Iglehart.
- ⁹ Mirvis D.M., Chang C.F., Hall C.J., Zaar G.T., Applegate W.B. "TennCare-Health System Reform in Tennessee," *Journal of the American Medical Association*. 1995;274:1235-41.
- ¹⁰ Market Evolution Model. University Hospital Consortium in consultation with APM Management Consultants. 1992.