Disease Management

Recommendation

The Wyoming Healthcare Commission (WHC) supports the Department of Health (DOH) in its efforts to implement utilization, case management and diabetes disease management programs in the Medicaid program. The WHC recommends expansion of disease management programs to other chronic disease areas as identified through Medicaid claim analysis. The WHC recommends the DOH review other states' efforts to implement disease management programs and pilot program(s) tailored to Wyoming's healthcare delivery system.

Background:

- Disease management provides a strategy to improve health outcomes by helping patients and providers better adhere to proven interventions and allowing patients to assume personal responsibility in monitoring their own care.
- The Institute of Medicine report "Crossing the Quality Chasm, 2000" reports that patients received inappropriate care in forty-five percent (45%) of the cases.
- Chronic diseases are among the most prevalent, costly and preventable of all health problems. Examples are: cardiovascular disease, cancer, diabetes, asthma and HIV.
- The NGA Center for Best Practices estimates that 39% of the Medicaid population has one or more chronic disease and the costs associated with treating these diseases account for 80% of Medicaid expenditures.
- Johns Hopkins University, Partnership for Solutions, reports 76% of all hospital admissions, 88% of all prescriptions filled, and 72 percent of all physician visits are incurred by people with chronic disease.
- Many programs report improved quality outcomes as best practices are incorporated into the care delivery system.
- Cost savings have been identified in some disease management programs and not in others. Study design and problems with outcome measures seem to have contributed to the inconsistency of measurement of savings.
- Costs may increase initially in a disease management program as people underutilizing services receive recommended care.
- Wyoming can buy disease management programs by contracting with vendors or build their own program by developing in-house systems. Colorado's disease management pilot programs are funded entirely by pharmaceutical companies.
- Wyoming will need to work with the Centers for Medicare & Medicaid Services to determine if any proposed disease management strategy requires a Medicaid plan amendment or waiver.

Conclusion:

According to the Disease Management Association of America, "Disease management programs vary in design but often include: educating providers and supporting their efforts to adhere to evidence based practice guidelines; assisting physicians in monitoring patients; enhancing patient self-management and adherence to treatment plans; providing feedback to the healthcare provider and patient; establishing communication and collaboration among providers and between the patient and providers and measuring outcomes." These programs offer a means to improve health outcomes and potentially reduce healthcare costs without limiting Medicaid enrollment, cutting provider reimbursement, cutting benefits, or limiting access to care. In an era of increasing chronic diseases, even among children, disease management offers the opportunity for improved quality outcomes, engaging patients in self-care and improving patient responsibility. Programs to assist providers in adherence to evidence based best practices should be paramount. According to Dr. Paul Ellwood, "when care processes and outcomes are measured, patients and physicians do better."

Issue Brief

NGA Center for BEST PRACTICES

Health Policy Studies Division
Contact: Lydia Faulkner, 202-624-7754 or
Lfaulkner@nga.org
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Disease Management: The New Tool for Cost Containment and Quality Care

Summary

Faced with tight fiscal constraints and soaring Medicaid budgets, states are pursuing new strategies to reduce the cost of caring for patients with costly chronic diseases. Chronic diseases, such as cardiovascular disease (principally heart disease and stroke), asthma, cancer, and diabetes, are among the most prevalent, costly, and preventable of all health problems.[1] Seventy-eight percent of the nation's total medical care costs, including almost 80 percent of total Medicaid expenditures, can be attributed to the treatment of chronic conditions.[2] "Disease management" (DM) provides a strategy for states to improve patient health outcomes and limit health care spending by identifying and monitoring high-risk populations; helping patients and providers better adhere to proven interventions; engaging patients in their own care management; and establishing more coordinated care interventions and follow-up systems to prevent unnecessary health complications.

Medicaid managed care companies, serving primarily women and children, have used DM programs and their associated tools and techniques for years in the Medicaid program. Observing the successful application of such programs under their managed care contracts, many states are beginning to attempt DM programs on the fee-for-service side of the Medicaid program, which primarily serves the more chronically ill, aged, blind, and disabled recipients.

States can "buy," or outsource, DM programs by contracting with vendors, also known as Disease Management Organizations (DMOs); "build" DM programs by developing their own in-house systems; or work with pharmaceutical companies to develop cost-saving strategies, including DM initiatives, that guarantee Medicaid savings. Build strategies provide states with the opportunity to pursue systemic reforms in their care systems that can reduce costs and produce continuous improvements in care quality. Vendors make outsourcing DM strategies appealing by absorbing the startup costs of their programs and placing their fees at risk in contracts that guarantee savings of 1 percent to 5 percent in the cost of caring for the diseases they manage.[3] Pharmaceutical companies also help some states afford new DM ventures by providing or financing cost saving strategies, including DM services, and guaranteeing the resulting Medicaid savings.

More than 20 states are currently developing and implementing Medicaid DM programs.[4] Although there is limited quantitative research to assess the impact of state efforts, early reports indicate that DM programs have contributed to quality improvements in Medicaid and to limited cost savings.[5] Prompted by their experience on the managed care side and reports of the potential of disease management, states are pursuing DM programs in hopes of curbing current Medicaid spending growth, improving health outcomes, and reaping greater savings in the future.

Whether they are built or purchased, successful disease management programs:

- Are based on evidence-based strategies,

  Manage the whole population or use control groups to demonstrate savings,

  Anticipate and manage co-morbidities,

  Help doctors adhere to evidence-based care strategies *and* engage patients in their own care management, and

- Measure outcomes and focus on continuous quality improvement.

The following issue brief outlines the promise and potential complications of DM strategies and offers a review of those state programs that have outcome data, or outcome projections, for their initiatives.

Background

Chronic diseases are among the most prevalent, costly, and preventable of all health problems. Seven out of every ten American deaths (1.7 million) each year occur as a result of a chronic disease, and chronic conditions cause major limitations in activity for more than one in every ten Americans.[6] The costs associated with treating the suffering and disability caused by chronic diseases account for 78 percent of the nation's total medical care costs, including almost 80 percent of Medicaid expenditures.[7]

According to the definition offered by the Partnership for Solutions, chronic conditions last a year or longer, limit what one can do, and may require ongoing medical care.[8] Common examples include cardiovascular disease (principally heart disease and stroke), cancer, diabetes, asthma, and human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS).

The number of Americans suffering from chronic diseases is increasing rapidly. Chronic conditions affecting children, such as asthma, obesity, and diabetes, are on the rise, and chronic conditions are becoming more prevalent as the population ages and longevity increases. As the elderly age, they also face greater risks of having multiple chronic conditions, which complicates their care and dramatically increases their healthcare costs. Currently, 125 million Americans, 45 percent of the population, suffer from at least one chronic condition. Approximately 60 million people, or 48 percent of the people with chronic conditions, have more than one chronic illness.[9] By 2020, an estimated 157 million Americans will have a chronic condition, and 81 million of those people (25 percent of the population) will suffer from multiple chronic conditions.[10]

The cost of providing health care for chronic conditions is a large and increasing burden for those who suffer from them and for public health care budgets. Today, people with chronic conditions account for 76 percent of hospital admissions, 88 percent of all prescriptions filled, and 72 percent of all physician visits.[11] Total yearly medical expenditures are two times greater for a person with a chronic condition than for an individual without chronic conditions, and 14 times greater for someone with five or more chronic conditions.[12] In 1990, chronic conditions caused $234 billion in lost workplace productivity.[13] In 2000, direct medical costs for treating chronic diseases reached $510 billion and are expected to increase to $1.07 trillion by 2020.[14]

Most importantly for states, 39 percent of the Medicaid population has one or more chronic conditions, and the cost of treating chronic diseases accounts for almost 80 percent of total Medicaid expenditures.[15] Because Medicaid spending accounts for nearly 20 percent of state budgets and Medicaid spending growth is one of the key drivers of current state budget deficits, states should be keenly interested in efforts to limit health care spending on their most costly Medicaid recipients—the chronically ill. Disease management systems are designed to reduce health care costs, prevent unnecessary health complications, and improve health outcomes for the chronically ill.

Limitations of the Current Care System

Our current health care system is designed to treat patients experiencing episodes of acute illness and is not organized to engage patients and providers in an ongoing relationship to manage chronic illnesses. Several structural limitations lead to costly and avoidable health complications for the chronically ill.

Individuals with chronic conditions often have complex needs that require services from many unrelated providers. Poor care coordination leads to conflicting treatment recommendations, adverse drug interactions, and unnecessary hospitalizations and nursing home placements.[16]

Patients and providers often fail to work together to set goals and engage patients in their own care management. As a result, patient compliance with recommended therapy remains low.

Medical advancements have established evidence-based practices to prevent or minimize complications from chronic diseases. However, busy health care providers are unable to keep pace with the volume of research and emerging best practices. Recent surveys suggest that fewer than half of U.S. patients with hypertension, depression, diabetes, and asthma are receiving appropriate treatment.[17]

The lack of continuous follow-up and feedback between patients and providers allows critical warning signs and changes in health status to go undetected and untreated, leading to costly and unnecessary complications.

Promise of Disease Management

Disease management (DM) strategies are designed to correct the structural deficiencies in the current care system, improve care quality and health outcomes, and reduce costs by:

identifying high-cost and high-risk patients;

educating those patients and empowering them to become better engaged in their own care management;

improving provider awareness and adherence to evidence-based care strategies; and

- establishing more coordinated care interventions and follow-up systems to prevent unnecessary health complications.

State DM programs target the most costly diseases in their Medicaid population and those that offer the greatest potential for savings from improved provider practices and patient self-management. DM programs most often target asthma, congestive heart failure, diabetes, HIV/AIDS, and hypertension. Medicaid managed care companies have used DM programs and their associated tools and techniques for years in the Medicaid program. Many states are now beginning to attempt DM programs on the fee-for-service side of the Medicaid program, which primarily serves the more chronically ill, aged, blind, and disabled recipients.

Disease management programs vary in design but often include: educating providers and supporting their efforts to adhere to evidence based practice guidelines; assisting physicians in monitoring patients; enhancing patient self-management and adherence to treatment plans; providing feedback to the healthcare provider and patient; establishing communication and collaboration among providers and between the patient and providers; and measuring outcomes.[18] More specifically, such programs use disease registries to track and monitor patients, engage physicians in training on evidence based best practices; provide decision support systems to help providers adhere to practice guidelines; employ nurses, pharmacists, dieticians, respiratory therapists, psychologists, and other providers to supply patient

case management and education; and support patients through counseling, home visits, call centers with 24-hour patient supports, and appointment reminder systems.[19]

States can "buy" DM programs by contracting with vendors, also known as Disease Management Organizations (DMOs), "build" DM programs by developing their own in-house systems, or work with pharmaceutical companies to develop guaranteed savings strategies, including DM initiatives. Some states use several of these strategies concurrently to assemble a combination of strategies to best meet their needs. No matter how they are structured, DM programs are most effective when doctors adhere to evidence-based care strategies *and* patients engage in their own care management.[20] Studies indicate that there is very little evidence that case management conducted by phone, independent of the physician's practice, is effective.[21]

Buy Strategies

Buy strategies allow states to contract with companies that specialize in developing effective DM strategies, instead of having to develop their own efforts. Some vendors help physicians adhere to current evidence-based treatment protocols, but most limit their scope to helping patients better manage their own care, monitoring patient progress, and establishing a feedback loop between patients and providers.

One of the key benefits of buy strategies is that states can ask vendors to put 100 percent of their fees at risk in contracts that guarantee net savings of 1 percent to 5 percent of the current cost of treatment for the disease being managed. States can also ask vendors to absorb the startup costs of their DM programs over the course of the contracts, and can avoid having to develop DM strategies on their own.[22]

However, states pursuing buy strategies face the challenge of finding the vendor with the appropriate mix of services that engage the physician community and with structuring contracts to properly specify expected outcomes and measurement systems. Contracting is also a time-consuming process, and states vary in their ability to negotiate the best terms. Some states have found that risk-based contracting sets up an adversarial relationship between the vendor and the state and leads to protracted negotiations on how to define and measure guaranteed savings. As a result, some states (Florida and Colorado) are eliminating the risk component of their contracts. States pursuing buy strategies still also face some implementation costs, including personnel costs for program and data administration.

Build Strategies

Building disease management strategies engages states in more labor-intensive efforts than contracting with vendors. However, build strategies also offer states the opportunity to partner with providers to pursue more systemic reforms in the delivery of care for the chronically ill. Some states train providers, such as pharmacists, to track and counsel patients on diet, exercise, nutrition, the importance of following medication instructions, and other strategies to improve health outcomes. Others work with physicians to improve their adherence to evidence-based care strategies or engage entire health care practices in efforts to redesign their delivery systems to provide more proactive, coordinated care for the chronically ill. More comprehensive efforts include establishing collaborative partnerships among health departments, social services, Medicaid, and providers to better manage the Medicaid population (see North Carolina example below).

States can pursue build strategies without having to develop entire programs from scratch. States can assemble DM systems by purchasing existing tools and programs (decision support systems, disease registries, vendor based case management systems, etc.) and building remaining components. The drawback of build strategies is that they take so much longer to design and implement, do not allow states to put an outside entity at risk for savings, and require states to set up their own DM businesses. States must often hire program administrators and health care personnel to design effective programs; hire data experts and technology personnel to design and manage effective tracking and measuring systems; and invest in the information technology systems that track and measure patient progress.

Working with Pharmaceutical Companies

In addition to the build and buy options, three states are working with pharmaceutical companies to develop or fund cost-saving strategies, including DM programs, that will guarantee Medicaid savings and improve health outcomes (see Colorado, Florida and North Carolina examples, for details). The drawback is that pharmaceutical companies may focus on improving health outcomes through the improved use of pharmaceuticals, so states should ensure that negotiations include provisions for more comprehensive disease management services focusing on both providers and patients.

Difficulties with Disease Management Programs

Developing successful DM programs is complex in any setting. It is difficult to measure and prove the effectiveness of such programs; patients and providers often resist participation; physicians often don't have the infrastructure or technology to track and monitor patients; and patients often suffer from multiple chronic conditions, which complicates program design.

Implementing DM programs in Medicaid is further complicated due to the limitations of Medicaid data systems, shifts in Medicaid eligibility and enrollment, the personal barriers that often affect the Medicaid population, and the difficulty measuring impact as Medicaid programs pursue so many cost saving mechanisms concurrently. Furthermore, Medicaid programs must also work with the Center for Medicare and Medicaid Services (CMS) to determine whether their DM strategies require a Medicaid plan amendment or a waiver. The waiver process can be time consuming and delay implementation, so early discussions with CMS are advised. Table 1 outlines the complications of implementing DM programs and offers potential solutions that states have pursued.

State Experiences and Options

More than 20 states are engaged in developing and implementing Medicaid DM programs. To date, limited quantitative research has been conducted to assess the impact of state programs. Early reports from programs that have conducted assessments indicate that DM programs have contributed to quality improvements in Medicaid and to some cost savings.[23] Most health plans employing DM strategies are far more certain that disease management programs improved the satisfaction of members who participated in them than they are about the effects of the program on outcomes or costs.[24] However, some state programs have demonstrated improved health outcomes and reduced care costs from the DM strategies, and many states are continuing to expand their efforts in hopes of even greater future savings.

States are pursuing DM initiatives through all three strategies (build, buy, and agreements with pharmaceutical companies), and some are assembling programs by putting together elements of the best practices from each of these strategies concurrently. North Carolina has built a new health care delivery infrastructure to better manage the Medicaid population and is hoping to use funding from pharmaceutical companies to expand those efforts. Florida has pursued vendor-based solutions and has established agreements with pharmaceutical companies that will guarantee $49 million in Medicaid savings. Colorado is pursuing vendor based strategies financed solely with funding from pharmaceutical companies. Mississippi, Virginia, Washington, and West Virginia are pursuing both build and buy strategies. The following section summarizes the experiences of those states that have outcome data for their initiatives.

Buy Strategies

Florida

Florida was one of the earliest adopters of Medicaid disease management. Since 1999, Florida has been contracting with vendors for DM programs and now has contracts in place for HIV/AIDS, hemophilia, diabetes, asthma, cancer, congestive heart failure, chronic kidney disease, and hypertension. In general,

Table 1. Potential Problems and Solutions Associated with Disease Management Programs	
Potential Problems	**Possible Solutions**
Data limitations Medicaid data systems are often inadequate to identify appropriate DM participants. Faulty coding in data records leads to false positives and negatives (falsely identifying recipients as needing treatments and failing to identify those who do). States also have great difficulty getting Medicaid data into a disease registry or decision support system.	States can: • work with physicians, social services, public health facilities, and hospitals to screen and refer patients directly into appropriate programs; and • use nurse care managers to make followup calls to validate computer-generated assessments. • Adopt existing disease registry and decision support systems and input their data.
Challenging population to serve Medicaid recipients are often transient, may lack transportation, telephones, or Internet access, move in and out of eligibility, and may have mental health problems, substance abuse issues, or cognitive barriers, including difficulties with reading proficiency, making it difficult to find and track them and difficult for them to follow DM protocols. (However, DM programs have found that Medicaid participants have outcomes equal to, if not better than, the general population).[25]	Health plans and vendors have: • hired locators to find people; • given recipients direct-connect mobile phones, or have used videos to convey information; • coordinated transportation or offered house calls; • provided appointment reminder systems; • extended services temporarily after Medicaid eligibility lapses and reminded recipients to renew coverage; and • written materials at the third-grade to fourth-grade level.
Difficult to measure effectiveness of DM programs Demonstrating program outcomes is complicated by difficulties in establishing appropriate baseline comparison data due to fluctuations in Medicaid enrollment and costs each year. It is also difficult to demonstrate the effectiveness of a DM intervention due to patient turnover, general medical inflation, regression to the mean (the statistical tendency of last year's most expensive members to move toward the group average the following year), and the need to indicate what outcomes would have occurred absent the intervention. Furthermore, the benefits or savings from the program may occur in the future.	Solutions include: • setting measurable goals, designing effective evaluation strategies, and spelling out evaluation methodology in contracts; • using control groups instead of comparisons to prior data to measure impact, or managing the entire effected population to avoid cherry-picking. • controlling for patient turnover, general medical inflation, and regression to the mean in measurement systems. • working with consultants to establish unbiased measurement terms in contract negotiations.
Physician and patient participation Physicians may resist vendor intrusion in their practices, as well as physician education programs. Medicaid recipients may not elect to participate in DM programs, preventing programs from having a large impact.	States can: • partner with physicians in designing DM strategies and provide incentives, such as Continuing Medical Education credits, for training programs. • automatically enroll patients in DM programs and provide a time period in which they can opt out.
Medicaid Regulations DM strategies often require a plan amendment or waiver; waiver process can delay implementation.	States can: Initiate early conversations with CMS to share program plans and determine which route to pursue.
Co-morbidities Patients with chronic diseases often suffer multiple illnesses that must be managed concurrently.	States can: Account for co-morbidities in program design or use a limited number of vendors that manage multiple diseases and life issues
Risk-based contracting Placing vendor fees at risk creates an adversarial relationship between purchasers and vendors and can lead to disputes about whether expected outcomes were actually achieved.	Purchasers and vendors can: • specify program design, expected outcomes, and evaluation methods in the contract; • use third parties to reconcile data; or • eliminate risk-based contracting.

Florida officials believe that the programs have been successful in generating improvements in care quality and modest expenditure reductions.

As an early adopter, Florida ran into many barriers in establishing effective strategies in its Medicaid population. In the early days, vendors were not as adept at managing people with multiple chronic conditions; recipients were difficult to identify, locate, track, and manage; and contracts sometimes failed to establish explicit methods for measuring cost savings. The DM vendors worked with the state to implement creative solutions to each barrier, many of which are outlined in Table 1.

In 2001, an independent evaluation of Florida's asthma program conducted by MGT of America indicated that DM led to a modest overall net savings for the state. As a result of the program, average asthma-related impatient hospital costs for program participants declined by $70.86 per month, from $545.92 to $484.40; average asthma-related outpatient costs for program participants declined by $38.06 per month, from $79.40 to $39.41. Asthma-related prescription drug costs for program participants increased by $158.84 per month. However, asthma-related expenditures account for only 18 percent of total Medicaid expenditures for program participants, and total Medicaid expenditures for program participants decreased by 33% or $3,524.90 per participant.

An independent evaluation conducted by Georgetown University and Florida State University also documented reductions in medical claims costs of 38 percent for hemophilia and 39.7 percent for HIV/AIDS programs when measured against previous expenditures adjusted for inflation. When compared to non-participants in the DM program, however, the reductions in costs were not statistically significant—1.1 percent lower claims costs for hemophilia participants than non-participants and 2.4 percent lower claims costs for HIV/AIDS participants than non-participants.

However, the analysis of the hemophilia and HIV/AIDS programs underestimates program benefits as analysis was limited to measuring the impact of care management interventions for beneficiaries. The analysis of participants to non-participants does not account for DM interventions targeted to physicians or other administrative services provided by DM vendors. For example, claims analysis in HIV/AIDS led to implementation of pharmacy controls by the agency, which resulted in substantial savings for selected products during the fist year of the HIV/AIDS DM programs that were not accounted for in the above analysis.

Build Strategies

Community Health Centers and the Chronic-Care Model

States are already benefiting from a broad-based effort to reform chronic-care services in community health centers. The Bureau of Primary Health Care (BPHC) is engaged in the Health Disparities Initiative (HDI), a major effort to improve the quality of chronic illness care for their 10 million clients. The HDI uses two models to organize and guide its improvement work. The first, the Breakthrough Series, developed by the Institute for Healthcare Improvement, provides a structured learning environment for health center teams to work collaboratively on improvement. The second, the Chronic Care model, developed by the MacColl Institute for Healthcare Innovation, guides the transformation of care systems from being episodic and reactive to being comprehensive and proactive. The Chronic Care Model focuses on reforming care at the community, organization, practice, and patient levels.

Participating health centers commit teams of senior leaders, physicians, nurses, technicians, and front-line staff to work with national experts over a 12-month period to bring about rapid improvements in chronic care. These teams attend three highly interactive two-day sessions to learn about best practices in chronic care and methods for implementing and testing those practices at home. Topics include engaging patients in self-care, integrating evidence-based practices in day-to-day practices of primary care providers, developing data systems to track patient and population progress, changing the design of delivery systems to better coordinate care, and collaborating with community programs and organizations to better support

the chronically ill. Over the 12-month period, teams implement changes, collect data, submit reports, and receive ongoing feedback and technical assistance from the national experts.

Thus far, over 350 health centers have participated in training collaboratives to improve diabetes, asthma, depression, and cardiovascular disease care. As a result of the diabetes collaborative, 23 participating health centers serving 8,030 patients reduced average blood sugar (hemoglobin, or HbA1c) levels from greater than 9.0 in March 1999 to close to 8.0 in July 2001.[26] Studies indicate that a 1 percent reduction in HbA1c levels can translate into annual cost savings of $685-$950 per patient.[27] In addition, during the asthma collaborative, 18 health centers serving more than 1,200 asthma patients increased the number receiving appropriate treatment with anti-inflammatory medications from 10 percent to 70 percent.[28] Future collaboratives have been planned in cancer, disease prevention, and infant mortality, along with continued work in the previous chronic disease areas.

North Carolina

The North Carolina Department of Health and Human Resources is building upon Carolina Access, its Primary Care Case Management (PCCM) program, to create the Community Care Plan, a state and local partnership responsible for managing the Medicaid population. The Community Care Plan, also known as the Access II and Access III programs, is a system of community health networks, organized and operated by local doctors, hospitals, health departments, and departments of social services. These networks share accountability for delivering high-quality, cost-effective care. In exchange, the state provides technical assistance, provider education, standardized tools to support best practices, and funding to support local networks.

The state currently employs approximately 10 full-time equivalent (FTE) positions to support local networks. State staff includes physicians to support efforts to establish clinical best practices; nurses to train local networks in consistent care and case-management strategies; and statisticians and information technology experts to focus on system design, technology, and tracking and measurement issues. Salaries total approximately $850,000 and are supported half by foundation grants and half by Medicaid funding. Each practice participating in the PCCM program receives $2.50 per member per month in case-management fees. Access II and III networks have created nonprofit administrative entities that receive an additional case-management fee of $2.50 per member per month to support the system infrastructure (e.g., salaries for a medical director and case managers, rent for office space).

Since 1998, partners in 10 local networks covering 15 counties have been working together to improve quality, contain costs, and improve care coordination for 235,000 Medicaid recipients. The program has since expanded to 12 networks with approximately 300,000 enrollees. Each Access II and III network assesses patient utilization and risk data to identify high-risk and high-cost patients, channels those patients into appropriate disease management and case-management strategies, tracks patient and provider outcomes, and uses data to continuously improve provider practices.

A key element of the success of this model is that physicians drive the clinical-improvement process through a statewide clinical leadership group, and they develop the programs that operate in local sites. Local sites can develop their own care-improvement programs and work on systemwide efforts, as they are doing with asthma and diabetes disease management. In the case of asthma DM, each practice has agreed to follow the National Institutes of Health (NIH) asthma guidelines and has identified an internal champion to lead their clinical-improvement effort. The state hired asthma specialists to educate providers about evidence-based best practices and provides standardized support tools, such as asthma action plans. Local case managers also work with asthma specialists, physicians, and staff to help in outreach, patient education, provider education, monitoring, and evaluation.

An initial evaluation of the asthma program showed that Access program enrollees under age 21 had a 34 percent lower hospital admission rate in 2001 than the control group and an 8 percent lower emergency department rate. Even with higher pharmacy costs, due to increased awareness of the effectiveness of

anti-inflammatory drugs, the average episode cost for children enrolled in Access was 24 percent lower than for those not enrolled in the program (down from $853 to $687 per episode of care).

Over the next fiscal year, the Community Care Plan program has also committed to save $29 million in Medicaid expenditures through managing pharmacy benefits; improving clinical performance in asthma and diabetes; implementing new initiatives for high-risk obstetrics patients and for patients with congestive heart failure and multiple chronic conditions; and by working with Medicaid patients to strengthen primary care physician relationships to mitigate unnecessary use of emergency rooms. The state would also like to expand the geographic coverage of the Access program over the next two years to serve the majority of North Carolina's Medicaid recipients.

Revamping the health system infrastructure in this manner is a more labor-intensive model than contracting with vendors. However, leaders in North Carolina view this strategy as building the infrastructure necessary to make permanent improvements in care quality. The model also creates the ongoing capacity for the state to address multiple care-improvement strategies as sites work together on continuous improvement in a range of issues.

Build-and-Buy Combination Strategies

Mississippi

Mississippi received a Medicaid state plan amendment to reimburse pharmacists for providing health care–related services in cooperation with the patient's physicians. Diseases covered include diabetes, asthma, hyperlipidemia (excess fat or lipids in the blood), and coagulation. Under the plan, a physician may refer a patient to a credentialed pharmacist for drug therapy management. The pharmacist will evaluate the patient, review drug therapy with the doctor, and educate the patient about managing the disease and sticking to the drug regimen. The goal is to reduce emergency room visits and unnecessary hospitalizations. The plan amendment allows for Medicaid payment of $20 for a session with a pharmacist. Medicaid will pay pharmacists for up to 12 visits per patient per year.[29]

In addition, Mississippi is initiating contracts for Medicaid DM programs for asthma, diabetes, and hypertension. These contracts are designed to improve patient and provider knowledge and understanding of their diseases and risk factors; reduce unnecessary emergency department visits and hospitalizations; improve health outcomes; and improve adherence to national, evidence-based guidelines.

Vendors contracting with Mississippi will assess patients; work with patients, providers, and families in the development of individual plans of care for each patient; conduct case-management and care-coordination services; and promote patient self-management. The state expects at least a 5 percent guaranteed of net savings and will pay vendors a per member, per month fee.

Virginia

The Virginia Health Outcomes Partnership (VHOP) was designed by Virginia Medicaid to help health care providers decrease inappropriate prescribing practices and increase patient adherence to treatment plans. Using seed money from the National Pharmaceutical Council, Virginia Medicaid partnered with health care providers, academia, and the pharmaceutical industry to design and implement disease management strategies. Virginia focused initially on asthma DM and designed training strategies to improve patient-provider communication and strengthen provider adherence to asthma treatment guidelines.

Physicians in the Virginia Medicaid Primary Care Case Management system with at least one asthma patient were recruited for participation in a six-hour training program delivered through the university system. Incentives for participation included free courses that conveyed Continuing Medical Education Category 1 credits, free asthma education teaching kits and materials, and waivers of mandatory prior authorization requirements.[30] Workshops presented state of the art guidelines for managing asthma,

recommendations for asthma drugs, and instructions on how to communicate more effectively with asthma patients.

After the training intervention, participating physicians were often provided with lists of asthma patients to help them identify those needing education and improved treatment. Physicians were also given frequent feedback about how their asthma patients were fairing with respect to emergency room visits, hospitalizations, and cost experience. An evaluation of VHOP found that emergency room visits per 1,000 patients declined by 41 percent over a six-month period among asthma patients treated by DM-trained physicians, versus an 18 percent decline for patients of physicians who had not received the training.[31] Furthermore, dispensing of recommended drugs increased by as much as 25 percent, and there was an estimated $3 in savings for every $1 spent.[32] Further projections indicated that if VHOP had been implemented statewide for all PCCM physicians, it could have saved as much as $1.2 million in spending for emergency and urgent care claims during the five post-intervention quarters.[33]

Given the successes of this intervention model, the pilot program was discontinued early and replaced with a statewide, outsourced DM model. The number of diseases was expanded and the educational efforts were combined with a pharmaceutical care management approach. After more than three years of experience, Virginia recently issued a Request for Proposals to further expand its DM program in 2003 and has projected a $20 million savings from the program.

Washington

Qualis Health, the Washington State Department of Health, and Improving Chronic Illness Care, a national program of the Robert Wood Johnson Foundation, have instituted two diabetes training collaboratives, using the Chronic Care Model. Over the last three years, provider practices (private offices and clinics, hospital clinics, health care delivery systems, and health plans partnered with medical clinics) have sent teams of three to six people to participate in the training. In total, 47 participants have been trained.

As a result, participants have reported improved patient glycemic (hemoglobin, HbA1c) control and blood pressure control, increased screening for the complications of diabetes, and increased patient self-management and satisfaction. From 1999 to 2001, the average HbA1c values for patients were reduced from 8.4 percent to 7.8 percent. Using data from a study on the effect of improved glycemic control, which indicated an average cost savings of $685-$950 per patient per year for patients with a 1 percent decrease in HbA1c, Washington is projecting a cost savings of $234,270-$324,900 among 342 patients whose HbA1c decreased by at least 1 percent from 1999-2001.[34] Furthermore, using a model based on other studies, Washington computed a 12.6 percent reduction in diabetes deaths, 8.4 percent reduction in heart attacks, 7.2 percent reduction in strokes, 25.8 percent reduction in amputations, and a 14.4 percent reduction in kidney failure.[35]

Given their success with the diabetes collaborative, Washington is also pursuing a Preventive Services collaborative focusing on diabetes screening, influenza and pneumococcal vaccinations, mammography and Pap smears, and tobacco-cessation counseling.

In addition, Washington is contracting with two vendors (McKesson and Renaissance) to target DM services to Medicaid recipients with asthma, diabetes, congestive heart failure, and renal disease. The projected cost savings after paying vendor fees, but not including the state costs related to implementation, are about $2 million. Costs related to implementation include two professional staff persons, half-time secretarial support, contracting fees with the Disease Management Purchasing Consortium, and actuarial fees of $30,000. After these costs, the program should still provide net savings far in excess of the projected $600,000 established in the budget.

Partnering with Pharmaceutical Corporations

Colorado

Colorado recently launched a disease management and care-coordination project for its Medicaid population, funded entirely by $1.75 million in contributions from pharmaceutical corporations. Colorado is targeting asthma, diabetes, schizophrenia, breast and cervical cancer, and high-risk infants through vendor-based contracts. In addition, Colorado has contracted for an overarching care-management organization to coordinate all DM programs and to establish a system for identifying clients for participation. In total, the state has used donations from seven pharmaceutical corporations to secure nine DM contracts within an eight-month timeframe. [36]

Colorado decided not to pursue risk-based contracting in order to avoid time-consuming contract negotiations over complex savings guarantees and to avoid future battles over whether targeted goals were achieved. Colorado Medicaid will pay vendors for services rendered, track savings, and retain all savings generated. The demonstration will last 12 months to 18 months.[37] Following the demonstration, the Medicaid department, vendors, and independent reviewers will conduct a return-on-investment analysis.

By using donated funds from the private sector, the state has also been able to avoid federal Medicaid requirements and changes to the state plans. No state general funds and no federal matching dollars have been used, which gives the state the freedom to be creative and move swiftly.[38]

Florida

In addition to its vendor based strategies, Florida has established guaranteed savings agreements with two pharmaceutical corporations. In June 2001, Florida reached an agreement with Pfizer Health Solutions for the company to offer DM services, health literacy training, and expanded drug donation programs for Medicaid patients with asthma, diabetes, hypertension, and congestive heart failure. Pfizer agreed to guarantee that these programs would generate $33 million in Medicaid savings over two years. Pfizer will have to pay the difference if the $33 million in savings are not achieved. In exchange, the state agreed to include Pfizer drugs on the Medicaid preferred-drug list without requiring supplemental rebates (rebates in excess of those mandated by the Medicaid Rebate Agreement) on their pharmaceuticals.

The state later reached a similar agreement with Bristol-Myers Squibb (BMS) that will provide guaranteed savings of $16 million. BMS will provide a health-management program targeted primarily to African American and Hispanic Medicaid recipients with diabetes and depression. Culturally-competent educational interventions are an integral part of the program, but participation is not restricted based on race or ethnicity.

North Carolina

North Carolina would like to expand its Community Care Plan (Access II and III programs) statewide over the next two years (see above). Two large pharmaceutical corporations recently donated $3.5 million to the Access program to support the expansion of the Community Care Plan. Estimates indicate that it would require approximately $9.5 million to establish six new networks and expand the seven existing networks to add more than 400,000 enrollees and 57 counties. In the current tight budget cycle, state funds are limited and it is unclear whether enough corporate contributions will be offered to support a roll out of this magnitude or whether funds must be used for more moderate expansions of existing programs.

Considerations for States

States considering a strategy to improve chronic disease management in their Medicaid population have several considerations to keep in mind, depending on the strategy they pursue.

Buy Strategies

States pursuing vendor-based strategies should consider:

how Medicaid policies, reimbursement regulations, and data systems need to be changed and improved to support DM strategies;

- whether vendor has received accreditation, is using evidence based DM approaches, and can show outcome data (clinical, financial, and satisfaction outcomes) demonstrating effectiveness of their services.
- whether the vendor can manage co-morbidities and pursue innovative strategies to locate, monitor, and communicate with Medicaid recipients;
  whether vendor has sufficient interaction with the doctors caring for Medicaid patients to influence treatment and follow up and whether vendor can establish a strong feedback loop between patients, physicians, and case managers;
  whether the vendor has the data capacity to track care and develop necessary outcome reports;
  whether the vendor agrees with the state's proposed baseline data, outcome expectations, and evaluation strategies (which becomes particularly important when vendor fees are at risk and disputes arise regarding outcomes).
- whether the vendor can demonstrate savings by using a control group or by taking care of the full population so that there is no cherry picking of last year's highest care utilizers.
- whether they want the vendor to put fees at risk for meeting guaranteed savings targets or whether they want to develop a more collaborative relationship with the vendor.
- whether the vendor can absorb program start up costs over the course of the vendor contract;

Build Strategies

States pursuing build strategies should consider:

- how Medicaid policies, reimbursement regulations, and data systems need to be changed and improved to support DM strategies;
- what level of resources and staff they have available to dedicate to an ongoing, collaborative initiative;
- whether they can limit the labor intensive process of building a program from scratch by using an assembly process—purchasing existing programs or adopting existing best practices where possible and building remaining components;
- how they will engage physicians and pique their interest in partnering with the state to reform care systems and institute evidence-based chronic care strategies;
- whether community health centers in the state are already participating in the BPHC program to introduce the Chronic Care Model and whether those efforts could be broadened to affect other Medicaid and public health systems; and
- whether stronger partnerships between Medicaid, Public Health, social services, and providers could lead to more holistic approaches to managing patient care.

Partnerships with Pharmaceutical Companies

States pursuing partnerships with pharmaceutical companies to support their DM initiatives face different considerations depending on whether the pharmaceutical company is acting as a DM service provider or whether the company is simply providing funding to support DM services.

- States using pharmaceutical companies as DM providers should examine whether the services will include the full spectrum of disease management and care management services or whether services will be focused only on drug utilization.
- States using donations from pharmaceutical companies to fund DM services should consider whether such funding will be available to sustain programs in future years.

Resources for States

States can utilize several external resources to help them design and implement effective DM strategies. The following resources are available to those building, buying, or assembling a combination of DM efforts.

Buy Strategies

States pursuing buy strategies can utilize the following resources:

- The National Business Coalition on Health offers a standardized health plan request for information (RFI), which can be used to collect detailed information about DM programs, including their use of population identification techniques, monitoring mechanisms, patient and provider interventions, and specific outcome measurements.
- The Disease Management Purchasing Consortium and Advisory Council (DMPC) identifies, purchases, and assists in implementation of outsourced disease management programs for states and health plans. DMPC can also advise health plans on overall disease management strategies and helps suppliers design disease management programs.
- The National Pharmaceutical Council (NPC) offers a web site specifically dedicated to Medicaid disease management (www.dmnow.org) and offers complimentary technical assistance to state Medicaid programs, on a limited basis through their consultants, to help states design and implement appropriate quality assurance, utilization management, and operational systems initiatives.

Build Strategies

States pursuing build strategies can seek assistance from the following sources.

- Improving Chronic Illness Care, the national Program of the Robert Wood Johnson Foundation, helps organizations interested in improving chronic illness care by bringing organizations together in improvement collaboratives, offering targeted research grants and technical assistance, supplying tools to support patients and practitioners, and supplying a bibliography of evidence-based research (see www.improvingchroniccare.org).
- States can also go to www.healthdisparities.net to gather BPHC training manuals, curricula, videos, public awareness materials, and sample patient forms, and to download a disease registry system.

In addition, states interested in developing a statewide action plan for preventing and managing chronic diseases through any strategies that they care to pursue should consider applying for the NGA Policy Academy on Chronic Disease Prevention and Management. NGA will sponsor travel for participating states to send teams of health policy makers from the executive and legislative branches and the nonprofit community. Teams will work with national experts over a three-day period to develop a customized action plan for their state. In March 2003, NGA will issue a Request for Proposals to participate in the Academy, which will be held in early August.

Conclusion

In an era of escalating state budget deficits and runaway Medicaid expenditures, states must look for new ways to manage Medicaid costs. Disease management systems offer one of the few opportunities to curb or reduce spending without limiting Medicaid enrollment, cutting benefits, increasing premiums or copayments (cost sharing), or reducing provider reimbursement rates, all of which may limit access to care. In contrast, DM systems can help states achieve Medicaid savings by imposing strategies to bolster health care quality and improve health outcomes for the chronically ill. States pursuing DM strategies,

whether they are built, bought, or arranged in partnership with pharmaceutical companies, can reduce Medicaid costs, or at least curb spending growth, while helping chronically ill patients lead healthier, more productive lives.

Endnotes

[1] U.S. Department of Health and Human Services (HHS), *Unrealized Prevention Opportunities, Reducing the Health and Economic Burden of Chronic Disease* (Washington, D.C.: U.S. Department of Health and Human Services, Center for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, November 2000), 1.

[2] "Chronic Conditions: Making the Case for Ongoing Care," (Baltimore, MD: Johns Hopkins University, Partnership for Solutions, December 2002), 16.

[3] Al Lewis, Executive Director, Disease Management Purchasing Consortium and Advisory Council, telephone conversation with author.

[4] Ben Wheatley, "Disease Management: Findings from Leading State Programs," Issue Brief, State Coverage Initiatives, Vol. III, No. 3, December 2002, p.1

[5] Ibid, 2.

[6] U.S. Department of Health and Human Services (HHS), *Unrealized Prevention Opportunities, Reducing the Health and Economic Burden of Chronic Disease* (Washington, D.C.: U.S. Department of Health and Human Services, Center for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, November 2000), 1.

[7] "Chronic Conditions: Making the Case for Ongoing Care," (Baltimore, MD: Johns Hopkins University, Partnership for Solutions, December 2002), 16.

[8] Ibid, 4.

[9] Ibid, 4.

[10] Ibid, 4.

[11] Ibid, 15.

[12] Ibid, 15.

[13] Robert E. Mechanic, "Disease Management: A Promising Approach for Health Care Purchasers," Executive Brief (Washington, D.C.: National Health Care Purchasing Institute), 1.

[14] Ibid, 1.

[15] "Chronic Conditions: Making the Case for Ongoing Care," (Baltimore, MD: Johns Hopkins University, Partnership for Solutions, December 2002), 16.

[16] "Physician Concerns: Caring for People with Chronic Conditions," (Baltimore, MD: Johns Hopkins University, Partnership for Solutions, May 2002)

[17] Edward H. Wagner et al., "Improving Chronic Illness Care: Translating Evidence into Action," *Health Affairs* 20, no. 6 (2001): 64.

[18] Disease Management Association of America, definition of DM (http://www.dmaa.org/definition.html)

[19] Al Lewis, "Medicaid Disease Management: Implications for the Pharmaceutical Industry" (Waltham, MA: Disease Management Purchasing Consortium and Advisory Council, April 2002), 3.

[20] Wagner et al., 67.

[21] Dr. Ed Wagner, Director, Improving Chronic Illness Care, MacColl Institute for Healthcare Innovation, Group Health Cooperative of Puget Sound, telephone interview with author

[22] Lewis, "Medicaid Disease Management," 11.

[23] Wheatley, 2.

[24] Suzanne Felt-Lisk and Glen P. Mays "Back to the Drawing Board: New Directions in Health Plans'Care Management Strategies," *Health Affairs* 21, no. 5 (2002): 213.

[25] Ed Rabinowitz, "Disease Management in Medicaid Plans: Moving Health Care into The Patient's World," *AAHP Healthplan* 42, no. 6 (2001): 6.

[26] Ibid.

[27] Wagner EH, Sandhu N, Newton KM, McCulloch DK, Ramsey SD, Grothaus LC, "Effect of Improved Glycemic Control on Health Care Costs and Utilization," *JAMA* 2001; 285: 182-189.

[28] "Health Disparities Collaboratives Training Manual," Institute for Healthcare Improvement, (http://www.ihi.org/collaboratives)

[29] Rick Hynum, "New Medicaid Program in Mississippi Pays Pharmacists for Disease Management Services," Newsdesk Story no. 293, *University of Mississippi Newsdesk*, online, 1 August 1998 (www.olemiss.edu/news/newsdesk/story293.html).

[30] *The Virginia Health Outcomes Partnership*, (Virginia Health Outcomes Partnership (web.dmnow.org/resource/susan/VHOPDemProj_Final.PDF).

[31] Wheatley, 4.

[32] Louis F. Rossiter, Michelle Y. Whitehurst-Cook, Ralph E. Small, Charles Shasky, Vitor Bovberg, Lynne Penberthy, Ahmad Akasha, Jennifer Green, Ibrahim A Ibrahim, Steve Yang, Kwangsoo Lee, "The Impact of Disease Managemetn on Outcomes and Cost of Care: A Study of Low-Income Asthma Patients", Williamson Institute for Health Studies, Virginia Commonwealth University, August 1999.

[33] Ibid.

[34] data computed from: Wagner EH, Sandhu N, Newton KM, McCulloch DK, Ramsey SD, Grothaus LC, "Effect of Improved Glycemic Control on Health Care Costs and Utilization," *JAMA* 2001; 285: 182-189.

[35] Data computed by state of Washington using the following studies.

UK Prospective Diabetes Study Group, Stratton, IM, et. al. Association of glycemia with macrovascular and microvascular complications of type 2 diabetes (UKPDS 35): prospective observational study; British Medical Journal 2000; 321:405-412

UK Prospective Diabetes Study Group, Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment and risk of complication in patients with type 2 diabetes (UKPDS 33); The Lancet, 352: 837-853, Sept, 1998.

Ohkubo, Y. et.al. Kumamoto University School of Medicine: Intensive Insulin therapy prevents the progression of diabetic microvascular complications in Japanese patients with non-insulin-dependent diabetes mellitus: a randomized prospective 6-year study. Diabetes Research and Clinical Practice 28; 103-117, 1995.

[36] "Colorado Launches Ambitious Medicaid DM Demo," *Disease Management News* 8, no. 6 (January 2003): 1.

[37] Ibid, 1

[38] Ibid, 1.

Outcomes-Driven Health Care Delivery: When Better Health Does Not Equal Higher Costs

By Robert E. Stone

Despite many past attempts to reform the health care system, no overall solution has emerged. The reasons vary from political causes, since health care is a highly charged issue used in electoral fencing by both parties, to practical ones, such as the lack of broad consensus among the key constituents — patients, physicians, health plans, employers and the government.

Many are still searching for the elusive "silver bullet" that, with a single shot, will "fix" the system. The very real need to *do something now*, however, has led many health plans to implement comprehensive disease management programs, which have been shown to be a winning solution for improving clinical outcomes, producing significant cost savings and building bridges between the system's key constituencies.

Today, a mere nine years after the first programs were implemented, there is an ever-increasing body of evidence that disease management programs, properly conceived, implemented and operationalized, fulfill their basic value proposition of improving health status, improving patient and provider satisfaction and, as a result, reducing cost.

Because disease management programs are indifferent to both health care financing mechanisms and network delivery models, they are today's single best opportunity to address the issues of outcomes and cost.

Industry Landscape

It is increasingly obvious that the historical approaches to medical management — utilization review, utilization management and precertification, once thought to hold great promise — are no longer sufficient to the challenges facing the health care system. The push to drive down costs through the application of these techniques has driven a wedge between physicians and patients, polluting what was once one of the most valued relationships a person had during their lifetime.

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More importantly, these techniques have proven themselves impotent to deal with spiraling health care cost increases that threaten a significant cost shift to consumers, a drastic decrease in the level and quality of health care coverage, or both.

While the U.S. health system has proven itself capable of treating acute medical problems, it has failed badly in its treatment of such chronic maladies as diabetes or heart disease. Acute cases can be treated with pills, physical therapy, counseling or even surgery, but it takes a sustained process to treat chronic afflictions.

With chronic conditions, where the patient is certain to be under care for years, physicians often view these cases with frustration or even dread, since no known cure yet exists. Doctors know their suffering patients face years of care and a very real risk of complications, as they await hoped-for relief from a drug, therapy or biotechnology product that is now only a scientist's dream. All physicians can do is keep these patients as comfortable and optimistic as possible as they, too, await the cure.

Last year, 20% of U.S. consumers accounted for 80% of direct health care spending, according to statistics provided by the Agency for Healthcare Research and Quality. That means that 54 million people accounted for approximately *$735 billion* in health expenditures, while the other 218 million accounted for only $109 billion.

It is also a short list of chronic conditions that accounts for most of the costs. Two maladies alone — diabetes and heart disease — account for about $300 billion in direct health care costs.

The old setting of care, the traditional physician office visit, was created over a century ago to take care of *acute* medical problems, according to Victor Villagra, M.D., a former national medical executive at CIGNA Corp. and past president of the Disease Management Assn. of America, in *Time* magazine last summer. That is no longer sufficient, he said.

What *is* sufficient is the new, collaborative approach to medical management. Despite being in its early development stage as a stand-alone industry, disease management has demonstrated its validity, according to factual, outcomes-based evidence.

The central thesis behind disease management is elegant in its simplicity, and yet very powerful and empowering at the same time. The idea is that working with patients, educating them about their conditions and empowering them to take a more active role in their own treatment will lead to better health, thereby reducing the costs for that care. Though it sounds like a tall order, it really is not, since nearly every condition has well-chronicled "standards of care" — essentially treatment road maps that, if followed, will result in optimized health.

Faced with the spiraling costs of delivering care to millions of members who are increasingly dissatisfied with the quality of care, more and more health plans are pulling for disease management. A year ago, CIGNA alone had over 600,000 members enrolled in chronic-care management programs of various types. For diabetic mem-

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bers enrolled in disease management programs, the insurer reported 14% savings as well as a significant jump in patients' well being.

Such victories are being won during a particularly stark stretch in the U.S. health sector. Health care costs — after a brief respite during part of the 1990s — have resumed their double-digit annual advances. American consumers on average pay 30% more for health care services than their counterparts in every other developed country. With all the new drugs and biotechnology therapies in the pipeline, the cost of care is certain to increase even more.

But despite the proven success of the concept, there continues to be a general sense of skepticism among those who actually pay for health care services — health plans, employers and the government as well as the media, who continue to request additional demonstrations and studies to show efficacy.

This skepticism is fueled by the lack of a comprehensive, cross-industry standard that yields comparable results. In turn, the lack of a common standard and methodology constitutes a serious impediment to industry growth. More importantly, it causes an unwarranted delay in achieving the goal of delivering improved outcomes.

Despite its immense potential, disease management is merely on the threshold of widespread adoption and implementation. To achieve that promise requires that disease management capabilities, whether targeted to a single chronic disease or an entire population, become an integral part of the system's fabric of care.

Accomplishing that goal is dependent on three foundation events:

(1) A common definition of what disease management is. Fortunately, the Disease Management Assn. of America has addressed this issue and its industry-standard definition has gained rapid adoption by other affected stakeholders.

(2) The establishment of clinical and programmatic credibility. In this area the industry is benefiting from the third-party accreditation programs developed and implemented by the National Committee for Quality Assurance, the Joint Commission for the Accreditation of Healthcare Organizations and URAC.

(3) The adoption of a uniform set of outcomes metrics and a single methodology for reporting outcomes. This foundation, which is yet to be achieved, will assure a purchaser's ability to compare program results, irrespective of program design. Until that goal is reached, the industry will continue to have its skeptics and will have difficulties moving past the current stage of adoption.

The Push for Standards

The only way for the payers to make sure they're getting their money's worth and for disease management to really take hold is to be able to measure the "outcomes" from the efforts put forth on their behalf by companies like American Healthways. Since the strategy has been billed as an "outcomes-driven" approach to health care manage-

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ment, these outcomes are the true measure of success: improved health status; improved patient and physician satisfaction and reduced costs.

In order to expand market penetration, the industry is in need of two things: An impartial, independent and credible *third party* to evaluate and certify both the clinical and financial outcomes of the various approaches, and a set of cross-industry standards that can be used in evaluating the effectiveness of processes and methodologies.

The question right now is how to properly measure patient "outcomes" and account for the savings that result. With all the health-care controversies of recent years, "outcomes-driven" care has to be successful — as demonstrated by a credible measure. An early initiative in this area was instituted in June 2001 by Johns Hopkins with the formation of the Johns Hopkins Outcomes Verification Program, established to independently evaluate and verify the effectiveness of a wide range of models of outcomes interventions and their clinical and financial results.

Accreditation organizations have also begun to include disease management programs in their portfolios. In December 2001, the National Committee for Quality Assurance took a major step toward addressing this need by officially releasing a set of disease management accreditation and certification standards that allowed firms to obtain NCQA accreditation for disease management programs.

NCQA is well respected in the health care industry for providing standardized, objective information about the quality of managed care organizations. Now these evaluations are available for disease management companies. Other organizations also are offering accreditation, key among them the Joint Commission on Accreditation of Healthcare Organizations and URAC.

For an organization to become accredited by these bodies, it must undergo a rigorous survey and meet certain standards designed to evaluate the program's clinical and administrative systems. These programs are reviewed along many dimensions, but especially in terms of how they work with both patients and practitioners to improve health care and outcomes.

The standards set forth by these organizations show significant advancement in providing much-needed validation of the design and delivery of disease management programs. Health plans now have unbiased, third-party confirmation of which disease management programs are evidence-based, effective and responsive to the needs of members and physicians. Accreditation organizations do not, however, evaluate program outcomes.

Such accreditations are a start, but are only a part of the long-term answer. It is clearly in the best interests of both the disease management industry and the overall health care system to be able to cite credible, measurable and independently verified results from their efforts. Plenty of studies exist that show the efficacy of disease management programs. However, they are often based on different sets of statistics, or use

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different methodologies, which makes them less than useful for universal comparison.

The Disease Management Assn. of America is attempting to address this issue by assuming a leadership role in the creation of industry-wide standards for the disease management industry. For guidance, we can look to efforts of other industries — such as the technology sector, where common standards are critical in order for devices such as digital cameras, printers and CD writers to work with most computers in the market. Technology companies have multitudes of task forces to establish these basic standards, which then allow purchasers to distinguish between competitive program offerings.

From Chronic Illnesses to Total Population Management

Disease management today is essentially focused on the provision of services to those with chronic illnesses. If the real potential of disease management concepts is to be realized and moved past the current status of an innovative solution to that of a core pillar of the U.S. health care delivery system, the principles and learnings of the industry's early successes will need to be translated into programs for the entire population, including those not yet sick. That trend is already developing, and, as it spreads, it is likely that the name "disease management" will fade away and be replaced by something more reflective of the reality of total population health management.

Disease management programs succeed where utilization initiatives fail because disease management attacks the underlying health problems, as opposed to utilization management's one-dimensional focus on cost control. In the past, the system was not effectively designed to work with patients with one chronic condition, let alone those with comorbidities. Sometimes patients suffer from two, three or more maladies all at once. While such patients naturally have to see several different physicians and interact with the health care delivery system at multiple points, there is very often little or no collaboration between or among those caregivers. This creates gaps in care.

Additionally, compliance with accepted treatment goals is very low. This fact causes sub-optimal health outcomes and unnecessarily drives up the cost of care. People who are sick don't use the health-care system enough in ways that make them healthier. Less than 25% of the time everyone in the health care system is doing what they're supposed to do.

Today, disease management programs attempt to make sure that doesn't happen, creating a platform that ties together every element of the health care chain.

Health services are still delivered in physician offices, as they should be. In fact, disease management plans tend to improve the relationship between physicians and patients, as is one of the goals. But call center professionals and the underlying data infrastructure and platform provided by the disease management program make sure

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that crucial information is readily available and distributed throughout the health care chain.

There are four points in the health care delivery system where improvements in the process can lead to heightened patient health and diminished overall costs:

(1) Administrative services, such as member enrollment and claims processing;

(2) Network delivery, which includes the provision of physicians and facilities to provide health care services to members;

(3) Knowledge engines, or the transformation of data into information that can be used to improve care; and

(4) Total care support, which includes the complete spectrum of medical-management interventions.

When these four health care system building blocks are kept in separate "silos" — the all-too-often unfortunate norm today — the patient's health can only suffer as costs continue their upward death spiral. But when these four elements are woven into an integrated process, patient "outcomes" improve and costs are driven down.

Achieving this objective demands a resolve that is and will continue to be tested. Over the next 20 years, the ranks of the chronically ill are expected to double to 180 million, according to a recent report by *Time* magazine. And as the population ages, it's almost certain that a substantial portion of that group will suffer from a multitude of maladies all at once.

Disease management firms are already working to deal with such challenges, providing disease management services for a dozen or more afflictions, such as atrial fibrillation, low back pain, osteoarthritis, and osteoporosis, that can significantly affect quality of life. Ideally, a patient suffering from multiple afflictions would interact with just one care-support team, a comfort particularly to a retiree, widow, widower or older senior citizen who still enjoys the independence of being on their own.

Patients can work with a single care support team and be confident their doctors have access to all their health information. The patients' nurses will have all of the patient's medical records, test results and care instructions before them, as well as the clearly articulated, evidenced-based and proven standards of care to guide their interventions.

Speaking with a nurse at a call center is much easier, less daunting, and less time-consuming than attending a physician appointment. That — along with the fact that the patient is receiving coordinated support for all their conditions simultaneously — makes for improved health among the patients in a health plan.

But the real challenge facing disease management for the future will be the successful application of principles to the entire population. Once outcomes-focused care management services encompass and provide care for multiple conditions, total population management is the next logical step.

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Total population management programs utilize sophisticated predictive modeling systems in conjunction with personal health information records to identify those members who are at high risk for short-term health status compromise. Once members are identified as high-risk, the programs' health care professionals work with them and their physicians to support effective, proactive interventions that will minimize or eliminate the potential health problem and the associated costs.

To facilitate the move to total population management, there is no need for insurers to develop a new business model or to create additional in-house programs. Disease management programs are indifferent to payment mechanisms and network delivery models, and disease management companies are capable of facilitating the shift.

Having big insurers outsource disease-management efforts is a lot like major companies in the telecommunications, electronics, automotive and other sectors farming out their manufacturing work to smaller, specialized production firms. These firms have developed core competencies in manufacturing that have given them leading-edge knowledge that puts their much larger customers ahead of the game. The same is true of disease management organizations that are crafting industry-leading and ever more effective programs of increasing scope and sophistication for insurers, big and small.

The market response to initial outcomes-based total population management services has been positive — health plans are beginning to embrace total population management services as the logical outgrowth of our success with chronic disease management. American Healthways late last year signed a 10-year deal with Blue Cross and Blue Shield of Minnesota, under which the company will help manage the care of all plan members. The company also announced a contract for total population care enhancement services with HealthSpring, the largest independent managed care organization in middle Tennessee.

Expanding the Market Scope

The disease management industry has enjoyed a fast pace of growth in its first five years. However, given the market potential, it is still in its nascent stages. From a financial standpoint, the industry should hit $1 billion in revenue in 2003. That is significant considering the short history of the business, but still represents only between 2.5% and 5.0% of the total market.

From a service standpoint, the industry is reaching about 1.5 million people — almost all of them members of commercial HMOs. The penetration of the PPO market is microscopic and practically nonexistent in the Medicare fee-for-service population.

Ultimately, the success of the evolving medical management strategy will be defined by the creation, and recognition, of value for all the stakeholders in the health-care system — health plans, employers, physicians, patients, and the government.

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Once a single outcomes standard has been established and disease management results are uniformly reported and accepted, total population management, the future direction of the industry, can take off.

Achieving further growth requires the industry to meet five distinct challenges:

(1) We must find a way to integrate all medical management interventions — utilization review, utilization management, coordinated care management and disease management — on one information platform accessible to all stakeholders.

(2) We must provide services to physicians and other providers that encourage their full participation in the effort. The relationship between patient and physician was, is and will always be the fundamental interaction in health care. Failing to recognize and address the real needs of physicians will ultimately render any investment in members and member services valueless.

(3) We have to convert covered lives into active participants in their own health care management — not just because it's a good customer service strategy, but also because investing in people is a critical factor in our success. The more of it our health plan customers and we do, the better the outcomes of our mutual efforts will be.

(4) We must progress from simple disease managers to total population health managers. We must have programs and services that meet members' needs wherever they are in the health care spectrum — healthy, at risk, acutely ill, chronically ill, or near death.

(5) We must find a way to extend total population health management programs to all payers. That means bringing the federal and state governments into the loop and convincing them that their "beneficiaries" and "eligibles" should be members, too.

Predicting a precise development track for disease management from here is a difficult task. It's likely to lose the disease management label before long, as it evolves toward total population management. The real winners will be the patients, who — without even a passing thought — will enjoy substantially better health. That will take time, although each small step taken by the health care sector could represent a giant leap for consumers. That's the outcome this industry should strive for.

Robert Stone is an executive vice president at American Healthways, Inc. and president-elect of the Disease Management Assn. of America.

This article was excerpted from *DISEASE MANAGEMENT: OUTCOMES, STRATEGIES, OUTLOOK*, an in-depth look at the past, present and future of disease management from a business issues standpoint. It features articles by recognized experts on topics like how to measure return-on-investment from DM programs, how employers contract with DM firms, tracking outcomes data from DM programs, and a look at the future of the DM industry. For more information, visit www.AISHealth.com/Products/dmo.html, or call 800-521-4323.

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COLORADO DEPARTMENT OF HEALTH CARE POLICY AND FINANCING

REPORT TO THE JOINT BUDGET COMMITTEE

DISEASE MANAGEMENT DEMONSTRATION PILOT

FEBRUARY 7, 2003

I. INTRODUCTION **1**

II. STATUS OF DISEASE MANAGEMENT PILOT PROGRAMS **1**

A. CARE MANAGEMENT/COORDINATION PILOT 2
B. HIGH RISK INFANTS PILOT 3
C. CLIENTS WITH SCHIZOPHRENIA AND MEDICAL CO-MORBIDITIES PILOT 4
D. CLIENTS WITH ASTHMA PILOT 4
E. CLIENTS WITH DIABETES PILOT 5

III. IMPLEMENTATION PROCESS **5**

IV. PROGRAM EVALUATION AND ANALYSIS DESIGNS **6**

I. INTRODUCTION

In 2002, the Colorado General Assembly enacted legislation authorizing the Department of Health Care Policy and Financing to develop disease management programs "to address over- or under-utilization or the inappropriate use of services or prescription drugs, and that may affect the total cost of health care utilization by a particular Medicaid recipient with a particular disease or combination of diseases." Section 26-4-408.5(2), C.R.S.

The statute, at Section 26-4-408.5(3), C.R.S., requires the Department to report to the joint budget committee of the general assembly an estimate of the fiscal implications generated by the implementation of the disease management programs. Such report shall be made on or before February 1 of the year following the implementation of a disease management program and on or before each February 1 thereafter in which such program is in place.

The Department has not implemented statewide disease management programs as a result of this legislation. However, the Department has implemented several disease and care management projects which it reported to the Joint Budget Committee in December 2002.

II. STATUS OF DISEASE MANAGEMENT PILOT PROGRAMS

The Department has initiated a series of care coordination and disease management pilot programs to identify the most appropriate strategies to contain rising health care costs, improve access to services and improve the quality of care for the fee-for-service Medicaid clients. The targeted disease areas include High-Risk Infants, Clients with Asthma, Clients with Diabetes, Clients with Schizophrenia and Women Clients with Breast and Cervical Cancer. The geographic areas for the pilots include 14 counties: Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Huerfano, Jefferson, La Plata, Larimer, Las Animas, Mesa, Pueblo and Weld. The Care Management Organization Pilot is also underway in these 14 counties to coordinate all of the disease management programs and to establish a system to identify the fee-for-service clients in need of case management, or disease management counseling.

The program revolves around three key managed care principles: appropriate and timely access to health care services, evaluation and support for adherence to appropriate medical regimens/treatments and provision of nationally recommended practice guidelines for each chronic disease. The Department, the vendors, and third party program reviewers, including the University Health Sciences Center, Colorado Health Outcomes Program, will be analyzing medical spending across all service categories. The group will be conducting a "return on investment" analysis based on vendor costs to the program, client satisfaction and quality of life status, and physician satisfaction with the program. The pilots will enable the Department to obtain actual Colorado Medicaid disease management data and experience to be utilized for future program development.

In general, the targeted clients have been chosen for levels of high utilization and high Medicaid claims costs. The exception is the High-risk Neonatal program. The vendor will enroll all Medicaid infants in the Neonatal Intensive Care Units, at the time of birth or admission to the Neonatal Intensive Care Unit. Another exclusion to the above claims data criteria is the Longitudinal Study for the Clients with Breast and Cervical Cancer, being funded by Astra Zeneca. All clients receiving treatment under the Breast and Cervical Cancer Program, implemented in July 2002, will be tracked for outcome data and overall cost analysis. A comparative analysis will be performed on clients with equivalent diagnoses who have entered the system through other eligibility and categories of aid.

No State General Fund or federal funds have been utilized for these pilots. All funding for the pilots is provided directly to the vendors of the disease management programs by the pharmaceutical companies funding the programs.

A. CARE MANAGEMENT/COORDINATION PILOT

Pfizer Pharmaceuticals has provided the Care Management Organization funding. GlaxoSmithKline, Abbott and Astra Zeneca are providing funding for the studies of the home nonitoring interventions and the development of a formal Primary Care Physician Program tructure. McKesson Health Solutions, current vendor of the Nurse Triage Line, is the vendor or the Care Management Organization pilot. It has developed a multi-tiered system of nurse hone triage, health counseling and intensive case management utilizing home nurses that are roviding the clinical support for the use of daily home monitoring devices (for daily biometric nd behavioral monitoring) and 24 hours a day, 7 days a week call center support to improve nedical self-management. The Department is evaluating the use of different types of technology hat could promote home-based care instead of inpatient care, which is more expensive and less esirable for the clients.

Vhen a new patient need is identified, referrals are made to the appropriate type of traditional roviders working closely with primary care physicians and specialists, disease management endors or field-based case managers. This includes coordination with six Single Entry Point gencies that are now a part of a targeted chronic disease care coordination process in the pilot ounties. All vendors have been directed to work together in a coordinated fashion in order to void the silo effect that can result within and across pilot programs. The Department is working oward a highly coordinated system.

he Nurse Triage Line was redesigned, in July 2002, to be more effective, answering calls that re from clients in need of medical or resource referral advice. The McKesson Care Enhance 60 survey questions are completed and was implemented the end of December 2002. This will rovide the identification of clients requiring additional chronic disease assistance and ppropriate referrals to either the Health Counseling program or the intensive case management rograms in the 14 Pilot counties. Clients in need of intensive case management clients will be

identified to the case manager system through several referral sources: the Nurse Triage Line, the Department through completed claims data analysis, and in coordination with the Single Entry Point agencies and home health agencies. The total number of clients to be enrolled in this pilot will be 350 health-counseling clients and 250 (rolling enrollment) intensively case managed clients, focusing on the Home and Community Based Services program.

B. HIGH RISK INFANTS PILOT

Funding for this program was obtained from two sources. Johnson and Johnson Pharmaceuticals provided the funding to initiate the program with Clinician Support Technologies, the vendor. Clinician Support Technologies is providing in-kind donation of services and staff. Through the financial support of these two funders, all Level III Neonatal Intensive Care Units in Colorado were offered participation in the program.

The program is a web-based education/training resource that works closely with the providers (neonatologists, neonatal nurse practitioners, and nurses) and the parents of the high-cost infants. As soon as an infant is admitted to the Neonatal Intensive Care Unit, the parents can have remote access to their infants' vital information including weight, feeding, and health status, as well as a daily digital photograph. The parents are continuously provided educational interactions through an appropriately timed system, specific to the needs of their infant. This includes review of the procedures and tests that are being performed for their infant and, as appropriate, training in the technical requirements of their infants, so that the parents are more fully prepared at the time of hospital discharge.

For clients unable to access computers through faith-based community program, community centers, and libraries, loaner computers with Internet access will be furnished through the donation of computers from Johnson and Johnson Pharmaceuticals. The parents are able to utilize the system for up to 18 months from the time they begin participation in the program. This will allow them to continue their education and support in the appropriate schedule of immunizations and health care visits required for the ongoing care of their infants.

The cost-savings process, proven in other states by Clinician Support Technologies, is the reduction in length of stay in the initial hospitalization and significant reduction in the recidivism rate of hospitalization in the first six months after initial discharge.

The following is a list of the hospitals and their program implementation progress to date:

Hospital	Completed Agreement /Web site designed	Staff Training Date	Implementation Date	Projected High Risk Infants
Children's Hospital	Completed	December 2002	January 2003	51
University Hospital	Completed	December 2002	January 2003	130
Denver Health	Completed	January 2003	February 2003	92
Memorial (CS)	Completed	January 2003	February 2003	110
Pres.St.Luke's	Completed	Not yet scheduled		69
St. Mary's (GJ)	Not complete	Not yet scheduled		29

C. CLIENTS WITH SCHIZOPHRENIA AND MEDICAL CO-MORBIDITIES PILOT

Colorado Medicaid may be the first Medicaid program to integrate the mental health component into its disease management program. Clients with schizophrenia, who also have multiple and costly medical co-morbidities, have been identified through claims analysis. These patients are among those most likely to fall through the cracks in proper medical care, resulting in avoidable hospitalizations for psychiatric as well as medical complications. Those patients identified with schizophrenia and related disorders, along with medical conditions such as congestive heart failure, chronic obstructive pulmonary disease, diabetes, and other disease states, will have the medical portion of their care coordinated by a team of community outreach nurses.

Eli Lilly funds this pilot project and the field service delivery contract was put in place with Specialty Disease Management Services, Inc., a Florida-based case management organization that provided field-service nurses for HIV patients in Florida. Specialty Disease Management Services, Inc. has hired and trained nurses within each of the Pilot project's mental health service areas of Colorado and is making home counseling visits and referrals to medical providers as needed. To date, Specialty Disease Management Services, Inc. has voluntarily enrolled 138 clients. The total number of clients to be enrolled in this pilot is 250, rolling enrollment.

D. CLIENTS WITH ASTHMA PILOT

Novartis Pharmaceutical and Astra Zeneca Pharmaceuticals fund this pilot and National Jewish Medical and Research Center (where the term disease management was first defined) is the vendor. According to the experts at National Jewish, asthma is a seasonally and environmentally affected disease, with the highest level of inpatient rates and acute, life-threatening episodes occurring from December through May each year. Due to the short duration of the pilots, it was determined that the Asthma program be operated in the concentrated timeframe as described above. The program consists of an assessment of current status of the client's disease, including

a detailed acute and chronic disease exacerbation history, care plan evaluation, continuous interaction with appropriate medical providers and phone contact with the client or the parent of the client. The client or parent keeps a home journal and highly trained pulmonary nurses make aggressive out-bound calls to the client. A 24-hour a day, 7 day a week National Jewish care line is utilized to assist in acute episodes. Care tools are sent to the client along with written educational materials. A high level of education is being provided, on a step-by-step basis, to support the self-management of their disease.

This program intends to enroll approximately 75% children and 25% adults. The target enrollment is 250 clients who fully complete the program of at least 4 months. A continuous enrollment process will assist in accomplishing this. National Jewish is at their full initial enrollment compliment at this time with 316 clients who have voluntarily enrolled in the program. As clients lose eligibility or "roll-off", additional clients will be added through the end of January.

E. CLIENTS WITH DIABETES PILOT

Eli Lilly has provided the funding for this pilot. McKesson Health Care Solutions is the vendor. This program provides high-risk diabetic clients with education and tools to increase their self-management of their disease.

The program intends to enroll 250 rolling enrollment. McKesson has a current voluntary enrollment of 130 to date.

III. IMPLEMENTATION PROCESS

Patient specific data was initially organized into distinct "disease states" based on medical and pharmaceutical claims for the years 2000-2001. Patient data was then placed in descending order based on high utilization /high cost. The data was used to select patients for program enrollment by the vendors responsible for the priority conditions which are the focus of the different pilots. It was assumed that high utilization / high cost patient profiles represented high-risk patients that should be targeted for program enrollment. This design for the pilot was based on client cohorts from other small pilot programs.

Prospective clients are contacted by phone, mail, and by field-based enrollment specialists employed by each vendor. Program nurses conduct intake interviews to determine the client's condition severity and interest in program participation, explaining the voluntary nature of the program. Program nurses track the mental and physical health status of participants according to evidence-based protocols when available. Teaching about diet, exercise, and adherence to physician and pharmaceutical advice are key components of these proactive program interventions.

IV. PROGRAM EVALUATION AND ANALYSIS DESIGNS

The Department has sought the services of an independent, academic reviewer for some of the program evaluation designs. The Colorado Health Outcomes Program (COHO) of the University of Colorado Health Sciences Center is currently completing a review of the diabetes and schizophrenia pilot evaluation design. COHO is also developing the longitudinal study design to evaluate the outcomes of the breast and cervical cancer clients entering the state's new Breast and Cervical Cancer Program (BCCP) program.

In order to provide a common measure of mental and functional health status, the Department has asked all disease management service providers to conduct pre and post intervention surveys acquired from the Medical Outcomes Trust located in Boston, Massachusetts. This non-profit organization maintains worldwide licensing control over the Short Form 12 (SF12) and SF36, the most widely used health status survey instruments in the world. The Department plans to compare key outcome results across appropriate pilot interventions at the conclusion of the project using the SF12 and SF36 survey instrument.

The Department plans to conduct, with the cooperation of the vendors, a comparison of the utilization and costs associated with pharmaceutical and medical services incurred by all program participants before entering each pilot and at the conclusion of each demonstration. The same analysis of patients contacted for participation, but who declined to participate or dropped out of each pilot as well as those who could not be contacted, will also be conducted to better estimate the costs associated with Medicaid beneficiaries who choose not to enroll in the project or who lack a means of contact (telephone or residence changes). Reasons for electing to not participate or for dropping out of the program are being recorded by each vendor and reported on a regular basis to the Department. Additionally every vendor has been asked to conduct program satisfaction surveys of both the patients and physicians participating for each pilot program.

In any health services evaluation, there are normally a number of technical research issues and limitations that need to be acknowledged prior to, during and at the conclusion of the intervention. The key limitation of the present project and virtually all other similar projects is the inability to conduct either a randomized control or perfectly matched comparison group trial. Federal regulations, technical and financial limitations make conducting evaluations with such levels of statistical control difficult, if not impossible, to administer.

- The programs are currently ending their enrollment phase and beginning case management with the enrolled clients. It is too early to determine the fiscal impact of the individual programs, as adequate time has not elapsed for any claims assessment for services that are being rendered by the providers and pharmaceutical expenditures occurring during the intervention period. Analysis of all the enrolled clients' annual pre-intervention claims will be compared to their intervention claims data over the next twelve months. The Department and the vendors for the programs will analyze the data quarterly to determine if there are any trends that are statistically significant.

Colorado Disease Management Funding and Implementation Chart

Disease Management Pilots	Private Funding Sources	Disease Management Vendors	Amount Contributed	Implementation Date
Schizophrenia	Eli Lilly	Specialty Disease Management Services Inc. (SDMSI)	$592,000	**July 2002**
Diabetes	Eli Lilly	McKesson	$338, 000	**September 2002**
High Risk Neonates (NICU)	1) Johnson/ Johnson 2) CST	Clinician Support Technology (CST)	1) $150,000 J&J 2) $250,000+ CST (in-kind & laptop PCs)	**December 2002**
Asthma	1) Novartis 2) Astra Zeneca	National Jewish Hospital	1) $100,000 2) $15,000	**September 2002**
Care Management Organization & PCPP Redesign CMO Tech	1) Pfizer/CMO 2) Astra Zeneca/ PCPP 3) Abbott/PCPP 4) GlaxoSmithKline Tech nested studies	McKesson Case Manement Services Lexicor/Datalex Health Buddy	1) $180,000 2) $5,000 3) $10,000 4) $100,000	**February 2003**
Cervical & Breast Cancer Longitudinal Study	Astra Zeneca	Study Design Consultant: UCHSC - John Steiner, MD and Colorado Health Outcomes project	$15,000	**July 2002**

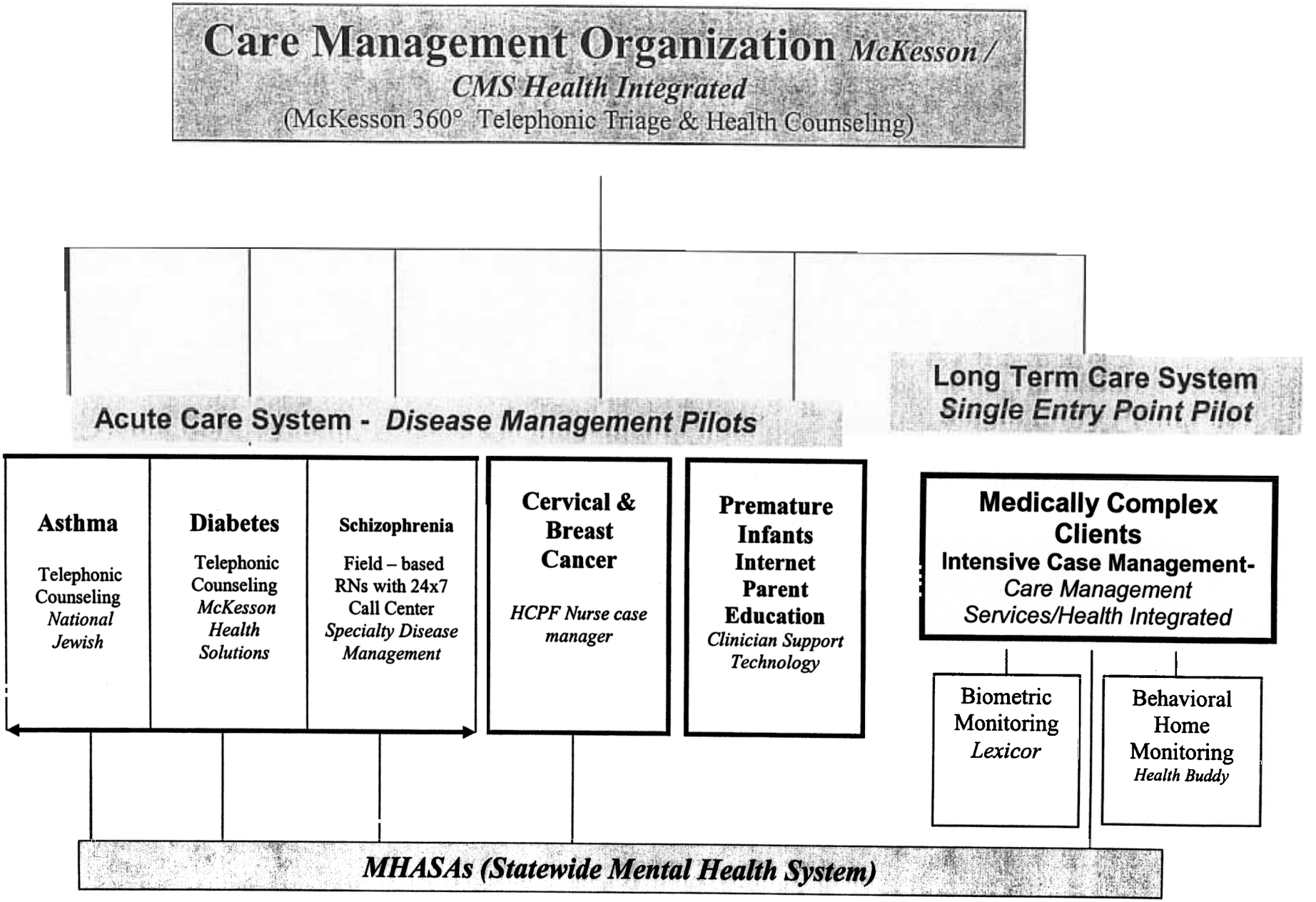
Disease Management Pilot	Funder(s)	Total for Funder/Program
Schizophrenia	Eli Lilly	$592,000
Diabetes	Eli Lilly	$338,000
High Risk Neonates	Johnson/Johnson-CST	$400,000
Care Management Org.	Pfizer/Astra Zeneca/Abbott	$195,000
CMO Technology	GlaxoSmithKlein	$100,000
Asthma	Novartis/Astra Zeneca	$115,000
Cervical & Breast CA	Astra Zeneca	$15,000

Eli Lilly	Clinician Support Technology	Pfizer	Johnson & Johnson	Novartis	Glaxo-SmithKline	Astra Zeneca	Abbott
930,000	$250,000	$180,000	$150,000	$100,000	$100,000	$35,000	$10,000

Client Enrollment Information
Pilot Program Status through January 2003

Pilot Program	Service Provider	Program Start	Enrollment numbers	Claims range of targeted clients
Asthma	National Jewish	9/02	343	$35,000+-$500/year
Diabetes	McKesson	7/02	195	Over $500/year
Schizophrenia	Specialty Disease Management	7/02	263	$2,400-$102,000
Breast/Cervical Cancer Longitudinal Study	HCPF Case Manager	7/02	All clients in the Breast and Cervical Cancer Program	All
High Risk Infants	Clinician Support Technology	10/02	33 infants	All NICU infants with claims
Care Management Organization	McKesson/Care Management Services/ Health Integrated	2/03	Enrollment begins February 2003	All Disease Management Pilot clients and Single Entry Point Case managed clients

Colorado Care Management Pilot



INNOVATIVE PRIMARY CARE CASE MANAGEMENT PROGRAMS OPERATING IN RURAL COMMUNITIES: CASE STUDIES OF THREE STATES

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Pam Silberman, JD, DrPH
Stephanie Poley
Rebecca Slifkin, PhD

North Carolina Rural Health Research and Policy Analysis Program

Cecil G. Sheps Center for Health Services Research
The University of North Carolina at Chapel Hill

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TABLE OF CONTENTS

Table Of Contents 2
Executive Summary 4
Background 5
Methods 6
Case Studies: Florida 7
Background 7
Overview of Medicaid Managed Care Options 8
HMO Model 8
Medicaid Provider Access System (MediPass) 10
Children's Medical Services (CMS) 12
Healthy Start 13
Providers Service Network (PSN) 13
Exclusive Provider Organization (EPO) 14
Disease-Focused Health Management 14
Disease Management Organizations 15
Identifying Program Participants 16
Care Coordination 18
Patient Education 18
Patient Contact and Monitoring 19
Other Care Management Services 21
Nurse Advice Lines 21
Hospitalizations and Emergency Room Utilization 21
Primary Care Providers 22
Data Systems 22
Finance Structure of DMO Initiative 22
Improved Clinical Outcomes and Quality Improvement 25
Other Disease Management Contracts 28
Pfizer Health Solutions Initiative 28
Bristol-Myers Squibb (BMS) 29
The University of Florida 31
Evaluation of Medipass Compared to the HMO Program 31
Conclusions & Discussion About Rural Implications 31
Case Studies: North Carolina 33
History 33
Overview of Access II and III 34
Summary of the Eleven Access II and Two Access III Networks 35
Population-Based Health Management 35
Primary Care Providers 40
Care Coordinators 41
The Disease Management Process 42
Identifying Medicaid Recipients in Need of Care Management Services 42
Inpatient/ED Visits 42
Referrals 42
Health Assessments 43

Patient Education 43
Follow-up 43
Addressing Psychosocial Needs 44
Chart Reviews 44
Quality Improvement 44
Program Effectiveness 45
Programmatic Challenges 46
Conclusions & Discussion About Rural Implications 46
Case Studies: Oklahoma 48
Overview of Sooner Care Program 48
SoonerCare Choice 50
Partial Capitation Payments 51
Provider Relations 52
SoonerCare Helpline 53
Nurse Advice Line 53
Member Service Line 54
SoonerRide 55
Care Management 55
Quality Assurance/Quality Improvement Initiatives 57
Quality Improvement System for Managed Care (QISMC) and Incentive Payments 57
Consumer Assessment of Health Plan Satisfaction (CAHPS) 58
Asthma Disease Management Initiative 59
Healthplan Employer Data Information System (HEDIS) 60
Physician Profiling 60
Indian Health Services (IHS) Initiatives 60
Conclusions & Discussion About Rural Implications 61
Discussion & Conclusions 62
Appendix I: DMO Contract Excerpts (Florida) 65
Appendix II: Access II/III Performance Measures (North Carolina) 70
Appendix III: Access II/III Performance Results For Programs In Effect For More Than One Year (North Carolina) 71

EXECUTIVE SUMMARY

Although Medicaid managed care programs have grown steadily in both rural and urban areas since the 1990s, states continue to report problems with health plan withdrawals. This instability of Medicaid health maintenance organizations (HMOs) has motivated some states to develop alternative managed care strategies for their Medicaid populations, including enhanced primary care case management (PCCM) programs which incorporate features developed for fully capitated managed care programs. Such alternative approaches have proven to be especially useful in rural communities, where it is more difficult to attract and maintain fully capitated managed care contracts. This study highlights strategies three states have used to provide enhanced benefits to Medicaid beneficiaries. Through in-depth case studies of each program, the paper provides an overview of each state's program structure and illuminates the strengths and weakness of the various managed care models employed by Florida, North Carolina and Oklahoma.

Florida and North Carolina have both created elaborate systems for disease management and case management, which are the center of their enhanced PCCM programs. Although the structure of each state's program differs, they share the fundamental goals of reducing expenditures and improving patient outcomes. In North Carolina, care management is provided through provider-led community networks that participate in statewide disease management initiatives. Florida takes a different approach and contracts with Disease Management Organizations and other organizations that specialize in particular conditions.
Both states have identified chronic conditions and/or high cost utilization areas to target through their disease management programs. Some of those initiatives include projects to reduce inappropriate emergency department (ED) and polypharmacy utilization, as well as case management for diabetes, asthma, HIV/AIDS, end-stage renal disease (ESRD), chronic heart failure, hypertension, Attention Deficit and Hyperactivity Disorder (ADHD), and/or hemophilia. Enrolled recipients are assigned care managers who provide health education, care coordination, and patient monitoring services. These care managers are especially important resources in small rural practices, where PCPs often have limited clinical or administrative support and may be a sole source of care for the community. Additionally, care managers often help to provide social service coordination for enrollees, which may be otherwise unavailable in small rural communities. Although neither Florida nor North Carolina's programs were designed specifically for rural areas, recipients in these more isolated communities seem to benefit greatly from the additional clinicians and individualized care associated with the programs.

Alternatively, Oklahoma has developed a Medicaid managed care program exclusively for its rural areas, which uses a partial capitation financial model. Unlike the fully capitated program operating in urban parts of the state, in the partial capitation system rural providers are only at risk for a limited range of primary care services – while receiving a steady stream of income. This regular source of revenue is particularly important in rural areas, where limited populations can make it challenging for providers to remain financially viable. Oklahoma's Medicaid managed care program also features a nurse triage line and a capitated transportation system to serve rural communities, which serve to facilitate rural recipients' access to health care. However, unlike North Carolina and Florida, Oklahoma focuses few resources on disease or case management, except for cases of individuals with special health needs. The limited scope of Oklahoma's care coordination and disease management services may prevent the state from

achieving improvements in health outcomes similar to those realized in other states that invest more heavily in case and disease management programs.

While each of these Medicaid managed care programs offers unique benefits to rural recipients, there exist some inherent challenges in operating such programs. Case management and disease management programs offer promise in improving clinical outcomes and in reducing costs, however, it is still uncertain at what level of success these programs can perform. In North Carolina, respondents noted that the case management fee might not generate the necessary level of funding to support the program in some of the smaller communities because of their limited population base. Unlike the more urbanized areas of the state where thousands of recipients combine to create a substantial pool of money to hire staff and create program infrastructure, some rural communities may have too few enrollees to create the necessary funding base, a potential barrier to enrolling some of the most remote and sparsely populated rural areas.

Further, evidence of cost savings and quality improvements cannot be observed in the short-term, making such case management programs particularly vulnerable during times of state financial crises. The inability to produce immediate results may also serve as a deterrent to other states considering the development of disease and case management programs, as it is difficult to justify the up-front costs associated with implementing such initiatives without immediate savings to balance them.

Finally, it is apparent that case management is more challenging in rural areas. Because of geographic diffusion of patients, in-person visits are more time-consuming and resource intensive, but none of the states currently enhance case management fees for rural recipients. Even disease management programs that rely on telephone case management, such as Oklahoma's and to some extent Florida's, are problematic, as some Medicaid recipients do not have consistent access to telephones.

BACKGROUND

Between 1997 and 2001, the number of rural counties covered by Medicaid managed care programs increased by almost 30%.[1] Primary care case management programs (PCCM) continue to be the most prevalent form of Medicaid managed care, but the number of rural counties with fully capitated plans also increased. However, health plan withdrawals in both rural and urban areas have led some states to develop alternative approaches, such as enhanced primary care case management models, to cover their Medicaid population. These models import some of the lessons from fully capitated managed care programs, including care coordination and quality improvement efforts, into more traditional PCCM models. Florida, North Carolina, and Oklahoma are three of the states that have taken this approach and the purpose of this study is to describe the structure of those programs, with particular attention to the impact these programs have on improving quality and access to Medicaid recipients in rural areas. While the paper provides in-depth analysis of each state's program, Table 1 provides a simple comparison of the three programs to establish a general context.

[1] Silberman P, Poley S, James K, Slifkin R. Tracking Medicaid Managed Care in Rural Communities: A Fifty-State Follow-Up. Health Affairs. July/August 2002;21(4):255-263.

Table 1. Overview of States Chosen for Case-Study

	MediPass Disease Management (FL)	*The Community Care Program (NC)*	*SoonerCare Choice (OK)*
Implementation Date	1999	1998	1994
Brief Description	Case management for targeted chronic conditions through external vendors	Case management for targeted conditions through local care coordinators and provider-led community networks	Partial capitation system for rural areas with nurse advice line, capitated transportation system and provider representatives
Rural Counties Served	33 (100%)	23 of 65 (35%)	63 (100%)
Conditions/ Populations Targeted Through Disease or Case Management	Asthma, HIV/AIDS, diabetes, congestive heart failure, hypertension, hemophilia, and end stage renal disease	Asthma, diabetes, inappropriate ER use, Attention Deficit/Hyperactivity Disorder (ADHD), high-risk pregnancies, polypharmacy, gastroenteritis, childhood otitis media, and children with special health care needs	High risk pregnancies, HIV/AIDS, ventilator dependent children, hemophilia, sickle cell anemia, schizophrenia, bipolar disorders, asthma, quadriplegia, transplants, dialysis patients
Total Enrollees	68,000 (approximately 11% of MediPass recipients) as of March 2002	251,456 (approximately 27% of all Medicaid recipients) as of August 2002	152,000 (approximately 46% of all Medicaid recipients) as of April 2002

METHODS

Between January and April of 2002, we conducted site visits in each of the three states. Respondents were identified by state Medicaid agency officials and included individuals who represented state agencies participating in the Medicaid program, such as the Office of Rural Health and Medicaid; local/regional program managers or disease management organization (DMO) representatives; primary care providers; care/case managers; and representatives from local health departments. Semi-structured interview guides were developed for each type of respondent and were shared in advance of the visit. Questions included in those interview guides focused on program design, program eligibility, the enrollment process, benefit and referral policies, provider reimbursement methodologies, PCP and care manager responsibilities, administrative systems, the process of disease and/or care management, quality assurance processes, health status goals, quality improvement measures, program effectiveness, and access problems. Responses were recorded during the site visit, summarized, and sent back to the respondent for verification prior to analysis of the information collected. All states provided various supplementary documents and data of relevance to their program, particularly evidence of program performance.

In all three states, site visits began with one to two days of state level interviews to establish the general structure of the managed care options, and the case and disease management programs. To gather information about how programs were implemented and are operating locally, we then traveled to communities, both urban and rural, where the programs are active. These interviews were conducted over several days.

In Florida, we interviewed a total of 25 key informants at the state and community level. Six of the respondents are employed by the Agency for Health Care Administration (AHCA), Florida's

Medicaid Agency. The remaining interviews were with 11 Disease Management Organizations (DMOs) representatives (including five nurse care managers, five program managers, and one field representative); two representatives from Jackson Memorial Hospital, participating in the Pfizer initiative; one rural provider; two representatives from Children's Medical Services (CMS); and three officials from the Office of Program Policy Analysis and Government Accountability (OPPAGA). Interviewed individuals represented three of the six contracted DMOs (Positive Health Care, Life Masters and Coordinated Care Solutions) and one of the 10 hospitals that are to be included in the Pfizer disease management initiative.

In North Carolina, we interviewed key informants at the state and community level. We visited five communities, two in rural and three in urban counties. In total, we interviewed 25 individuals, including three people at the NC Division of Medical Assistance (DMA) and the Office of Research, Demonstrations and Rural Health Development (ORDRHD), seven care coordinators, four local program managers, seven practitioners (doctors and nurses), three health department directors and three DSS representatives.[2]

In Oklahoma, we visited five rural communities and Oklahoma City, where the state Medicaid agency, the Oklahoma Health Care Authority (OHCA), is located. We spoke with a total of 15 OHCA staff involved in the SoonerCare program. The staff was involved in program operation, care management, quality assurance, provider training and reimbursement, and the operation of the SoonerRide program. In addition, we spoke with staff in the contract agencies involved in operating the Helpline and the Nurse Advise line. We also spoke with six representatives for an Indian Health Service program, and providers and/or office managers in four rural practices.

CASE STUDIES: FLORIDA

Background

Florida's Medicaid managed care program began in 1984 in selected counties. At that time, Medicaid recipients were given the option of enrolling in fully capitated HMOs or remaining in the fee-for-service system. Since then, the state's Medicaid managed care program has grown into a mandatory statewide system comprised of various managed care models. Currently, the managed care programs include contracts with fully capitated Health Maintenance Organizations (HMOs), a Primary Care Case Management Program (PCCM) called MediPass that includes a disease management initiative, a Provider Service Network (PSN), Children's Medical Services (CMS), and Healthy Start. Within the year, the state expects to add an Exclusive Provider Organization (EPO) feature.

System wide, more than 1.2 million Florida Medicaid recipients are enrolled in one of these managed care programs. The availability of the various managed care options varies by county. MediPass covers the entire state, operating in all 67 counties (33 of which are rural) and covering 49% of the state's Medicaid recipients. Children's Medical Services is available, on a voluntary

[2] The numbers do not add up to the total because some individuals had more than one role (for example, several of the project directors were also care coordinators).

basis, to Medipass children with special health care needs statewide, and has an enrollment of approximately 26,000 kids. In 45 counties (16 rural), Medipass operates alongside a fully capitated program which offers HMO coverage to another 48% of the Medicaid population. The remainder of the Medicaid population is enrolled in the PSN program, which operates only in South Florida (Miami-Dade and Broward Counties). Approximately 1.5% of the population is enrolled in the PSN. Map 1 illustrates the availability of each program across the state.

AHCA contracts with an enrollment broker to work with recipients in selecting one of the managed care options. In the 22 counties where Medipass is the only option, beneficiaries need only to choose their PCP. In counties where the HMO and/or PSN are also available, the enrollment broker assists the beneficiary in selecting both the type of Medicaid managed care program, and an HMO if they select the fully capitated program. Children with special health needs may voluntarily enroll in CMS in any county.

Recipients are given 30 days from the date of their Medicaid eligibility to select one of the managed care options. If the beneficiary fails to make a choice, AHCA assigns the person to MediPass, an HMO, or the PSN. In the past, autoassignment into the different programs reflected the percentages of voluntary selections; however, recent legislation requires that AHCA now autoassign 100% of all recipients who have not selected a program into the HMO system in counties with at least two HMOs.

For the purpose of autoassignment, the PSN is considered an HMO. In counties with only one HMO, half of the recipients are assigned to the HMO and the other half to MediPass. In counties with no HMOs, all recipients are assigned to MediPass and are matched to a provider based on their age, sex, and zip code. Recipients who lose their Medicaid eligibility are reenrolled with the same managed care program and provider if they regain eligibility within one year.

Overview of Medicaid Managed Care Options

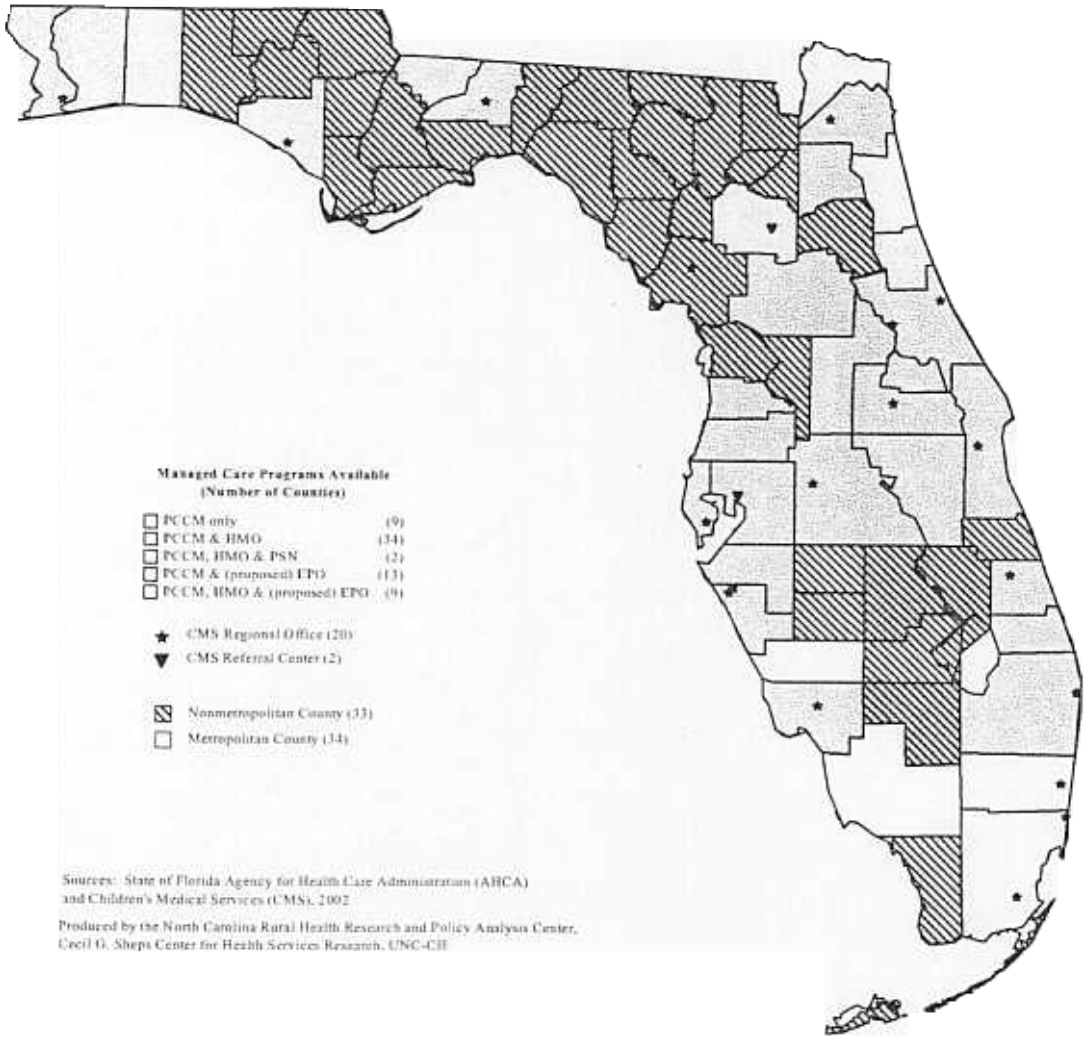
The following summaries provide descriptions of the managed care programs offered to Florida Medicaid recipients. The primary focus of this study is the MediPass program because of the disease management initiatives. Only the fundamental structures of other programs are described.

HMO Model

Fully capitated managed care was the first managed care model offered to Florida's Medicaid recipients. For the first six years, it was offered to beneficiaries on a voluntary basis in select areas of the state. As MediPass was introduced and expanded across the state, enrollment in managed care became mandatory where both models were available.

Populations that are eligible to enroll in the HMO program include TANF families, pregnant women, children, older adults, and people with disabilities living in the 45 counties identified in Map 1 (including 20 nonmetro counties). Children with special health care needs (CSHCN) are contractually excluded from participation in the fully capitated program and are instead enrolled in the CMS network or MediPass.

Map 1. Florida's Medicaid Managed Care Programs, 2002



In most counties where the HMO program is operating, Medicaid recipients have a choice of at least two Medicaid HMOs. There were 14 HMOs covering at least some areas of the state in 2002. These HMOs are required to offer almost all of the services available under the FFS system. Except in service areas 1 and 6 (see Map 2), mental health services are carved out. Prior authorization is required for all specialty care except emergency, family planning, chiropractic, podiatric, some dermatology and annual OB/GYN visits. In addition to basic medical services, plans are also required to provide selected quality enhancement services including smoking cessation, substance abuse screening, domestic violence screening, family planning, prenatal and postpartum programs, and child wellness programs.

Medicaid Provider Access System (MediPass)

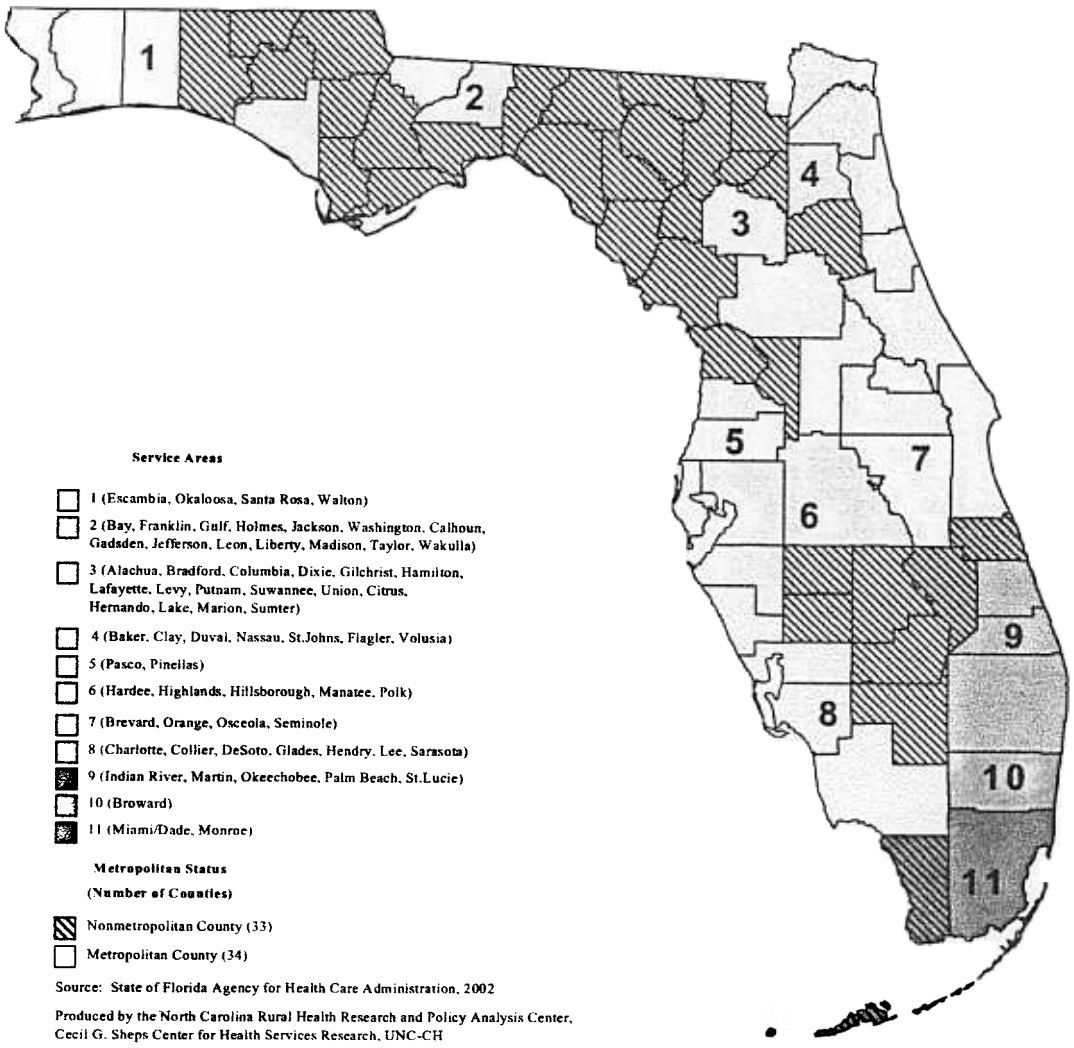
Several years after introducing Medicaid HMOs in Florida, it became apparent that it would not be possible to offer HMO coverage to Medicaid beneficiaries in all parts of the state because the MCOs were not willing to expand into some of the less populated counties. In 1990, AHCA developed a PCCM program called MediPass to implement in areas without HMOs and to serve as an alternative where they did exist. By 1996, MediPass had expanded into a statewide program. TANF families, TANF pregnant women, children, the disabled, foster children and the medically needy are required to enroll in Medipass or another Medicaid managed care option (if available). SOBRA pregnant women are not eligible to enroll in MediPass, though they are voluntarily enrolled in a separate managed care program called Healthy Start.

The premise of MediPass is to establish a medical home for Medicaid beneficiaries and to promote the use of primary care in a physician office setting. Medicaid eligibles select, or if they don't select, are assigned to a primary care provider (PCP) who is responsible for basic preventive and primary care services and for providing referrals to specialists, ancillary services or non-emergency hospitalizations. The provider is paid a $3 per member per month (pmpm) fee for every assigned recipient and is reimbursed for all medical services delivered on a fee-for-service (FFS) basis. The PCP is not at risk for any expenses related to patient care, but does act as a 'gatekeeper' in terms of writing referrals.

Certain services do not require prior authorization including dental, vision, hearing, family planning, and early intervention or dialysis services. Except in regions 1 and 6 (see Map 2), prior approval is also unnecessary for mental health services. Clients have direct access to health departments and school-based clinics, but must get post-authorization for care obtained in these settings. The intent of the prior approval and post-authorization is to ensure that the PCP has complete medical records that identify all services and prescriptions their patients are receiving.

Approximately 5,000 providers are currently enrolled as MediPass PCPs through some 3,100 provider agreements (some agreements cover whole practices). Local AHCA offices are responsible for recruiting new providers to participate in MediPass. AHCA recruits new PCPs

Map 2. Florida's Medicaid Service Areas, 2002



Source: State of Florida Agency for Health Care Administration, 2002

Produced by the North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, UNC-CH

MediPass PCPs may include physicians specializing in general or family practice, internal medicine, pediatrics, and obstetrics/gynecology. Federally qualified health centers (FQHCs), county health departments, and rural health clinics (RHCs) may also serve as PCPs. There is a health department in every Florida county and in some of the most rural areas, the health department may be a major provider of services to Medicaid recipients. Advanced Registered Nurse Practitioners (ARNPs) and Physician Assistants (PAs) are permitted to serve as PCPs to clients who select them; however, beneficiaries are only autoassigned to these midlevel PCPs in three rural counties (Escambia, Bay, and Marion).

With the exception of ARNPs and PAs, PCPs are limited to 1,500 MediPass enrollees, although the state has the authority to waive that limit in rural areas.[3] ARNPs and PAs are limited to 750 MediPass enrollees. PCPs must make available, through answering services or on-call rotations, 24-hour care 7 days a week; they are not permitted to use the emergency room (ER) as routine after-hours coverage.

In addition to their responsibilities for providing all primary care and assessing the need for referrals, PCPs are also required to coordinate with contractors participating in the MediPass disease management initiative. MediPass clients with certain chronic illnesses are eligible to participate in the disease management initiatives, which links clients with care managers specializing in specific chronic illnesses. These care managers counsel the recipient on how to better manage their condition and coordinate services for enrolled beneficiaries. This initiative is the primary focus of our study and is discussed in more detail later in the report.

Children's Medical Services (CMS)

Children's Medical Services (CMS) is Florida's Title V program and has been operating since 1929, when it was called the Florida Commission for Crippled Children (FCCC). The program is administered by the Department of Health and was completely independent from Medicaid until 1996, when a network of providers and facilities for children with special health care needs (CSHCN) was developed and approved as a managed care option for CSHCN in the Medicaid program.

The CMS program was designed to operate much like a PCCM program with more specialized providers and care managers. The current CMS network operates as a component of the existing MediPass program and like regular MediPass providers, CMS PCPs are paid a $3 monthly pmpm for each child they serve. All services are reimbursed on a FFS basis and PCPs are not at risk for any care required to treat their enrolled recipients. However, by legislative mandate, the program has been redesigned into a capitated model and will gradually be phased in to replace the current CMS program for Medicaid kids beginning in 2003.

Currently, the system is built around 20 regional CMS offices and two referral centers (see Map 1). Each area office is administered by a medical director, who is a physician in the community, and other staff including care managers, nurses, administrators, and social workers. The regional offices are the first point of contact for new Medicaid enrollees who elect CMS as their

[3] Although the state has had the authority to waive the maximum enrollees per PCP in rural areas, AHCA officials reported that they have not yet needed to do so.

managed care plan. Nurses in these regional offices screen newly enrolled children to determine if the child has special needs which qualify for CMS.

If a child is found to qualify for CMS, they select or are assigned to a PCP in their local community who authorizes all services and referrals. CMS providers must be board certified in their specialty, have experience with CSHCN, and agree to participate as a PCP in the Medipass program. Children are assigned a care manager to help coordinate the child's medical and psychosocial needs. The care manager is typically a nurse but may be a social worker if the child has significant psychosocial problems. Care managers work out of the regional CMS office and are supposed to coordinate with the child's PCP. However, we were told that it is often difficult to get the physicians to communicate with the care managers about changes in the child's medical care.

The care manager helps link the child to needed services, including transportation and counselors, assists in the development of a care plan with the help of the child's family, and coordinates with the child's PCP. The care manager may help to identify specialists and arrange transportation, however the PCP must ultimately approve all referrals and medical services. If disease management is appropriate for the child, the care manager will coordinate with the physician treating the condition to develop a disease action plan for the child and family to follow. The care manager maintains regular contact with the child and family to monitor the child's compliance with care plans and overall health status; more intensive cases require more frequent communication.

Healthy Start

Healthy Start is a voluntary program for pregnant women and infants operated by local Healthy Start Coalitions. The program is available to all Florida residents, however a new partnership between Healthy Start Coalitions and AHCA provides funding for Healthy Start services provided to SOBRA pregnant Medicaid recipients. The additional services available through Healthy Start include risk screenings, breastfeeding counseling, childbirth classes, coordination of community services, and various counseling/health education services related to smoking cessation, nutrition, family planning, and parenting.

Healthy Start participants select a PCP from a panel of Medicaid enrolled providers who agree to meet specified standards of prenatal care. The goal is to enroll eligible recipients with a Medicaid PCP within 30 days of eligibility and to promote continuity of care during pregnancy. PCPs are reimbursed on a FFS basis and the local Healthy Start Coalitions are paid a $12 pmpm administrative fee to compensate the agencies for care coordination, care management, and some counseling services.

Providers Service Network (PSN)

The South Florida Community Care Network is an integrated health care delivery system owned and operated by Florida hospitals and physician groups. It was implemented in Broward and Miami-Dade counties in 2001 and is the only one of four proposed PSNs that has been implemented to date. Populations eligible for enrollment include families, pregnant women, children, the disabled, foster children and the medically needy.

Like MediPass, beneficiaries select or are assigned to a PCP who is responsible for managing primary care. Most out-of-network care provided to enrollees is paid for and must be pre-authorized by the PSN. The PCPs in the PSN are paid $3 pmpm for each assigned member and an additional monthly administrative fee is also paid to the PSN. Services are delivered on a FFS basis and individual providers are not at any financial risk. However, the PSN must demonstrate cost savings, a percentage of which they may keep, or they must repay 50% of the administrative fees paid by AHCA.

Exclusive Provider Organization (EPO)
At the time of our visit, the EPO initiative was not yet operational. In March of 2002, AHCA released a Request for Proposals (RFP) to begin an Exclusive Provider Organization (EPO) program for 22 counties (half of which are rural) that currently have limited managed care options to Medicaid recipients because of a lack of HMO coverage. In theory, the EPO arrangement will work much like an HMO, but with less stringent financial solvency requirements than an HMO. By April of 2002, one licensed EPOs had demonstrated interest in covering these areas, but no contracts had been finalized at the time of our study.

Disease-Focused Health Management

In 1997, the Florida legislature directed AHCA to design and implement a disease management initiative to improve health outcomes and reduce Medicaid spending on a number of chronic and high cost conditions. AHCA was instructed by the Legislature to "select methods for implementing the program that included best practices, prevention strategies, clinical-practice improvement, clinical interventions and protocols, outcomes research, information technology, and other tools."[4] In response, the Agency convened a task force to develop a plan for disease management for the Medicaid population. The goals were to promote and measure improvements in health outcomes, reduce inpatient hospitalization and emergency room visits, and ultimately reduce program costs. Using utilization data, AHCA identified the highest cost conditions. This information was used to decide which conditions to target. AHCA was also involved in developing program recommendations, which were presented to the legislature and adopted. The disease management program began in 1999.

AHCA's approach in implementing the disease management initiative is constantly evolving. At the time of our visit, the state contracted with external organizations specializing in disease management to provide services to MediPass population. Initially, the contracts were limited to licensed Disease Management Organizations (DMOs), which specialized and focused on a single condition for a defined geographic area. To participate, the DMOs were required to sign a contract guaranteeing a minimum of 6.5% cost savings to the state.

More recently, the state has expanded their approach and negotiated with other types of contractors, including the University of Florida, Pfizer Health Solutions and Bristol-Myers Squibb, to coordinate disease management services for certain geographic areas and population segments. Unlike the DMOs, these contractors are obligated to actively manage multiple conditions as defined by their contracts. Pfizer Health Solutions and Bristol Myers Squibb are

[4] http://www.fdhc.state.fl.us/Medicaid/Disease_Management/index.shtml

also required to guarantee certain cost savings to the state. Table 2 describes each of the contracts that were active in the Spring of 2002.

Currently, seven conditions are being targeted for case management including diabetes, HIV/AIDS, asthma, hypertension, hemophilia, congestive heart failure (CHF) and end stage renal disease (ESRD). Projects for additional conditions, including sickle cell anemia, auto immune disorders, and mental health problems, are either in development or in the initial stages of implementation.

Table 2. Disease Management Contracts

Disease	*Contractor(s)*	*Service Area*	*# Rural Counties*	*Initiated*
Diabetes	Coordinated Care Solutions[1]	Statewide	33	May 1999
	Pfizer Health Solutions*	Statewide	33	December 2001
	Bristol-Myers Squibb*	Broward, Dade, Lee, Manatee, Pasco	0	Not yet implemented
Hemophilia	Care Mark	Areas 1-6	28	September 1999
HIV/AIDS	Positive Healthcare	Statewide except Broward and Dade	33	July 1999
	South Florida Community Care Network	Dade and Broward	0	Not yet implemented
Chronic Heart Failure	Life Masters	Areas 1-7	28	September 2000
	Pfizer Health Solutions*	Statewide	33	December 2001
End Stage Renal Disease (ESRD)	Renal Management System Disease Management, Inc.	Statewide	33	September 2000
Asthma	Pfizer*	Statewide	33	December 2001
Hypertension	Pfizer*	Statewide	33	December 2001
Mental Health	Bristol-Myers Squibb*	Broward, Dade, Lee, Manatee, Pasco	0	Not yet implemented
Auto Immune Disorders	University of Florida	Statewide	33	Not yet implemented

[1] Contract terminated in June 2002.

*Care not delivered directly by contractor. Pfizer initiative is a cooperative agreement with 10 major hospitals and a call center to provide care management. Recipients in the Bristol-Myers Squibb project receive care through Federally Qualified Health Centers (FQHCs).

address the co-occurring conditions, nor are they provided additional resources to provide such additional care.

> ***Good Policy?***
> The performance audit branch of the Florida legislature, Office of Program Policy Analysis and Government Accountability (OPPAGA) has criticized AHCA's policy for DMO management of comorbidities in two 2001 reports. [5,6] Their concern is whether patients receive adequate education, resources, and medical monitoring for secondary chronic conditions. Our discussions with representatives from Positive Healthcare and Life Masters, DMOs that care for many beneficiaries with multiple illnesses, revealed that while DMOs may not have contractual obligations to manage secondary conditions, they typically try to address other health issues as they arise. The care managers are nurses that have training and experience caring for health problems that commonly accompany the disease they are helping to coordinate. Further, these DMOs recognized an inability to manage the designated condition absent management of the comorbidities.

As Table 2 demonstrates, the DMOs are each responsible for certain service areas of the state according to their contracts. AHCA has divided the state into standard service areas for the purpose of these contracts, and those regions are defined in Map 2. Currently only one of the DMOs covers the entire state of Florida. Coordinated Care Solutions, a DMO specializing in diabetes care, initially served the entire state but gradually conceded portions of its service area until June of 2002 when the contract was terminated entirely. We were told that the Bristol-Myers Squibb and Pfizer initiatives would assume the beneficiaries who had been under the care of CCS. While there is clearly overlap in the service areas of these five DMOs, there is essentially no coordination or communication between the agencies because they do not manage the same clients. Each DMO has a different approach to care management, which varies from electronic or telephonic contact with patients to routine in-person visits. Each DMO's contract specifies AHCA's expectations for care management from the DMO; however there is not a uniform care management process prescribed by AHCA. According to the 1915(b) waiver renewal for MediPass, the agency deliberately avoided such instruction because it was their intention to test the various care management models by contracting with vendors using varied approaches. This would enable the state to assess the strengths and weaknesses of each model.

Identifying Program Participants

Typically, beneficiaries are initially identified for participation in the disease management initiative through claims data. The Medicaid Agency has developed algorithms that detect recipients who might be eligible for disease management by certain combinations of ICD-9 (diagnosis) and NDC (drug therapy) codes. MediPass recipients meeting the criteria for one of the targeted conditions are enrolled in the disease management program and assigned to the contractor appropriate for the conditions and geographic area in which the person lives. Occasionally, recipients are referred to the DMOs by their PCPs or a hospital discharge planner if a medical encounter reveals the presence of one of the seven targeted conditions.

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[5] OPPAGA. November 2001. Expected Medicaid Savings Unrealized; Performance, Cost Information Not Timely for Legislative Purposes. Report No.01-61.

[6] OPPAGA. May 2001. Medicaid Disease Management Initiative Sluggish, Cost Savings Not Determined, Design Changes Needed. Report No. 01-27.

Representatives of the DMOs told us that the best way to identify patients was through "real time" hospital emergency room or admission records, as it was easier to then locate the individual and educate them about the disease management initiative. Waiting for the state to "verify" that a Medicaid recipient had a particular condition through the claims data caused problems—because by the time the claims data reached the state system, it could be much more difficult to locate the patient. The DMOs that we interviewed described different procedures to address this problem. Life Masters, the DMO focusing on congestive heart failure, waits until the state verifies that a patient has congestive heart failure before enrolling the patients. In contrast, Positive Health Care, the HIV/AIDS DMO begins to immediately offer services and then work with AHCA to enroll the clients retroactively based on lab test results or referrals.

On a monthly basis, each contractor is sent a list of their newly enrolled clients. The recipient is immediately sent written notification of their eligibility for disease management benefits and is given a 30-day period during which they may voluntary disenroll (an opt-out period). The beneficiary's primary care provider (PCP) is also notified of the patient's eligibility for disease management services by the DMO. Within three months of enrollment in MediPass, the PCP is expected to conduct a health assessment for all new MediPass clients. The state provides PCPs with a standardized form for the purpose. At the end of the 30-day opt-out period, the contractor can begin contacting the recipient by telephone or home visits. Eligible recipients can disenroll at any time.

Each of the DMOs we interviewed described difficulty finding newly enrolled clients. In part, this is due to the transient nature of the population and the frequent problem of recipients not having working telephones. The care managers and case finders with whom we talked, estimated that between 20 to 40% of their clients did not have working telephones; however these estimates were not supported by any official documentation. Some of the contractors engage in intense 'case finding' to locate their new clients and conduct an assessment. This case finding may involve records reviews (conducting property searches, obtaining incarceration lists), home visits and visits to provider offices. For some conditions, a nurse manager may also visit the enrolled recipient's primary care provider's office and do a chart review to get a more complete case history on the client, including a detailed account of the patient's prescribed medication regimen or a history of lab values.

Finding rural recipients can be a particular challenge because the case finder must drive to rather remote areas with no guarantee of finding the person, possibly having to return if the client is not at home or having to follow a new trail of clues. Searching for recipients in urban areas is somewhat more efficient because the distances between clients is not as great, and often case finders can search for multiple clients at a time. Some of the DMOs told us that working with rural health departments and providers was an effective strategy in rural areas, as providers sometimes have more up-to-date contact information and may be willing to contact the DMO when the patient they are looking for shows up in the practice. However, the downside of this approach is that it requires a significant time investment to maintain these relationships, a commitment that some DMOs were less willing to make.

Once the DMO contacts the recipient, they confirm that the recipient has the specified condition. We heard from some of the representatives of the DMOs that between 20% to 30% of the

recipients initially identified through claims data are not eligible for the disease management programs, either because they are children and enrolled in CMS, do not have the specific disease, or are no longer eligible for Medicaid. DMOs will assess the severity of the health problems for individuals properly enrolled in the DMO. Each DMO uses its own assessment tool. Several of the DMOs consider non-medical factors in their stratification of risk. For example, DMOs recognize that living circumstances and family stability may be important factors in adherence to care plans, thus these factors influence the client's assessed risk status. Some DMOs conduct these severity assessments by telephone, but others find it is easier to assess psychosocial issues which affect a patient's condition and care compliance by conducting home visits. However home visits are not feasible in some cases because the client may want to keep their illness confidential from their family or neighbors.

DMOs must return the administrative fees for any individual that is ultimately determined to be ineligible for the disease management program. This provides a financial incentive for the DMO to quickly contact all eligibles to determine their eligibility for the program.

Care Coordination

One common feature among the DMOs is that they all employ nurse care managers to coordinate care for enrolled beneficiaries. The three DMOs that we studied reported that all case managers are registered nurses (RNs). Care managers are limited to 250 clients by AHCA; however some DMOs set lower ratios. For example, Positive Healthcare reported that their care managers have approximately 125 to 175 clients to manage and each has a mix of high, medium and low risk patients. In general, care managers are responsible for a defined region and are assigned clients that reside in that area. Care managers serving the more rural counties may be responsible for large geographic areas, and have to spend considerable time traveling to and from clients.

All of the DMOs engage in certain care management activities, including patient education, coordination of medical care, arrangements of some social services, monitoring the patient's condition, and follow-up. Care managers are required to provide feedback to the patient's PCP on a regular basis and act as an extension of the provider by answering questions about their disease or treatment and counseling the patient on how to self-manage their condition. There is considerable variation in the means of patient contact, however, from the very comprehensive hands-on style Positive Healthcare takes the more limited, telephone/electronic dependent approach that other DMOs, such as Life Masters or Coordinated Care Solutions takes with its clients.

Patient Education

Each of the DMOs provide some form of patient education whether through mailings or through face-to-face information sessions. The DMOs help teach their members about behaviors and lifestyle choices that affect their health problems. DMOs also help to teach enrollees to use equipment that monitors their health condition. Most DMOs provide patients with journals to track their medication regimens and to document their symptoms and general health status as a way of promoting self-management. Many of the DMOs engage in ongoing patient education by mailing newsletters, magazines, or informational pamphlets and by sponsoring health fairs that involve clients in health promotion activities and learning. By contract, all written materials must be written at or near the fourth grade level and made available in foreign languages as needed to ensure that patients understand the advice provided.

LifeMasters, which manages patients with congestive heart failure, has a structured patient education program that it provides all new enrollees. Patient education is provided by a dedicated clinical education specialist (CES) and nurses employed by Gentiva, a home health agency under contract with LifeMasters. The CES provides direct patient counseling in regions 5, 6 and 8 and Gentiva provides support in the more rural parts of their service area, regions 1-4, 7, and 9 (see Map 2). All Gentiva patient educators are nurses and are trained by LifeMasters' CES to assure consistent training of all enrollees.

The content and depth of the disease education varies somewhat according to the patient's disease severity, needs and individualized care plan; but at a minimum involves instruction on how to use monitoring devices and how to send daily readings, called Interactive Voice Responses (IVRs) to a central database that monitors the patients' health conditions and risk factors (such as high blood pressure or rapid weight gain) that lead to congestive heart failure. During the training session, which may take place in a patient's home or in a classroom setting, the CES instructs the client on how to identify warning signs of deterioration, and usually involves a full medication review with the patient. The clinical education specialist may also provide nutritional counseling after reviewing the food items in a patient's cupboard. The CES teaches the client how to read nutrition labels for important dietary information and provides the patient with advice on diet modifications. All LifeMasters clients are provided with educational materials during their session, including health promotion videotapes and a manual called "A Stronger Pump." This manual contains easy to read information on the causes and mechanics of heart disease, detailed clinical and drug therapies for heart disease, diet and exercise recommendations (including lists of heart-smart and heart-risky foods), and worksheets for self-monitoring. Clients are given journals to track their symptoms, vital signs, and changes in daily activities due to their heart condition. Patient follow-up is usually in the form of informational mailings; however, patient educators may schedule another training session if the client requests additional information or if the nurse care manager detects that the patient is having specific difficulties with their care plan.

An obvious limitation of the telephonic or electronic mode of communication is that it depends on the beneficiary having access to these technologies. As previously mentioned, a significant portion of the MediPass population do not have telephones or computers, and many of those that do frequently have interruptions in their service because they are transient or have difficulty paying their bills. Both LifeMasters and Coordinated Care Solutions explored the possibility of purchasing telephones for their enrollees; however the contract with the state did not include sufficient funds to pay for this effort. Another problem in relying almost exclusively on telephone contacts is that it precludes the nurse care manager from visually observing changes in the patient's status and relies on self-reporting to identify potential problems.

Patient Contact and Monitoring

The frequency and nature of contact the care managers have with patients varies across DMOs and is influenced by several factors. Some DMOs insist on face-to-face interactions between care managers and patients, while others rely on telephonic or electronic communication. With only one exception, the five DMOs serving MediPass clients use a combination of the two approaches. To some degree, the nature of the disease influences the general approach employed by the contractor. Another important factor DMOs consider in designing care plans is a patient's

assessed risk status—DMOs contact high and moderate risk individuals more frequently than low-risk individuals. Each DMO's approach has strengths and weaknesses, some of which are highlighted in the descriptions that follow.

The complex psychosocial aspects of HIV/AIDS, in the opinion of the Positive Healthcare staff, necessitate an approach of regular in-person contact between care managers and patients to properly care for the client. Therefore, care managers travel to their clients to talk with them about their health status and to assess any needs they may have. The regularity of in person versus telephonic patient contact varies somewhat among the care managers, but contract provisions mandate that care managers contact low-risk clients monthly; moderate/medium risk clients biweekly; and high-risk clients weekly. One nurse explained that she makes an effort to see all of her clients in person at least once a quarter and interim communication is done by telephone. Clients may also initiate contact with their care manager if they have any concerns or needs. Care managers are given cellular phones so that they can receive calls from clients during business hours even when traveling. After hours coverage is provided through a nurse advice line. Care managers explained that this open communication is needed to build trust and credibility with the clients. The care coordinators thought this was especially true for rural enrollees, because rural areas typically had fewer support systems or resources than the urban areas. As a consequence, rural clients with HIV/AIDS tended to be more isolated and in need of assistance.

> ***AIDS Service Organizations (ASOs)***
> Care managers for HIV/AIDS patients may need to coordinate care with a case worker employed by an ASO. These caseworkers are an additional resource for clients with full-blown AIDS; their primary function is to coordinate the individual's social services. The Positive Healthcare care managers work closely with these caseworkers to avoid duplication of efforts and to ensure that all of the beneficiary's needs are met.

Other DMOs, such as LifeMasters (chronic heart disease) and Care Mark (hemophilia) manage and monitor patients more by remote contact instead of in-person visits. In fact, Care Mark client communication is exclusively telephonic. The process of care management for LifeMasters enrollees begins with an in-person education session that permits subsequent monitoring to be done remotely. During the patient education session, clients are instructed and equipped (with digital blood pressure cuffs, scales, and/or touchtone telephones) to take their vital signs, and weight, and to transmit those readings by telephone or computer to a central patient database located in California. The nurse care managers for Lifemasters are located in California and their disease management services are conducted completely by telephone and fax.

The LifeMasters nurse consultants make calls to clients on a schedule dictated by their risk status. High and moderate risk clients are called weekly and low-risk clients on a quarterly basis to inquire about their condition (symptoms and sick days) and to provide information about medications, tobacco use, diet and exercise. These calls are scripted using a disease management protocol developed for people with CHF. Care managers discuss any problems the patient is experiencing and provide advice according to the individual needs of the client. During the call, the patient and nurse consultant review trends in the patient's blood pressure, pulse and weight, as submitted through IVRs and discuss any important changes in their health status.

LifeMasters nurse care managers are also responsible for responding to alert reports the central patient database generates on abnormal IVR readings. The care managers must contact their patients immediately to verify readings that are out of normal parameters, and if the data are confirmed to be abnormal, a Patient Exception Report is generated and faxed immediately to the PCP. The report informs the PCP of the abnormal readings and provides the PCP with essential patient information (medication inventory, summary of patient's vitals, care plan) and a recommended clinical care guideline. The form includes a section for the PCP to fill out and fax back to LifeMasters so as to update the nurse care manager on action taken. Within a few days, the care manager contacts the patient to confirm that the provider took action and to ensure that the patient's condition has stabilized.

Other Care Management Services
Care managers in some DMOs also locate specialists and interface with other social services agencies as needed for their enrollees. They may arrange transportation for the client to see medical providers or pick up prescription drugs or arrange for the client to receive in-home meal delivery if they cannot prepare their own food.

Nurse Advice Lines
By contract, each of the DMOs must provide 24-hour, 7 days-a-week access to their clients. Each of the DMOs we studied makes available a toll-free advice hotline, staffed with registered nurses who may also be care managers. In general, the nurse attendants assist callers in determining the urgency of a problem and if it is a true emergency, the on-call nurse advises the person to go to the hospital emergency department. Because MediPass PCPs are required to provide 24/7 coverage, the DMO's advice line often encourages the caller to contact their PCP for complex problems as they do not have medical histories or patient information on hand. By contract, each DMO must provide the nurse advice services with multilingual capabilities through staff or translator services.

At least one DMO, Positive Healthcare, described improvements they are making to enhance the nurse advice line capabilities. This DMO is working to provide the on-call nurse immediate access to its patient database, which contains important information about all of its enrollees. With this new system, the on-call nurse would be able to review information about the beneficiary's care plan, health status, prescription regimen, and medical diagnoses. This system is under development and an implementation date was not provided.

Hospitalizations and Emergency Room Utilization
In an effort to aid the disease management contractors in patient finding, AHCA has developed a system to alert them when enrolled patients present in hospital emergency rooms. Each recipient enrolled in one of the disease management programs is provided a swipe card that identifies the patient's DMO. In theory, the emergency room attendant is supposed to call that contractor immediately to inform them of their enrollee's presence in the hospital. This system presents the opportunity for case managers to speak with their enrollees, possibly for the first time, and provide information about care management services available to them. This system is relatively new, and we were told that it does not yet work as intended because the ER attendant does not always contact the contractor.

Primary Care Providers
PCPs are responsible for communicating with DMOs that help to manage their patients' care. The DMO is required to provide the PCP with best practice guidelines for the conditions they specialize in and for keeping the PCP informed of the recipient's progress and adherence to their care plan. AHCA recently modified the provider contracts to explicitly require PCPs to coordinate with DMOs and care managers because there had been problems getting PCPs to voluntarily maintain this contact.

Several DMOs are actively working to enhance communication between the PCPs and care managers to better enable care managers in monitoring their patient's condition. One comment made by several of the DMOs was that care management would be much more effective and informed if PCPs would make a better effort to share important lab values and exam summaries. For example, Coordinated Care Solutions (CCS) care managers would have a better gauge on their diabetic patient's health status if they had access to Hemoglobin A1C test results, and summaries of eye and foot exams. LifeMasters described plans to test the use of financial incentives as a method to encourage PCP's communication with care managers; doctors that complete and return their questionnaire on the use of Ace inhibitors will be paid a small fee for their time. In general, the DMOs did not perceive a resistance to cooperate among PCPs; rather case managers perceived it as a lack of the PCP's time that impeded the process.

Data Systems
The sophistication of data systems and abilities of staff to operate these systems varies among the DMOs. The patient database used by LifeMasters is built around IVRs submitted by patients, supplemented by the assessments of care managers and some treatment summaries. Other DMOs offered little information about their data systems.

Positive Healthcare describes its system as "state-of-the-art" and the potential of this disease management software, which was designed specifically for HIV/AIDS, is impressive. The system, as designed, will include patient demographics and background, clinical data (including office visits, lab results, treatment regimens, prescription inventory, and medical histories), physician information and case management information (contacts, appointments, assessments). Some of the data are collected by nurse care managers (lab values) and other data (claims) come directly from the state. Once completely implemented, the system would permit comprehensive analysis to aid care management planning. It would also allow the DMO management to review patterns in outcomes related to certain providers or care plans. While the system was not fully operational at the time of our interview, it was expected to be live by Summer 2002.

Finance Structure of DMO Initiative
The premise of the disease management initiative is that helping certain high cost individuals better manage their diseases would both help improve their health and lead to cost savings in the program. Initially, DMO contracts varied in their levels of guaranteed cost savings; however all contracts currently require that the DMO produce 6.5% cost savings annually for the population they are managing. DMOs are paid an administrative fee per member per month (pmpm), to hire care managers and implement the disease management protocol. The amount of the administrative fee varies across and within DMOs by disease and acuity; there is no geographic adjustment in the payment. In a sense, the administrative fees are interim payments because the

DMO is not actually guaranteed any payment unless they produce the specified savings in their contract. At the end of the contract period, the DMOs calculate the total annual cost of care for their members, including both health care and administrative costs paid on behalf of their members. These costs are compared to the expected costs absent a disease management initiative to determine the extent, if any, of the cost savings. The expected costs are calculated using a base year, agreed upon in the contract, and then inflated forward using various factors such as general medical inflation. If the DMO achieved cost savings above the 6.5% guaranteed in their contract, they split the savings with the state. However, if they fall short of the 6.5% savings, they pay the state the difference to ensure a 6.5% net savings. This performance based payment arrangement ensures that the initiative will not cost the State of Florida additional monies and presents the possibility of reducing costs for an expensive population of health care users.

Annual reports submitted to AHCA for their first contract year by five of the DMOs purport that each of the DMOs did realize cost reductions as a result of the intervention. At the time of our visit, only one DMO, Positive Health Care, had reconciled its first year of operations with AHCA and agreed upon the produced reductions. Positive Health Care, the DMO managing HIV/AIDS patients, showed $5.8 million in savings for their population, which exceeded the 6.5% contractual guarantee and permitted them to take part in shared savings. Positive Health Care staff also suggested that there were additional cost savings to the state through reduced use of non-Medicaid services that were not calculated as part of the intervention's cost-savings.[7] Other DMOs, such as CCS were in dispute with the state over whether there were any cost savings as a result of the diabetes disease management initiative. By mutual consent of both parties, a third party arbitrator had been hired to review the CCS cost reconciliation calculations and determine whether the DMO had achieved the requisite cost savings or whether it owed money back to the state.

Part of the problem which surfaced in the CCS dispute was that the initial AHCA DMO contracts were not sufficiently clear in how the state would calculate the expected costs that would have been incurred absent the disease management initiative. The original contract language did not specify the base year amounts, or how this would be trended forward over the life of the contract. To correct this point of confusion, the contract language was tightened so that both parties had a clear understanding of how the savings would be calculated at the end of the 2nd year. A complete description of the agreement between AHCA and the DMOs about shared savings is contained in Appendix I; however, the following citation summarizes the methodology for establishing baseline payments (Attachment V, Section C, 2):

[7] Positive Health Care Staff noted that while hospitalizations and emergency room visits were on the decline, the cost for prescription drugs among its enrollees has risen since inception. This was not an unexpected event, as drug compliance is correlated with decreased hospitalizations, which is one of the goals of the initiative. With new drug therapies, the condition of some HIV/AIDS patients has improved considerably, making some services, such as homemaker services and meals on wheels, unnecessary as they regain ability to perform those functions. The current AIDS Service Organizations do not regularly reevaluate the health needs of clients and thus some services continue beyond the period of necessity. Nurse care managers are able to assess these needs and recommend discontinuation of such services, with the client's consent. Although some of these cost savings are not quantifiable in terms of Medicaid expenditures, the state realizes these savings in other program budgets.

The baseline payment reflects an estimate of the level of MediPass recipient costs that the Agency would expect to incur in the absence of implementing the disease management initiative. The baseline payment will be derived from a claims analysis involving eligible MediPass recipients. ... All paid claims for these recipients, while enrolled in MediPass, will be aggregated to determine total expenditures for the Baseline Period. ... These expenditures will be divided by the total number of case months for recipients eligible for [DISEASE] management to obtain a dollar expenditure amount per recipient per case month. This dollar expenditure amount per recipient per case month will be inflated based on yearly Medicaid budget adjustments and will be referred to as the baseline payment per recipient case month. This will be used in the calculation of the baseline payment. Fiscal year 1997-98 dates of service will be used to establish the Baseline Payment for [CONTRACTOR'S] first operational year. Fiscal year 1998-99 dates of service (or the most current available fiscal data) will be used to establish the baseline payment for [CONTRACTOR'S] second operational year.

Additionally, the Positive Healthcare contract contained a clause, which protects the DMO from losses due to the introduction of expensive new therapies for HIV/AIDS.

...If payments made by AHCA on behalf of [contractor] in a contract year include payments for new treatments or therapies introduced during that contract year, AHCA will develop and establish, with input from [contractor], an appropriate and rational factor for these new costs and add that factor to the established baseline payment prior to performing a final costs savings calculation.

Follow-up communication with AHCA yielded additional information about DMO cost reconciliations, which is summarized in Table 3. Although total cost savings for the disease management initiative were not available for many of the contractors as they had not yet completed cost-settlement with the state, data were available indicating the administrative costs for all contractors and savings for some of the vendors. These data demonstrate that the disease management initiatives have proven to be successful in reducing Medicaid expenditures for the targeted conditions.

A study conducted by Georgetown University (GU) and Florida State University (FSU) examined the per enrollee expenditures for participants and non-participants in several of the disease management initiatives.[8] The evaluation generally found that pharmaceutical, outpatient and inpatient expenditures for participants (per enrollee) were slightly lower than for non-participants with the same conditions (AIDS, diabetes, and hemophilia); though there was variation in the size of the difference among the DMOs and by eligibility and demographic categories in this finding.[9] The study also compared expenditures for program participants before and after the disease management began. Regression analyses demonstrated cost savings were associated with the disease management intervention at a significant level with the largest effects observed in the HIV/AIDS population. This study suggests that, on average, the disease

[8] Parker, Suzanne L.; Mitchell, Jean M.; Cowart, Marie E. June 2001. *Evaluation of Disease Management in the Florida Medicaid Program: AIDS, Diabetes, and Hemophilia.*

[9] AHCA disagreed with some of the methodologies employed in the study and felt that the cost savings was actually greater for participants in the disease management initiative.

management initiative was achieving some cost savings, although the extent of this cost savings was uncertain.

Table 3. Disease Management Cost Reconciliation

Condition	*DMO*	*Contract Period*	*Administrative Costs*	*Gross Savings*	*Net Savings*
Diabetes	Coordinated Care Solutions	Year 1	$ 7,575,842	TBD*	TBD
		Year 2	$ 7,208,641	TBD*	TBD
HIV/AIDS	AIDS Healthcare Foundation	Year 1	$ 2,479,492	$ 5,773,730	$ 3,294,238
		Year 2	$ 4,048,485	$ 7,613,451	$ 3,564,966
Hemophilia	Accordant	Year 1	$ 75,600	$ 112,912	$ 37,312
		Year 2	$ 54,900	TBD	TBD
	Caremark	Year 1	$ 47,872	$ 825,745	$ 777,873
		Year 2	$ 35,775	TBD	TBD
ESRD	RMS	Year 1	$ 7,404,416	TBD	TBD
		Year 2	$ 5,603,250	TBD	TBD
CHF	LifeMasters	Year 1	$ 3,906,875	TBD	TBD
		Year 2	$ 4,373,000	TBD	TBD
Total			*$ 42,814,148*	*$ 14,325,838*	*$ 7,674,389*

*Pending final reconciliation from third-party
Source: AHCA Medicaid Budget Reduction Report-FY 2001-2002, September 2002

One important observation by an HIV/AIDS representative was that although hospitalizations and ED visits are on the decline, the cost for prescription drugs among its enrollees has risen since implementation of the intervention. This was not an unexpected event, as drug compliance is correlated with increased expenditures. Another observation by a care manager of the DMO was that she believes that the program is reducing overall costs by eliminating unnecessary services as a function of care management. She explained that with new drug therapies, the condition of some HIV/AIDS patients has improved considerably and that many services, such as homemaker services and meals on wheels, become unnecessary as they regain ability to perform those functions. Because the Project AIDS Care (PAC) waiver program does not consistently reevaluate the needs of clients as their condition improves, some services continue beyond the period of necessity for those patients who respond well to therapies and regain functional abilities. DMO nurse care managers are able to assess these needs and recommend discontinuation of such services, with the client's consent. Thus, savings to the state as a result of the Medipass disease management initiative extend beyond the Medicaid budget.

Improved Clinical Outcomes and Quality Improvement

In addition to guaranteeing the state 6.5% in cost savings, each DMO must show positive improvement in specified clinical indicators. By contract, DMOs must document changes in these clinical indicators in their annual reports to the state. Some of the clinical outcome indicators are common to all of the DMOs, such as reduced emergency room visits, hospitalizations, length of stay, re-hospitalizations, recipient satisfaction, and patient knowledge. Others outcome measures are disease specific and reporting is only required of the DMO specializing in the condition. For example, the vendors specializing in diabetes care must also report improvements in the number of patients receiving opthamalic exams and having glycosylated hemoglobin (HbA1c) values within normal range. The HIV/AIDS DMO must

report improvements in average CD4 and viral load values and the number of each test performed, the rate of opportunistic infections, and the rate of prophylaxis for mycobacterium avium complex (MAC) and pneumocystis carinii pneumonia (PCP) prophylaxis for patients with low CD4 values.

Reviewing five of the DMO annual reports released to us by AHCA, we found wide variation in the type, breadth and presentation of information reported back to AHCA by the DMOs. Only one of the DMO annual reports, submitted by Positive Healthcare in March 2001, included data on all of the clinical outcome measures they were contracted to address and report, and most inconsistently (if at all) provided comparisons of those indicators pre- and post-intervention. Some of the reports extensively document characteristics of their enrolled population, enrollment and disenrollment trends, the number of case manager-patient contacts, and selected (patient success) case studies; however, overall much less focus was concentrated on reporting utilization and outcomes of the enrolled population. The DMO contracts we reviewed explicitly require DMOs to include specific indicators in their annual report. This lack of standardized reporting of the DMOs and the resulting inability to document outcome improvements resulting from the initiative is a glaring weakness of the disease management program.

Table 4. Reported Clinical Outcomes: Coordinated Care Solutions

Clinical Outcomes	*Goal Direction Desired*	*Baseline ('98-'99)*	*Year 1 ('99-'00)*	
		Rate	*Rate*	*% Change*
Hospital Admissions (per 1,000)	Lower	615	428	-30%
Emergency room visits (per 1,000)	Lower	201	176	-12%
Length of Hospital stay	Lower	N/R	N/R	N/R
Re-Hospitalizations	Lower	N/R	N/R	N/R
Patient Knowledge	Higher	10%	31%	210%
Recipient Satisfaction	Higher	Difficult to quantify due to multiple measures over time with varying values*		
Incidence of complications/comorbidities	Lower	N/R	N/R	N/R
Glycosylated hemoglobin (HbA1c) values within normal range	Higher	28%	49%	76%
Opthalmic exams	Higher	30%	41%	37%

Source: A Report on the First Contract Year of the Diabetes Solutions Program (DSP): May 1999 to April 2000. Coordinated Care Solutions.

*Satisfaction rates, measured through patient satisfaction surveys increased consistently each quarter during the first year of implementation for a number of issues including: Diabetes-concerned needs being met; the initiative's effect on improving patient ability to get information to take care of condition by oneself; nurse having appropriate knowledge of diabetes.

N/R indicates Not Reported

However, data provided by two of the DMOs in their annual report do indicate some improved outcomes as the result of these interventions. Tables 4 and 5 summarize improvements observed and reported by CCS and Positive Health Care in their annual reports and identify data elements that the DMOs were required to but did not report on.

Table 5. Reported Clinical Outcomes: Positive Healthcare

Clinical Outcomes	*Goal Direction Desired*	*Baseline ('98-'99)*	*Year 1 ('99-'00)*		*Year 2 ('00-'01)*	
		Rate	*Rate*	*% Change**	*Rate*	*% Change**
Hospital Admissions	Lower	N/A	1,055	N/A	N/A	N/A
Emergency room visits (pmpm)	Lower	12%	12%	0%	12%	0%
Length of Hospital stay (days)	Lower	N/A	5.6	N/A	N/A	N/A
Re-Hospitalizations	Lower	N/A	163	N/A	N/A	N/A
Patient Knowledge	Higher	Difficult to quantify due to multiple measures with varying values				
Recipient Satisfaction	Higher	Difficult to quantify due to multiple measures with varying values				
Average CD4 value	Higher	Actual rates not reported; sample reported to show improvements				
Average Viral Load value	Lower	Actual rates not reported; sample reported to show improvements				
Cytomegalovirus (CMV) hospitalization rate (annual)	Lower	5%	2%	-62%	1%	-81%
Average number of viral load tests done annually (per member annualized)	Higher	0.564	2.47	338%	1.94	244%
Average number of CD4 tests done annually (per member annualized)	Higher	0.564	1.57	178%	1.5	166%
Mycobacterium avium complex (MAC) hospitalization rate (annual)	Lower	3%	1%	-62%	1%	-55%
Pneumocystis carinii pneumonia (PCP) hospitalization rate (annual)	Lower	8%	3%	-62%	3%	-61%
MAC prophylaxis at CD4<50	Higher	N/A	72%	N/A	82%	N/A
PCP prophylaxis at CD4<200	Higher	N/A	81%	N/A	87%	N/A
Opthalmic exams done at CD4<100	Higher	N/A	N/A	20%	25%	27%

Source: Annual Report to the Florida Agency for Health Care Administration: September 1, 2000-August 31, 2001. Positive Healthcare.

* From Baseline Year

N/A indicates that the measure was either not reported

CCS reported reductions in both inpatient hospital and emergency room utilization and also showed improvements in the proportion of enrollees receiving of opthamalic exams and in enrollee knowledge about diabetes. Most striking was the 76% increase in the rate of Glycosylated hemoglobin (HbA1c) values within normal range, indicating the initiative has successfully affected clinical outcomes for enrollees. Like CCS, Positive Healthcare's annual report suggests improvements in clinical outcomes such as reductions in the prevalence rates of key opportunistic infections. Additionally, Positive Healthcare reported increases in the proportion of patients getting viral load, CD4, and opthamalic examinations as well as preventive treatment against opportunistic infections. The omission of longitudinal data for key indicators such as Admissions, LOS, and re-hospitalizations in the report makes it difficult to assess Positive Healthcare's impact on acute care utilization; however hospitalizations for specific AIDS related conditions appear to have declined.

While statistics from these two annual reports suggest that the DMOs have realized success in improving clinical outcomes for their enrollees, some key indicators were not reported that limit the agency's ability to assess the initiatives' overall impact on quality improvement. CCS included data on only six of the nine targeted outcome indicators and Positive Healthcare reported on each of their 14 indicators (as well as two that were not required); yet the reports lacked data for the most recent contract period for several indicators. Other DMO annual reports had even less documentation of clinical improvements, if any. In response to questions about the omission of baseline data, AHCA indicated that internal review of claims data would be relied upon to indicate improvements in hospital and ER usage. However, no analysis of these data had been conducted during the time frame of our study. Additionally, AHCA pointed out that reported changes in clinical indicators were subject to bias for two reasons: 1) baseline data represent clinical values at the time of the enrollee's initial health assessment and are not reported for 100% of enrolled recipients; 2) clinical indicators for subsequent years are collected from medical records and during patient interviews and also do not represent 100% of the enrolled population.

Though we were not able to review the documented changes in clinical outcomes for all of the DMOs, respondents representing AHCA and the DMOs we interviewed indicated that hospitalizations and ED visits had been reduced since the implementation of the disease management program. The study conducted by researchers at Georgetown University (GU) and Florida State University (FSU), under contract with AHCA, offered very little evidence to substantiate these claims. This evaluation focused primarily on the disease management program's effect on expenditures with very little attention to utilization. To our knowledge, there are no other studies or internal AHCA analyses examining the effects of the program on utilization, outcomes or quality.

Discussions with AHCA officials and with DMO staff revealed internal and external quality improvement processes, beyond monitoring clinical indicators, to monitor and promote quality of care. For example, nurses employed by regional AHCA offices visit MediPass providers' offices and review patient records to determine if the provider is providing adequate care and if that care is well documented and coordinated with DMOs, if applicable. The records selected are a combination of those chosen randomly and those flagged because of grievances. Additionally, the state contracts with a peer review organization (PRO) to review 400 medical records for each of the managed care options (except CMS, which operates its own quality assurance program) on a monthly basis with the same intention of reviewing provider performance.

Other Disease Management Contracts

Pfizer Health Solutions Initiative

In July 2001, Florida developed a preferred drug list. Pharmaceutical companies that want to ensure that all of their drugs are placed on the preferred drug list have to agree to a supplemental rebate (in addition to the rebate paid under the federal Medicaid statute). Rather than agree to pay a supplemental rebate, Pfizer agreed to finance a new disease management initiative. Details of the Pfizer contract are not public record; however the agreement, as we were told, has three parts.

The most substantial part of the agreement is that Pfizer has committed to lead a disease management initiative through the 10 of the state's largest tertiary care hospitals. The initiative encompasses diabetes, asthma, congestive heart failure and hypertension. To begin, Pfizer will outfit each facility with Clinical Management System, Pfizer's proprietary case management software, and train staff to use the system. Pfizer also agreed to pay AHCA an undisclosed sum of money, which is redistributed to the participating hospitals, to hire case managers. These case managers are responsible for providing health education and care coordination to eligible recipients within the hospital's catchment area. Patients living outside of the catchment areas are assigned to McKesson call center for telephonic care management of the same chronic conditions. Eligible recipients are identified by AHCA through claims data and a list of potential enrollees is provided to Pfizer on a monthly basis.

Each hospital has a defined catchment area that includes the county in which the hospital is located and surrounding counties. In total, 23 counties (6 rural) were being served by the Pfizer initiative as of October 2002, and there were plans to expand to two additional (urban) counties. Map 3 identifies the hospitals and counties included in the Pfizer initiative. In March of 2002, Pfizer had approximately 54,000 MediPass recipients enrolled in their initiative, and that number was expected to grow to about 85,000 by October 2002. As part of the agreement with AHCA, Pfizer receives claims data on all enrollees, which feeds into the Clinical Management System, and provides case managers with additional medical history on their patients.

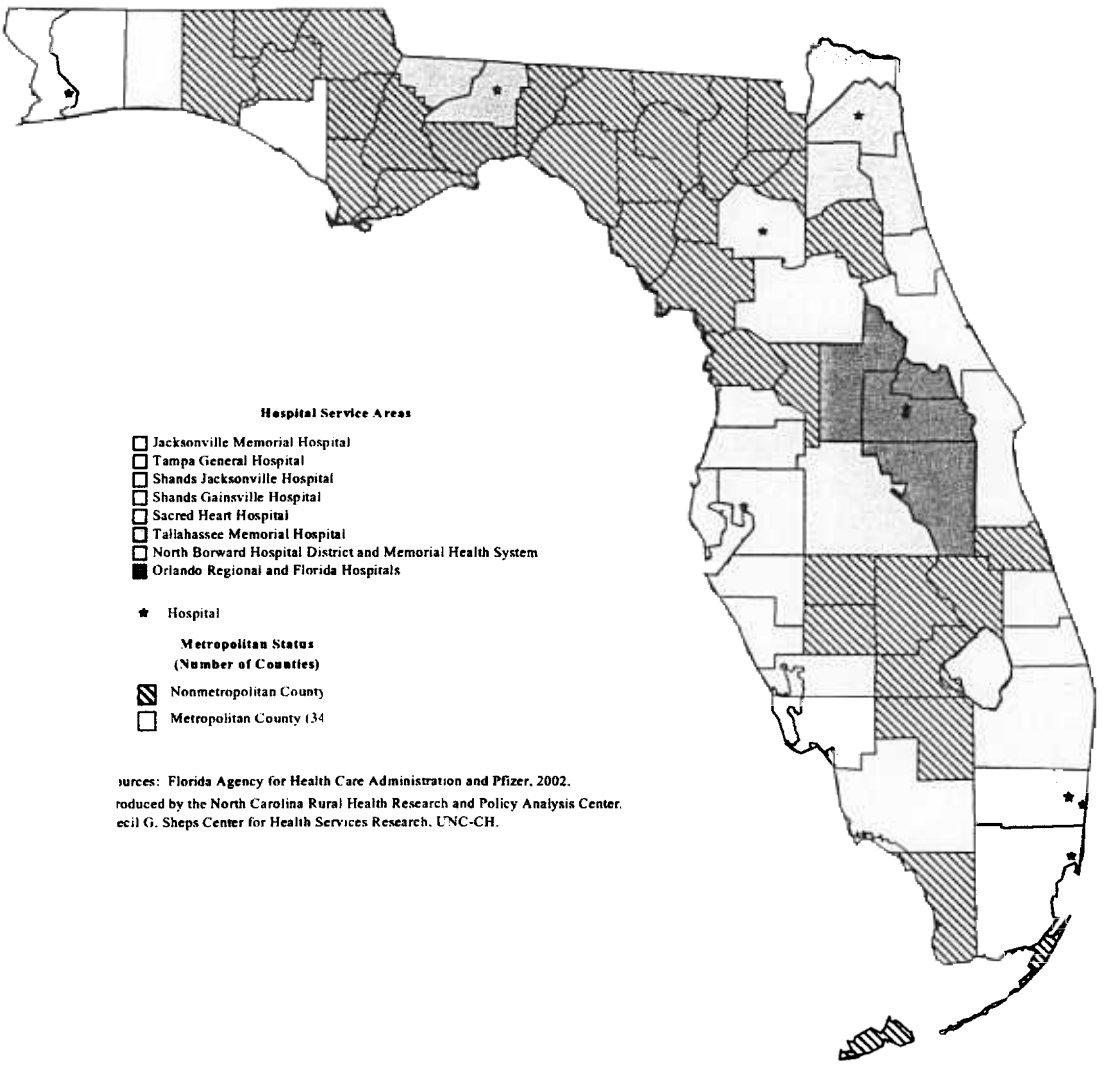
The second aspect of the agreement is that Pfizer will donate medications to be distributed to Medicaid patients at FQHCs across the state. Third, Pfizer has agreed to lead (and finance) a study of health literacy in collaboration with the University of Florida. The study will test the impact of health education materials on low-literacy populations in terms of health status and health care costs. Pfizer will use the findings to develop new materials and train health care providers to more effectively communicate health education information to people with low-literacy abilities.

In total, we were told that Pfizer has guaranteed savings to the state equal to a fixed sum that AHCA projected a supplemental drug rebate would have cost Pfizer. The guaranteed cost savings include the monetary value of product donations, costs associated with hiring case managers and the low-literacy study, and any claims reimbursement reductions attributable to the initiative. Like other contractors, Pfizer is at risk for the guaranteed fixed amount agreed upon by the two parties and must pay the state the difference if savings are not achieved.

Bristol-Myers Squibb (BMS)

The agreement between AHCA and Bristol-Myers Squibb is said to be similar to the Pfizer initiative, except it will focus on African-American and Hispanic Medicaid patients obtaining care in the state's FQHCs. Diseases targeted by this project include diabetes and depression. Like Pfizer, BMS will provide disease management software to help manage the care of Medicaid recipients in lieu of paying a supplemental cash rebate for drugs listed on the state's Preferred Drug List. Like Pfizer's contract, the BMS agreement is contingent on the company generating a minimum cost savings, or they must provide the state with cash payments equaling the difference.

Map 3. Pfizer's Medipass Disease Management Initiative: Participating Hospitals and Service Areas, 2002



The University of Florida
The autoimmune disorders initiative was implemented in January 2002. AHCA has paid the University $500,000 to develop a program to manage care for children with a variety of autoimmune disorders. By design, the children will go to the University of Florida campus to be seen by a panel of experts who will develop individual care plans for the recipients. They will recommend clinical pathways and work with local providers through telemedicine technology to manage the patient's condition. Unlike the other disease management contractors, the University has no obligation of guaranteeing cost savings as a condition of their contract.

Evaluation of Medipass Compared to the HMO Program

The primary goals of the fully capitated program and the MediPass disease management initiative are to improve health outcomes and to achieve cost efficiency in providing services. Measuring program effectiveness across these two models has been challenging. Because HMOs are paid on a capitated basis, it is more difficult to capture 100% utilization data than can be captured in the Medipass program through claims data. Therefore, it is difficult to compare the clinical outcomes across programs. In order to obtain some comparison data, the state examined selected Health Plan Employer Data and Information Set (HEDIS) measures across programs. However, these data represent differences observed during a one year period from 1998-99 and have not been updated to assess differences since the disease management initiative was implemented. Overall, very little work has been done comparing the different managed care models on measures of quality, and even less research has focused on the disease management initiative.

Furthermore, there is a lack of data comparing expenditures in the PCCM program to the HMO program as well on the realized DMO cost savings. Some research has been done comparing the costs of care for recipients enrolled in MediPass with the costs of FFS beneficiaries, showing that MediPass beneficiaries' average expenditures per person has consistently been lower than in the FFS system, even when high cost users such as CSHCN from the CMS program are aggregated with MediPass enrollees. However, no studies have compared the HMO and MediPass program expenditures.

Conclusions & Discussion About Rural Implications

Overall, Florida's disease management program for MediPass recipients includes some very unique and positive features, many of which are especially beneficial for rural enrollees. In general, the nature of rural health care practice is one of limited resources and increased access barriers, which the disease management program can help to overcome. Ideally, care managers serve as care extenders for PCPs who often practice medicine with limited support and who may be a sole source of care for large populations. Furthermore, care managers can help provide social service coordination for enrollees, which may be otherwise unavailable in small rural communities. The role of the care manager is value-added for rural recipients.

However, there are considerable challenges in operating a disease management program of this magnitude and those challenges were clearly observed in our study of MediPass' program. While these challenges are not specific to program operations in rural areas, they certainly apply to these communities and may even be more profound in rural areas. To begin, Florida's disease management program is very complicated and relies on vastly different approaches taken by a

multitude of participating contractors. This may have been useful to the state at the inception of the program, as they were testing various approaches for different diseases. However, PCPs may find it confusing and administratively difficult to communicate and coordinate with so many contractors and care managers. This may limit the ability of PCPs and care coordinators to establish relationships and ultimately undermine the program's intent. Since rural providers tend to be smaller practices with few administrative support staff, managing relationships and maintaining communication with numerous disease management program representatives may be an exceptional burden to these providers.

Additionally, the methods of care coordination used by some contractors vary for the rural populations within their service areas. This is especially true for the Pfizer initiative, in which enrollees living in the hospitals' (primarily urban) catchment area are assigned to care managers at the hospital while enrollees outside of that service area are managed by a call center. Many of the respondents we interviewed commented that it is more time-consuming and resource intensive to visit with patients in person in rural areas than in urban places. As a result, a number of contractors rely more heavily on telephonic communication for care management for their rural enrollees while urban recipients enjoy in-person visits with care coordinators. This is a potential concern for rural recipients, as telephonic communication depends on the patient's access to a telephone, which is problematic when dealing with a low-income population such as Medicaid recipients. Representatives of the DMOs shared that between 30-40% of their clients did not have working telephones. Perhaps the state should consider enhancing administrative costs provided for rural recipients to compensate the DMOs for the additional costs (travel time and distance) in contacting rural recipients.

As previously suggested, there is reason to have reservations about the state's solution to managing patients with multiple chronic conditions. The policy of assigning a patient to one contractor according to their most life threatening condition seems to have good intentions (streamlining responsibility); however it prevents the sharing of "best practices" because the vendors have no forum or responsibility to communicate with one another. For example, Positive Healthcare is assigned all patients diagnosed with HIV/AIDS, many of whom have other health problems. Although Positive Healthcare care managers may be capable of advising the patient on other illnesses, for example diabetes; the patient may not benefit from clinical practice guidelines and other "best practices" (health education, monitoring/coordinating systems) developed for their other chronic conditions.

Finally, there are considerable deficiencies and limitations in the data provided to and maintained by disease management contractors that could enhance care coordination. The reliance on claims data for identifying and assigning individuals to disease management program is problematic because those claims take several months to process. The DMOs had different understandings about their authority to enroll clients into disease management absent AHCA's assignment of the patient; for example, when a PCP refers them patients who have been recently diagnosed with a chronic condition. Delaying the identification of recipients and the commencement of care coordination services is problematic because the difficulty in locating these patients increases as time goes by and the patients obviously do not realize the benefits of the additional services as soon as possible. While some efforts have been made to assist DMOs in locating patients once identified through claims data (using the Medicaid card swipe system), the new system did not

appear to be working perfectly at the time of our visit. Furthermore, there is a lack of standardization in the reporting of utilization and outcome data by the DMOs, limiting the ability to assess the disease management initiative's impact on quality.

CASE STUDIES: NORTH CAROLINA

History

North Carolina began Carolina Access, a primary care case management (PCCM) program in 1991 under a 1915(b) Medicaid waiver. The program was developed jointly between the North Carolina Division of Medical Assistance (DMA, the North Carolina Medicaid agency), and the Office of Research, Demonstrations, and Rural Health Development (ORDRHD, the state Office of Rural Health). The primary goal of the program was to help link Medicaid recipients to a medical home. In 1991, Carolina Access started in five counties, and by 1999 it covered 99 of the state's 100 counties. Mecklenburg County the state's most populous urban county, started a fully capitated, managed care program in 1996, and by 2002 became the last of the 100 counties to start an Access program (in conjunction with their fully capitated program). Initially, Carolina Access paid primary care providers $3.00 pmpm for the first 250 patients, then $2.50 per member thereafter to manage the patients' care—however, all services provided were reimbursed on a fee-for-service basis. Currently, primary care providers in Carolina Access receive $2.00 pmpm. The definition of a primary care provider for North Carolina's Access Program includes general practitioners, family physicians, pediatricians, internists, OB/GYNs, nurse practitioners, physicians assistants,[10] nurse-midwives, public health departments, federally qualified health centers, and rural health clinics.

Carolina Access improves access to primary care providers by linking Medicaid recipients to a primary care physician. The program was not designed to focus on quality improvement, goal often promised by fully capitated health systems. As in other states, capitated Medicaid managed care was an unattainable goal in many parts of the state. There was an attempt by some of the state's larger tertiary hospitals to design a fully capitated Medicaid managed care system. Under this proposal, a network of hospitals, with participating primary care providers, would have assumed responsibility for managing the care of the Medicaid clients. This plan was not seriously considered, but it did spark interest in creating provider-led networks to manage the care of the state's Medicaid recipients.

Rather than try to expand capitated Medicaid managed care statewide, the state decided to develop a new model that would simultaneously improve quality and control costs. The state became more interested in developing a program that could help reduce costs as the Medicaid budgetary constraints became more apparent. The opportunity to achieve cost savings within the existing Carolina Access program had become limited after the enactment of the "prudent layperson" provisions of the Balanced Budget Act.[11] The goal of the new program was to

[10] Physicians Assistants cannot enroll directly as a primary care provider, but can serve as a primary care provider through a group practice.

[11] Carolina Access was created to help establish a medical home for Medicaid recipients. Under a 1915(b) waiver, the program had to be cost-neutral. The original programmatic goals did not focus on cost-containment; however,

develop local disease management and care coordination models to better manage the health of the Medicaid population and reduce Medicaid expenditures. By 1998, the state had created and implemented its new Medicaid managed care program, formally designated The Community Care Program, but more often called Access II and III.

Overview of Access II and III

The Community Care Program is built around provider-led community networks that include, at a minimum, local primary care providers, a local hospital, Department of Social Services (DSS), and the health department. These participants are connected through a 501(c)(3) non-profit corporation, which receives the case management funds, and coordinate services. Each network is responsible for population health management which involves identifying individuals with certain high-cost or complex health conditions in need of case management. The goal of the program is to enable these networks to design a system to improve health status through additional case management and care coordination strategies.

DMA started the program by issuing a request for proposals (RFP) to identify counties that were interested in developing these local networks to serve their Medicaid populations. In order to target providers who already had a strong commitment to the Medicaid population and to being part of the safety-net, the state limited participation in the program to communities where local physician groups already managed at least 2,000 Medicaid patients. Recognizing that this threshold would exclude many rural communities from participation, the state permitted rural provider practices to combine their Medicaid patient rolls to achieve the 2,000 minimum. Fourteen communities submitted proposals in response to the RFP. Nine projects were selected: six of which were for networks within individual counties and one that proposed a multi-county provider network of (primarily pediatric) practices in 32 counties (Access II); and two of which were county-wide and included all the Medicaid providers in the county (Access III). Currently, Access II and III programs cover rural providers in more than a quarter of the state's 65 rural counties. Map 4 identifies all active Access II and III projects, as well as counties cooperating in the multi-county pediatric project.

In some counties, the Community Care Program operates alongside the traditional primary care case management program (Carolina Access, also called Access I). Local providers make the choice between Access I or II, and that choice determines the program that their patients are enrolled in. North Carolina requires TANF-related families, children, and disabled, non-Medicare eligibles to enroll in a Medicaid managed-care system. Pregnant women are enrolled in managed care on a voluntary basis; as are dual eligibles and foster children. The medically needy, institutionalized individuals, and undocumented immigrants are excluded from participation in Medicaid managed care programs.

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the program was initially successful in reducing costs, largely through the reduced use of the emergency room. However, the Balanced Budget Act (BBA) of 1997 changed the Medicaid statute, requiring states to reimburse all emergency room visits when a "prudent layperson" would have a reasonable belief that an emergency condition existed. This made it more difficult for the state Medicaid agency or primary care providers to control inappropriate use of the emergency room.

Access III differs from Access II primarily in that Access III sites include all of the community primary care providers in the network. Access III initially began in two urban counties; however, one of the sites has since expanded to include a neighboring urban county and plans to further expand into two contiguous rural counties. Both of the initial Access III sites also operate federal Community Access Program (CAP) grants to include the uninsured in their systems of care.

In August 2002, Access II and III networks provided care to 251,456 Medicaid recipients (27% of all Medicaid enrollees) which reflects the total of eleven networks (two networks were added in 2002):

Summary of the Eleven Access II and Two Access III Networks
(reflecting enrollment as of August 2002)

Access II

- Access Care (multi-county network – 50 practices in 33 counties, 21 non-MSA): 114,717 enrollees
- Access II Care of Western North Carolina (covering Buncombe, Transylvania* and Madison counties): 14,701 enrollees
- CLECO (Cleveland County*): covering 4,778 enrollees
- Community Health Partners (Gaston County): covering 12,223 enrollees
- Durham County Community Health Network: covering 12,361 enrollees
- Guilford County Access II partnership: covering 14,135 enrollees
- Surry County* Health System: covering 4,789 enrollees
- Carolinas Medical Center Access II (Mecklenburg County): covering 19,432 enrollees
- Forsyth County Carolina Access LLC: covering 19,095 enrollees

Access III

- Cabarrus County Community Care Plan: covering 11,031 enrollees
- Community Care Plan of Pitt County: covering 24,194 enrollees (This project also covers Edgecombe and Greene* counties)

The 2001 NC General Assembly directed the state to expand Access II and III statewide. The DMA and ORDRHD's strategy to achieve statewide coverage is to implement the programs in targeted urban areas and to gradually expand the networks to include providers in the contiguous rural counties. The state is developing a new governance model as it expands the program to rural areas. Under the new model, local communities will have local management committees including all the community partners, and will send representatives to participate in the regional management teams.

Population-Based Health Management

The most distinguishing feature of the Access II and III project is the emphasis on population-based health management and quality improvement initiatives. Access II and III are designed to identify and manage the care of high-risk Medicaid enrollees. Physicians are currently paid

* Non-MSA Counties.

$2.50 per member per month (pmpm) to manage the care of their Medicaid patients. Because Access II/III primary care providers have greater responsibilities in managing the care of their patients, they continue to receive the $2.50 pmpm case management fee (rather than have it reduced to $2.00 as under the Access I program). Access II and III networks are paid an additional $2.50 pmpm for all their Medicaid enrollees, which must be used for managed care activities such as hiring care coordinators, conducting risk assessments, and operating targeted disease and care management initiatives.[12] Care coordinators play a central role in Access II and III sites, and are generally responsible for helping identify patients with high risk conditions or needs, assisting the providers in disease management education and/or follow-up, helping patients coordinate their care or access needed services, and collecting data on process and outcome measures. (The role of the care coordinators is described in more detail later in the report).

The local Access II/III networks each have a local coordinating body that is comprised of representatives of the local medical community, hospital, DSS and health department. In addition, the networks must select a local physician to serve as the Medical Director. This physician participates in the statewide Clinical Director's Group helping the state select statewide disease management projects. At the inception of the program, the statewide Clinical Director's Group developed the following guidelines to consider in selecting disease management initiatives:[13]

- There are enough Medicaid enrollees with the disease to obtain a "return on investment"
- Evidence exists that best practices lead to predictable and improved outcomes
- Appropriate evidenced-based practice guidelines are available
- Physicians will support the process
- Patient education and support can improve outcomes
- Best practices and outcomes are measurable, reliable, and relevant
- There is room for improvement—a gap exists between best practices and everyday practice
- Ability exists to measure baseline and thus be able to measure improvement

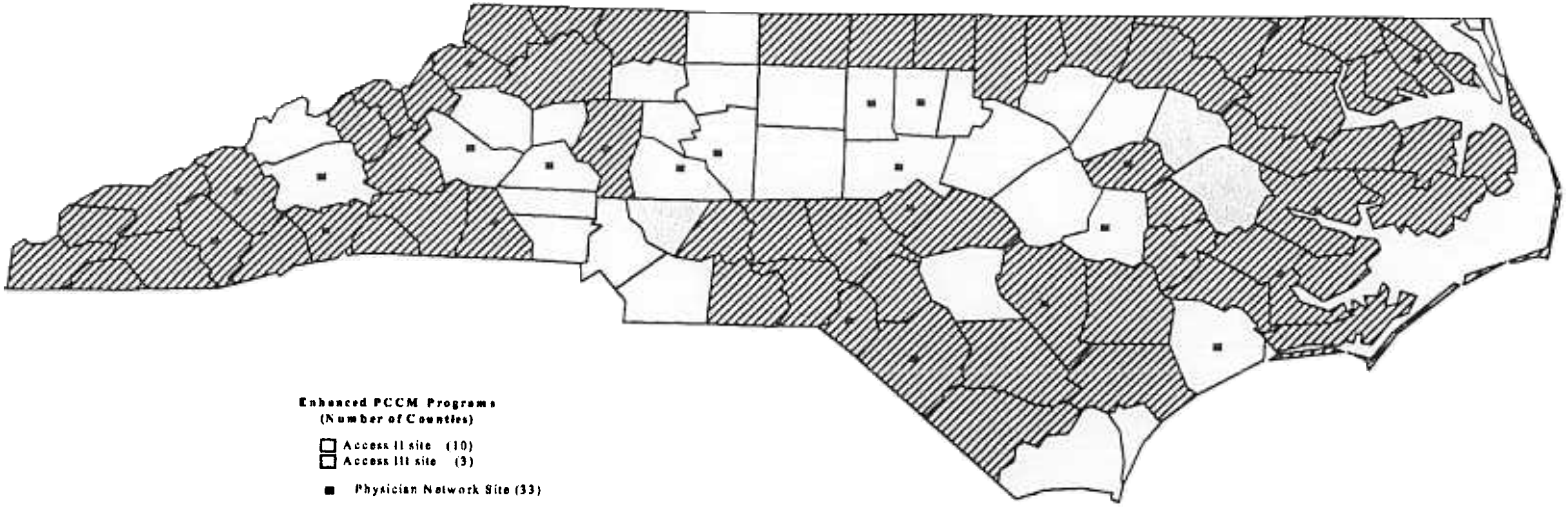
Using these criteria, the group picked three projects to launch statewide—asthma (for children), diabetes (for adults), and unnecessary use of the emergency room.[14] Asthma was the first initiative to be implemented; once that effort proved successful in the local Access II and III sites, the Clinical Director's Group moved on to diabetes. At the same time, Access II/III networks were also required to identify high-cost individuals who might be appropriate

[12] Because of budget shortfalls in the state, the North Carolina General Assembly has limited the amount of additional money that can be used to pay the additional $2.50 to the local network. To pay local networks the additional case management fee, the fee paid to primary care providers was reduced from $2.50 pmpm to $2.00 pmpm.

[13] NC Office of Research, Demonstrations and Rural Health Development. Access II & III Update. July 2000. No 2.

[14] The state explored the possibility of implementing an adult congestive heart failure (CHF) initiative, but found out that most of the adults were dually eligible (Medicaid and Medicare), and thus outside of the Carolina Access program.

Map 4. North Carolina's Community Care Project Sites, 2002



Source: North Carolina Office of Research, Demonstrations, and Rural Health Development, 2002.

Produced By the North Carolina Rural Health Research and Policy Analysis Center,
Cecil G. Sheps Center for Health Services Research, UNC-CH.

candidates for ongoing case management. These individuals included recipients with high medical costs and those using the emergency room as their primary source of medical care. Currently, the statewide Clinical Director's Group is in the process of developing a high risk OB initiative, and is pilot testing two projects in select sites, including a nursing home polypharmacy project, and one for children with attention deficit or hyperactivity disorder (ADD/ADHD).

In addition to the statewide initiatives, local networks are encouraged to test disease management initiatives on their own. Such initiatives are considered pilot programs, if successful, they may be implemented statewide. Currently, five sites are testing disease management programs focusing on specific conditions and populations including high-risk pregnancies, children with otitis media, gastroenteritis, integrating care of depression in primary care practices, and children with special health care needs. Generally, it has been the larger urban communities that have taken the lead on developing these local initiatives.

Typically, North Carolina's disease management systems have seven components. Table 6 describes these components and an explanation of how these standards shape the asthma disease management program.

Table 6. Blueprint of A Community Care Program Disease Management Initiative

Standard Components	*As Adopted for the Asthma Disease Management Initiative*
Develop and implement a local disease management team, involving physicians and other providers as needed. Each local network is responsible for designating individuals who will take the lead in implementing the disease management initiative at the local level. This generally includes at least one doctor, and may include local care coordinators.	At least one person in each office must be identified as the asthma QI expert. The state has identified clinical training opportunities for care coordinators to develop their expertise in the care of particular diseases (for example, case managers have become certified asthma and diabetes educators through various nationally sponsored and recognized certification programs).
Identifying at-risk individuals. Providers have the primary responsibility of identifying individuals with certain health conditions through regular health screenings and assessments. Individuals who are not identified through a regular screening may also be identified if they use the emergency room or are admitted to the hospital with certain conditions. In addition, the state is using Medicaid claims data, the DxCG grouper system [15] and utilization and cost data to help identify those enrollees that are high risk and high cost. Once identified as having the particular health condition, providers must assess the severity of the patient's condition on a regular basis.	The state program office provides each network with information obtained from claims data that lists all of their enrollees identified with asthma. This list provides local networks with enrollees to contact and to stage the severity of asthmatic patients on a regular basis. The Clinical Director's Group developed a health risk assessment process and asthma action/management plan for use by local networks.

[15] The DxCG grouper system is a population grouping model that allows the state to produce provider profiles and make predictive models based on ability to group population looking at diseases, utilization, age and sex.

Developing a treatment plan, using standardized protocols. The state Clinical Director's Group identifies nationally recognized practice guidelines that can be implemented by local practitioners. Participating health professionals are trained in the appropriate practice guidelines.	To ensure consistent care within and across practices, the local providers and medical staff are educated about how to stage asthmatics, the "step" approach to asthma management, and how to write an asthma action plan. Training is also provided about the proper use of anti-inflammatory medications, including the use of anti-inflammatories and/or inhaled corticosteroids for stage II, III and IV asthmatics.
Educate the patient and his or her family (as appropriate). Patients and/or their families must be educated about the specific disease condition, including how to assess and manage the condition. Disease management education is typically provided by the patient's primary care provider, but may be augmented by one of the doctor's nurses or office staff or the care manager. Some of the networks may also offer classes or clinics targeted at managing specific health conditions. In addition, the Access II and III case managers can provided targeted home visits as deemed appropriate.	Patients and their families are taught how to use peak flow meters to assess their asthma. Patients and their families are also taught how to use inhalers, spacers and/or holding chambers (as appropriate). They are also taught how to keep an asthma diary and are given literature on warning signs and triggers. Patients and their family are given a copy of the child's asthma action plan, available in both English and Spanish. Some communities offer asthma clinics for children with more severe conditions or for families having problems managing the child's asthma. For enrollees that are high risk or have experienced frequent ED visits for asthma, the case managers can visit their homes to perform an environmental assessment and focus on potential triggers and provide the appropriate family education and follow-up.
Provide individualized care coordination services for patients. Care coordinators help to identify high-risk or non-compliant patients (through review of emergency room admissions and hospitalizations), and may help in follow-up patient education. In addition, care coordinators help link patients to other community resources, and may help arrange transportation if needed to get to a doctors appointment. Depending on the severity of the individual's conditions and their other psychosocial needs, the care coordinator may be responsible for contacting the patient on a weekly, biweekly or monthly basis.	Care coordinators identify children having problems managing their asthma, and may assist in additional patient education. The care coordinators may also be involved in environmental assessments for asthmatic children; particularly for those having problems managing their asthma.
Work with other community agencies or providers to manage the patients' care.	Local schools and day care must be given a copy of the child's asthma action plan.
Collect performance data and provide feedback to individual practitioners, group practices and the local network. The Clinical Director's Group has identified outcome and process measures to evaluate the performance of individual providers, practices and the local network. Typically, outcome data includes hospital admissions or use of the emergency room, while process measures may include periodic assessments or treatment plans recorded in the medical records. The data are collected through claims databases and regular chart reviews.	Outcome measures included: inpatient admission rates, inpatient admission rates for asthma, emergency department utilization rate, and emergency department utilization rates for asthma. The process measures included: the proportion of asthma patients staged, the proportion of asthma patients staged as II, III or IV on corticosteroids, the proportion of asthma patients with an asthma management plan, and the percent of asthma patients receiving an annual influenza vaccine. The state analyzes claims data to determine outcomes, and care coordinators or other program staff are involved in semi-annual chart audits of a random sample of patient charts to determine compliance with the process measures.

Primary Care Providers

Primary care providers in both Carolina Access and the Community Care Programs are responsible for managing the care of their patients, which includes the provision of regular primary care services and making referrals for specialty care and non-emergency hospitalizations. Primary care providers must be available to their patients 24-hours a day, 7-days a week. The provider has some flexibility in the 24/7-access requirement: they may either assume responsibility for after-hours call coverage him or herself, or can arrange after-hours coverage with other community providers, nurse call centers and/or the local hospital.

The major difference between Carolina Access I and the Community Care Plan is the role that the providers play in disease management. There are no required disease management protocols that physicians must follow in Access I. However, physicians are expected to actively participate in the state's disease management initiatives in the Community Care Plan (Access II and III). These providers are expected to follow the recommended clinical practice guidelines for assessing the patient and developing treatment plans (once the patient has been identified as having one of the conditions targeted for disease management). In some practices, the doctors or their nurses do the initial patient education, including teaching the patient how to monitor their condition, use medical equipment (such as a nebulizer or peak flow meter), follow their treatment plan, and identify warning signs that their condition is deteriorating. In other practices, the care manager assumes responsibility for the more intensive patient education. Care coordinators track patients closely in Access II and III sites, the frequency of patient contacts depends on the severity of the patient's condition and whether the patient's condition is stabilized.

While each office may have a different system for following agreed upon guidelines, each office must ensure that the guidelines are followed. At each Community Care Program site, care coordinators, not employed by the practice, monitor a sample of all participating doctors' (patient) charts to assess their compliance with the practice guidelines. Information from this chart review is fed back to the physician and his or her practice, to help improve patient care. One physician described the disease management program as follows:

> *The state's first disease management initiative was asthma. The state sponsored a program at the NC Pediatric Society meeting on 'staging' of asthma patients. That's when some of the doctors in our practice started using the new guidelines. Now, everyone in our practice does the staging and sets up asthma care plans. The doctors put a copy of the asthma action plan in the charts, give it to parents, and send it to the schools. The practice guidelines (care plans) and staging process makes caring for patients easier...I think that the chart audits help. I like to see what the other practices are doing, to compare ourselves to the other practices.*

According to multiple respondents, the success of the disease management initiative depends on local physician leadership and whether the local physician can see "value-added" by participating in the practice guidelines. There does not appear to be any rural or urban differences in the availability of local leadership in the counties that have participated to date,but that may change as the state starts expanding the program to cover practices that did not volunteer to participate in Access II/III. Local physicians have competing demands for their

time and are more likely to deem the activity worthy of their time if their peers have accepted it and there is some evidence that the efforts lead to better health outcomes. In addition, the physicians have been responsive to this model because of the "value-added" by the care coordinators. Several of the physicians commented positively on the role that the care coordinators play, in following up with non-compliant patients, helping arrange for transportation or in addressing the non-medical issues that may be complicating the patient's condition, such as lack of housing or need for other social services. The care coordinators add tangible benefits for the patient that the provider does not have time to offer.

According to another physician, the real benefit of this model is getting local physicians to change their practice patterns for all patients:

> *It's important to get providers to change their practice patterns—and you can't do that from Raleigh or from separate disease management organizations. You might be able to obtain some cost savings and some results from disease management organizations (who make calls and follow-up with patients), but it's hard in this model to get physicians to change their practice patterns unless they have a very large Medicaid population. The value of a community-based system of care is that you can involve the physicians to change their practice patterns for their entire patient population.*

There has not been any rural/urban split in the willingness of local physicians to participate in the disease management initiative, but to date, the only practices that are participating are those that volunteered into the program. It is uncertain whether there will be any rural or urban differences in the physicians willingness to participate in Access II/III or to engage in new disease management protocols as the state expands the program statewide.

Care Coordinators

Access II and III sites must use some of the additional case management fees to hire local care coordinators, who may be either social workers or nurses. Care coordinators assume different responsibilities depending on the community and providers' needs. Some doctors' offices have case managers on staff to coordinate disease management initiative. However, many practices depend on the Community Care Program's hired care coordinators to follow their patients. In some of the smaller rural areas, a care coordinator may be shared among different practices. In some practices, the doctor or nurse may provide the patient education; in other settings the care coordinator assumes this responsibility.

In general, care coordinators help to identify Medicaid recipients in need of care management services, conduct health assessments, assist in patient education, conduct follow-up with the patient, address the patients' psychosocial needs, and help in chart-audits. Typically, the care coordinators have caseloads of approximately 2,500 patients, but most patients do not have a health or psychosocial condition that warrants care management. Care coordinators typically have an active caseload of about 150-200 clients who need continual management; other patients can manage their own diseases and generally only require initial patient education and/or a six-month or twelve-month follow-up. The services provided and regularity of contact by the care coordinators depends on the intensity of the patient's need.

The Disease Management Process

Identifying Medicaid Recipients in Need of Care Management Services
There are three primary ways that care coordinators identify Medicaid recipients who may need care management services: examining the hospital inpatient and emergency room records; conducting chart audits; and through provider referrals to the program. The following sections describe the case finding process:

Inpatient/ED Visits
Respondents in several of the sites told us that many patients are identified through hospital records. Typically, a care coordinator or other program staff will visit the hospital on a daily or weekly basis to pick up emergency department or other inpatient reports. Network staff will follow-up with the patient if the hospital records indicate that the hospital visit was inappropriate (e.g., for a non-emergency condition) or for a condition subject to disease management. In one community, care coordinators contact all Access II clients who inappropriately sought care in the emergency department. The care coordinator advises the patient on the proper way to seek care through their PCP before using the emergency room. In other communities, trained administrative staff assume the responsibility for follow-up with patients who inappropriately use the emergency room. However, if the hospital records indicate that the Medicaid recipient has asthma, diabetes, or one of the other conditions subject to disease management in that community, the case will be referred to a trained care manager for follow-up.

Respondents indicated that reviewing local hospital records is useful in that it allows the identification of patients in "real time" who may need care management services. Care coordinators can review the hospital records of participating hospitals, but not all the hospitals in the Access II/III locations participate in the network. In two of the communities we visited, one hospital (the hospital with the largest number of Medicaid patients) chose to participate, and the other did not. Without a hospital's cooperation in sharing records, care coordinators must rely on claims data sent by the state. These data are typically several months old by the time it reaches the care manager (because it is generated from the claims data which has a several month time lag). Another benefit of the hospital chart review is that care coordinators are often able to identify these patients while they are still in the hospital, which eliminates the arduous task of locating the beneficiary and also presents the care manager with the opportunity to provide patient education immediately (and at a time when they may be more receptive to the information given).

Chart Audits
Medicaid recipients in need of care coordination are also identified through chart audits of physicians' medical records. Every six months, the Access II and III networks are required to review a sample of medical records of patients who have been treated for one of the conditions included in the area's disease management projects. These patients are identified through claims data. (See below for a fuller description of the chart audits).

Referrals
Medicaid recipients may also be referred to the care coordinators by their primary care physician or other Community Care Program partners (such as a school nurse). Doctors offices sometimes

notify the care manager when they have patients who regularly miss appointments, may be in need of other social services, or there is some indication that the patient needs a home visit for more intensive patient education or for an environmental assessment.

Once identified, the care coordinator contacts the patient. If the patient is still in the hospital, the care coordinator may initially visit the patient in the hospital. Otherwise, the care coordinator will attempt to contact the patient by phone. If the patient's phone number listed in the eligibility files is not accurate, the care coordinator attempts to get an up-to-date number through hospital and/or physician's records. The low-income Medicaid population is often difficult to reach by telephone because they do not all have telephones. Some beneficiaries have telephones in their own name, while others have access to a telephone through a family member or neighbor. In the event that the care manager cannot reach the patient by telephone, they may attempt to make a home visit.

Health Assessments

A standardized health assessment tool for the Community Care Program was being developed at the time of the site visit. There will be both adult and pediatric versions of this assessment form. This form will be used in all Access II and III sites to identify patients with certain health conditions included in the program's disease management initiatives (including asthma, diabetes, ADHD, etc.). The assessment also identifies psychosocial issues, such as depression, substance abuse, homelessness, limited English proficiency (LEP), and transportation problems, which might affect the patient's health or access to healthcare. Ideally, the primary care provider will complete this assessment form during the patient's first visit. However, if the primary care provider fails to conduct the health assessment, the care coordinator will complete the form during their first encounter with the patient. This may occur in person or over the phone (for example, as part of a follow-up after a visit to the emergency room).

Patient Education

Typically, the initial disease management education occurs in the doctor's office. However, care coordinators often follow-up to make sure that their patients understand their treatment plans, including the use of monitoring devices (such as a peak flow meter, nebulizer or blood-glucose monitoring devices). Care coordinators may also provide basic nutritional counseling to the patients, and may conduct home visits, often at the request of the primary care provider. The home visit provides an opportunity to identify environmental hazards that may affect the patient's health such as the absence of a smoke detector, or living or environmental conditions which may trigger asthma outbreaks.

Follow-up

Care coordinators assist patients in making follow-up appointments, arranging transportation, and in identifying patients who may need more intensive patient education or care. For example, a care manager may identify a patient who has problems with their treatment plan. The patient may need additional education (about self-monitoring, how to use equipment, or nutritional counseling), or may need a modification to the treatment plan. The care manager can work with the patient's primary care provider to address the problems—for example, by conducting a home visit to get more information about the patient's home environment, by providing additional disease management or nutritional education, by referring patients to specialized clinics (if

available in the community), or by assisting the patient's physician in modifying the treatment plan. The frequency of the care coordinators follow-up depends on the needs of the patients.

Addressing Psychosocial Needs

Care coordinators often help to address psychosocial issues that affect the patient's health, including social, economic, emergency, mental health or home life issues that prevent Medicaid recipients from successfully following their treatment plan. Care coordinators help link the patient with other community resources such as mental health, education, housing, domestic violence shelters, employment and/or credit counselors, or appropriate summer camps for children. The Access II/III care coordinator will work with other social workers or case managers that the individual patient has to prevent duplication of services. For example, if a child with special health care needs already has a child services coordinator (CSC), then the Access II/III care manager will work with the existing CSC to ensure that the child's health and psychosocial needs are met; but may not provide the services directly him or herself.

Chart Reviews

Every six months, the state identifies a sample of recipients who have been treated for asthma, diabetes, or other specified health conditions being targeted for disease management. The state performs a random sample for each network from claims data that is a representative sample size based on the number of enrollees and the number of identified asthmatics. The sampling methodology includes enough medical records to be audited to ensure a 95% confidence interval. In the smaller networks, the number of chart audits might be 75, while in a larger network the number might be 150. The sampling methodology and list for the chart audits is compiled by the North Carolina Center of Health Statistics. It is often the care coordinators conducting these chart reviews. Care coordinators, or other network staff, will review the randomized selection of medical charts to see if the disease management protocols are being met. For example, care coordinators will check to see whether asthmatics were properly staged, placed on appropriate medications, had an asthma action plan, and received appropriate immunizations. For diabetics, the care coordinators will check to see if the patient has at least two physician visits each year, and whether the patient's blood pressure, glycosylated hemoglobin (HgbA1c) and feet are checked every visit, and whether the lipid profile, urinalysis, and eyes are checked at least annually (or more often if needed). The chart will also be examined to determine if the patient has a diabetic flow-sheet and whether the patient has had self-management education. Care coordinators also check all the records to see if the patients were hospitalized or if they had an emergency room visit. If a problem is identified through the chart audit, the care manager follows up with the patient and/or the provider.

Some networks review additional charts, although this is not required as part of the state audit. For example, one network reported reviewing 350 diabetes patients and 1,000 asthma patients annually, and then entering the care plan data into the local network database. This network reported that their motivation was to identify patients who were not getting the prescribed standard of care before problems arose.

Quality Improvement

The Access II and III programs were designed to improve the quality of care provided to Medicaid patients with certain chronic health conditions. As noted earlier, the program does this by managing the chronic health conditions of people when there is evidence that shows that

using certain practices can lead to improved patient outcomes. At least one provider in each local practice must be designated as the QI expert in a particular area—and be trained in the use of evidence-based practice guidelines. The Clinical Director's Group picks different process and outcome measures for each health condition (see Appendix II). ORDRHD measures performance through chart audits, claims data and physician profiling. The state does not permit rural/urban differences in the use of the disease management protocols or in how it measures outcomes or process.

Program Effectiveness

The state has been monitoring the Community Care Program to determine its effectiveness in improving patient care, decreasing the use of the hospital emergency room and inpatient admissions, and in reducing costs. Most of the state's data, to date, has focused on care for asthmatic children because this disease management initiative has been operational for the longest time. Table 7 illustrates the success of the asthma initiative in both quality improvement and cost reduction.

Table 7. Comparison of North Carolina's Medicaid Managed Care Programs

Measure	*Access II/III*	*Access I*	*Fee-for-Service*
Emergency room visit costs for children under age 21 (pmpm)(SFY 2000)	$3.41	$4.36	NA
Average asthma episode costs for children under age 18 (Calendar year 2000)	$687	$853	NA
Asthmatic children receiving long-term control asthma medications (Calendar year 1999)	67%	58%	53%
Overall increase in cost per member month from FY 1999 to FY 2000 (SFY 2000)	8%	11%	16%

Source: NC Office of Research, Demonstrations and Rural Health Development. North Carolina's Community Care Program (Access II and III)(May 2001) updated by State Center for Health Statistics.

Table 8 further demonstrates the benefits of the enhanced PCCM model. The hospital admission rate is approximately two-times higher for members in the Access I program than it is in Access II/III, although the difference in the hospital admission rate is not quite as high for children. However, Access II/III members who are admitted to the hospital are generally more costly, indicating that the Access II/III does a better job at limiting hospital admissions to those who have the most severe medical conditions.

Table 8. Comparison of North Carolina's Medicaid Managed Care Programs

Measure	*Access II/III*	*Access I*
Hospital admissions (rate per 1,000)		
All eligibles	66.6	138.2
Eligibles < 21	54.5	82.9
Costs per admission		
All eligibles	$4,449	$4,253
Eligibles < 21	$4,005	$3,553

Source: North Carolina State Center for Health Statistics, Jan. 2002.

Programmatic Challenges

Despite some of its early successes, the Access II and III programs face significant challenges. First, it requires the buy-in of local providers and agencies. This program is heavily reliant on local physician leadership who can encourage other providers to participate, but this may not be available in every community. Further, hospital participation is not always guaranteed. In two of the counties we visited, one of the two local hospitals chose not to participate in the program. This makes it more difficult for care coordinators to obtain timely information about hospital admissions or use of the emergency room from those hospitals. Program financing is another challenge given the state's current budget crisis. The North Carolina General Assembly directed DMA to expand the program statewide, but did not appropriate funds for this purpose. To expand the program may necessitate a reduction in the $2.50 pmpm Access II/III physician case management fee, which may negatively impact on providers' willingness to participate in the program.

Care coordinators face unique challenges working with the Medicaid population. Medicaid recipients do not all have regular phone services, making regular communication difficult. Because of budget constraints, there are no new funds available to increase the number of care coordinators in the counties, yet the state is considering adding new disease management initiatives. As the state develops new disease management initiatives, there are questions about whether existing care coordinators can assume the care coordination, patient education, and quality assurance responsibilities for a whole new group of patients and health conditions.

Conclusions & Discussion About Rural Implications

The knowledge and experience gained over the years has motivated the state to develop a regional approach for the programs' expansion which will link small rural communities to a larger urban community and will create networks along existing referral lines.

The past four years have shown that rural areas face unique challenges in implementing the program. Respondents noted that the additional $2.50 pmpm may not generate the necessary level of funding to support the program in some communities because of a limited population. Unlike the more urbanized areas of the state where thousands of recipients' combine to create a substantial pool of money to hire staff and create program infrastructure; some rural communities may have too few enrollees to create the necessary funding base. This is a real potential barrier in enrolling some of the most remote and sparsely populated rural areas.

Additionally, care coordinators in rural areas may have more responsibilities in coordinating the patient's care because these communities have few existing resources available to assist with health education and to address the psychosocial needs of the patients. Rural care coordinators often have to manage the care of patients across a number of different practices, making it more difficult for the care manager to routinely communicate with both the providers and patients because of time constraints. Similarly, rural care coordinators may need to travel farther. This has already been raised as a potential barrier to expanding Access II/III to some of the remote mountainous areas of the state. Another challenge is the distrust some rural providers have of their urban regional partners; often there is fear that the urban providers may be trying to capture their patient base or exert control over the rural practices.

Most of the respondents interviewed for this study thought that the Access II and III model could work in rural areas, but that it would necessitate a regional approach. Regional networking helps reduce some, but not all, of the challenges described above. For example, the urban partners can assume some of the administrative support functions such as analyzing claims data from the state, setting up computerized data systems, supervising care coordinators, and absorbing some of the overhead costs that rural practices simply cannot afford. Also, a regional approach lends itself to beneficial networking opportunities for the rural practices. A multi-county and multi-practice approach allows providers to learn from each other, to share the leadership of different disease management initiatives, and to have a stronger voice with state agencies. The regional approach also benefits rural beneficiaries in that the collaboration helps to link rural patients with specialists in urban areas. In addition, the Access II/III model may actually help to reduce the need for specialists—as the disease management and care management program becomes more established, it will enhance the capacity of primary care providers to care for patients with chronic conditions without the need for specialty referrals.

However, the Access II and III models require local physician buy-in. Thus, if the local physicians are resistant to working in a regional approach, it will be difficult to get the program to succeed. The program appears to work the best in communities where there are local physician leaders touting the program. Further, it may be more difficult to involve each of the rural partners to the same extent as in the urban area. For example, in one of the regional partnerships currently operating, DSS and the health department in the urban community are official partners in the Access II network, but the rural DSS and health department do not officially participate in the network. This may make it more difficult to get their "buy-in" and cooperation in achieving the programmatic goals.

The state is trying to address some of these problems by developing local management teams that include providers, DSS, health department and hospital representatives in each rural community. This management team will be separate from, but connected to, the urban regional partner. Through this approach, the state hopes to reduce any potential distrust on the part of the rural providers (or fear that the medical care will be dictated by the urban providers); while at the same time affording the rural communities the administrative support and access to resources that can be provided by the urban partner.

Several of the respondents noted that while this program is effective in both urban and rural areas, it may be needed more in rural areas. Because of the lack of resources in many rural communities, residents may not know where to turn for specialized care. In rural practices, which typically have a smaller staff than urban practices, a care manager may be a critical care extender and link to other health care and social service resources in the immediate and surrounding communities. In addition, care coordinators can help arrange transportation, which while a problem everywhere, is considered a more significant problem in rural areas. As one respondent noted:

> *Care management may be even more important in rural areas. There are a lot of people in the rural areas who have needs, but don't seek care unless they have help with transportation and hooking them up with resources. Care coordinators can help people access the care they need, and help with patient education.*

Several respondents noted that while there are fewer resources in rural areas, most of the existing providers know each other and may be more willing to work together. So, it is often easier to coordinate care among the existing rural providers than it is in urban areas where there are a greater number of health professionals, support agencies or organizations and social services providers. Some of the respondents thought that care coordinators could be of greater assistance to small overworked rural practices, since these practices may lack the support staff needed to provide patient education and care coordination for patients with chronic health conditions, or to help patients link to other community resources.

While the state has been able to identify and anticipate some of the problems that may be encountered in rural areas, more challenges are likely once the state begins to expand the program to other parts of the state. To date, participating providers in both urban and rural areas have volunteered to participate in the program. Their willingness to partner and engage in new disease management activities may be much greater since they had some investment in the concept before choosing to participate. This may be different for practices and communities that are forced into the program as the program is expanded throughout the state. Whether there will be more, or different problems, in rural and urban areas among practices that are forced into the program is unknown at this time.

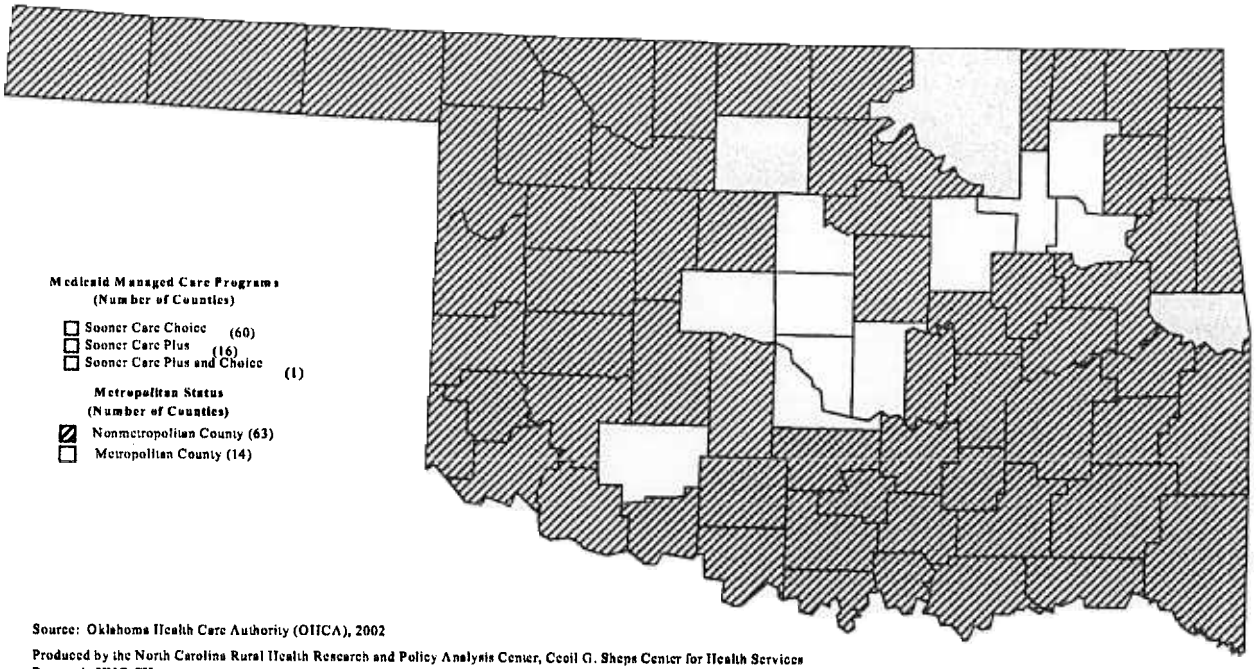
CASE STUDIES: OKLAHOMA

Overview of Sooner Care Program

In 1993, the state legislature passed a bill requiring a certain percentage of the state's Aid to Families with Dependent Children (AFDC) participants to be covered by managed care programs. In response, The Oklahoma Health Care Authority (OHCA), who is responsible for the state's Medicaid program, obtained a 1915(b) waiver and began enrolling AFDC recipients in urban areas in SoonerCare Plus, a fully capitated Medicaid managed care program. One year later, under an 1115 waiver, Oklahoma began implementing managed care in its rural areas in the form of a partially capitated primary care management program called SoonerCare Choice. By October, 1996, the state's SoonerCare programs covered the entire state. Since January, 1999, SoonerCare Plus has been operating in 17 counties (12 urban and five contiguous rural counties) and Choice has been operating in 61 counties (58 rural and three urban). Map 5 depicts the coverage area of each program. One county, Osage, operates both programs (the programs operate in different parts of the county). There were approximately 180,000 people enrolled in the Plus program and 152,000 enrolled in Choice in April 2002.

Participation in the state's managed care programs is mandatory for the specific covered groups. Eligibility is determined through local Department of Health Services (DHS) offices. The programs originally covered pregnant women, children and TANF (formerly-AFDC) related families. The non-Medicare disabled population was transitioned into SoonerCare Plus in July 1999 and SoonerCare Choice in January 2000. About 56% of Choice members select a provider themselves; if no selection is made, recipients are assigned to a primary care provider using a Geo-Access system. This computer system attempts to assign recipients to the primary care provider whose practice is closest to the recipients' homes; however, assignment based on proximity is not always possible because some providers have closed their panel to new

Map 5. Oklahoma's Medicaid Managed Care Programs, 2002



Source: Oklahoma Health Care Authority (OHCA), 2002

Produced by the North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, UNC-CH

Medicaid recipients. If a recipient loses eligibility and reenrolls within 90 days, that person will be auto-assigned to his or her last provider. This 90-day "look back" system was implemented at the request of providers, who were concerned about the disruption in care of their patients due to recipient churning.[16]

From the inception of the managed care programs, OHCA pursued different strategies for urban and rural areas. Both programs were established as a means of improving access, establishing a medical home, and ensuring budget predictability. SoonerCare Choice was initially envisioned as a transition to full capitation in rural areas. The partial capitation model was designed to give rural providers some experience with capitation, but with limited financial risk. While the original goal was to move to full capitation statewide, OHCA was concerned that imposing a fully capitated program might discourage providers from participating in Medicaid altogether. After several years of experience with both programs, the state realized that there were parts of the state that would never support full capitation.

SoonerCare Choice

SoonerCare Choice is one of only three partial capitation programs operating in the country. It was designed specifically for rural practices and is the model used for nearly half of the state's Medicaid population. Beneficiaries residing in counties where SoonerCare Choice operates select or are assigned to a PCP who is responsible for providing a specific set of primary care and care management services, for which they are paid a pmpm payment. Exceptional Needs Coordinators (ENCs), discussed in greater detail later in the report, are available to PCP's if the recipient has been identified as needing additional support.

General practitioners, family physicians, internists, pediatricians, obstetrician-gynecologists, nurse practitioners, and physician assistants can serve as primary care providers under the Choice program. Specialists are permitted to enroll as PCPs, although not many have chosen to do so. OHCA contracts with individual and group practices, including providers with federally qualified health centers.

Individual SoonerCare Choice PCPs are required to contract for a minimum of 150 recipients, whereas group practice providers contract for a minimum of 200 recipients. The upper limit for physicians is 2,500; Nurse Practitioners and Physician Assistants may have 1,250 patients, though under extenuating circumstances with approval the limit may be as many as 1,750. All but one of the counties participating in SoonerCare Choice has PCPs. There are no providers practicing in that one county, so Medicaid recipients are linked to PCPs in surrounding counties.

SoonerCare Choice PCPs must authorize all non-emergency use of hospitals and visits to specialists; however, recipients have direct access to health departments for immunizations, family planning, OB services, TB screenings, HIV testing, and dental care. Medicaid recipients enrolled in SoonerCare have no co-payments for primary care visits, and are not limited to two

[16] "Churning" is caused when Medicaid recipients move on and off of the Medicaid eligibility rolls (for example, a family with fluctuating income may be eligible for Medicaid in one month, and ineligible the following month). Providers were interested in a longer "look-back" period for auto-assignment for the Medicaid recipients. OHCA has since implemented an 180-day look back period (October 2002).

doctor's visits/month as are Medicaid recipients in the traditional Medicaid fee-for-service (FFS) system.

Partial Capitation Payments

The SoonerCare Choice partial capitation payment covers medically necessary office visits to the primary care provider, EPSDT visits, injections and immunizations, basic lab and x-rays, basic family planning, and care management. Primary care capitation payments are based on nine different age and sex cohorts with adjustments based on eligibility category. The average rate for TANF recipients (families and children) was $15.90 per member per month, and $23.26 for Medicaid recipients who are aged, blind or disabled. Primary care providers also receive a $2 pmpm care management fee, which is increased to $3 for very young children ages birth through two years of age and for people with disabilities. Additionally, the state pays an additional $3 care management fee to providers to manage the care of patients with certain health conditions that require more time to manage, such as sickle cell anemia, hemophilia, HIV/AIDS, and those that are transplant-eligible.

OHCA staff reported that one of the goals of the partial capitation payment was to help rural providers by giving them a predictable source of income. This payment system was thought to be particularly beneficial to new providers, who could use the steady Medicaid payments to address short-term cash-flow problems. This perception was confirmed by the rural providers and office staff with whom we talked. One of the rural practices noted that they preferred partial capitation over FFS because advance payments help them with cash-flow and they feel that patients are better served without the two-doctor visit/month limit.

What makes the partial capitation system unique is that the provider is only at risk for a specified set of primary care services and there are limits to the amount of financial risk the PCP assumes. SoonerCare Choice has two mechanisms to limit physician financial risk: a stop-loss system implemented at program inception for TANF recipients, and a hold harmless provision for the disabled (this policy was implemented during the transition of the disabled into the program in January 2002)[17]. Under the stop-loss provision, Medicaid will pay providers on a fee-for-service basis once the costs for any individual TANF patient exceed $1,800 annually. Similarly, OHCA will pay providers the difference between the partial capitation fee and the FFS-equivalent value of the capitated services for disabled recipients. For providers who exercise this hold harmless provision, they are effectively paid on a fee-for-services basis.

While these systems would theoretically protect PCPs from exorbitant losses, OHCA officials reported that no provider has requested the stop-loss or hold-harmless payments. Few of these providers with whom we talked knew about these special payment mechanisms. One rural practice explained that they are losing money on some of their Medicaid patients under partial capitation, because of over utilization of services, which they viewed as "abuse of the system." When asked if they had availed themselves of the stop-loss or hold harmless payment protections, they claimed it was the first they had heard of the provisions.

[17] These contract provisions are detailed in the Choice provider training manual.

Provider Relations

Over the years, the state has focused a lot of attention on recruiting and supporting primary care physicians in order to improve access to care. In order to facilitate this activity, OHCA created a special contractor services unit that assumes responsibility for recruiting and training PCPs. The contractor services unit is made up of a contract services supervisor, six provider representatives, and one senior healthcare analyst. In the past, the staff focused on a broad range of activities including retaining and recruiting primary care physicians. More recently they have also taken an active role in provider training, contract management, and resolving provider complaints. Often this has required that the provider representatives work directly with the providers' office staff, doing site visits as needed to help participating providers with questions about SoonerCare Choice. In 2001, OHCA expanded their team to include a contracted provider trainer, who has developed and implemented a curriculum for on-site training of new PCPs and established providers that have questions about aspects of the program. During these training sessions, PCPs and support staff are briefed on the general structure of SoonerCare Choice; their clinical and administrative responsibilities as PCPs; policies for enrollment, referrals, and payment; and resources for both providers and enrollees participating in SoonerCare Choice. A provider handbook, which is updated regularly, was developed by OHCA for use as an on-site reference for providers and their staff after their training sessions.

SoonerCare Choice also held a series of "town meetings" throughout the state, during which provider representatives solicit feedback from providers about the Medicaid program. When SoonerCare Choice was first established, there was considerable provider opposition causing the town meetings to be adversarial. Providers complained about the quality of member education (i.e., about Medicaid recipients' understanding of the SoonerCare Choice program and the need to obtain referrals from their primary care providers), auto-assignment, specialty referrals, and churning. OHCA has tried to address some of the problems—for example, by establishing a toll-free number for providers, as well as the 90-day look-back period in the auto-assignment process to try to promote continuity of care with an established provider, and through establishing the care management unit to assist with specialty referrals. According to OHCA staff, there seems to be more acceptance and stabilization of the program over the past few years as indicated by fewer provider complaints and lower turnout for the town meetings.

The rural providers and their staff with whom we spoke were generally very positive about the assistance they have received from the contractor services staff. Two respondents in separate rural practices noted that the help they received from their provider representative was one of the best elements of the Medicaid program. The provider representatives come to their offices when needed, and help them work through administrative problems that arise. One respondent noted:

> *The provider rep is wonderful, she travels to the clinic if needed to assist with problems in coordinating care for clients and even helps by dismissing (non-compliant or disruptive) patients if needed.*

Between 1996 and 2002, the number of participating primary care providers increased from 448 to more than 600. With the exception of some Native Americans living in remote tribal areas, all of the Medicaid recipients have been successfully assigned to PCPs within 45 miles from their

house[18]. In July 2001, the SoonerCare program implemented an American Indian Case Management program. As PCP participation in SoonerCare has stabilized, the provider representatives have been able to focus more of their attention on specialist recruitment.

SoonerCare Helpline

OHCA contracts with First Health Services to assist in member enrollment and education. First Health sends new enrollees information about either SoonerCare Plus or Choice (depending on where they live), and helps them in selecting a PCP or HMO. An explicit obligation in their contract is to telephone every new SoonerCare Choice enrollee, which averages approximately 200 to 400 monthly, to advise them on program usage. In addition, First Health Services is responsible for assisting all SoonerCare program enrollees if they want to change health plans or primary care providers, and to send out replacement insurance cards.

In the first three months of 2002, the Helpline received between 27,000 and 37,000 calls per month. Many of these calls concerned issues out of the realm of Helpline information services, and contributed to call abandonment rates higher than the contractual 10% limit. The Helpline responded to this problem by screening all incoming calls as to purpose. Calls requesting information best provided elsewhere are referred, thereby routing to the Helpline call queue only those calls that the Helpline can effectively handle. The Helpline is responsible for submitting daily Dire Medical Reports to OHCA on calls that they reroute to the Nurse Advice Line. If the Helpline handles a call that involves a problem which cannot be resolved immediately, the Help Line forwards an "incident report" to OHCA, who must follow-up within five days of the receipt of this report.

Nurse Advice Line

All SoonerCare PCPs are required to ensure the availability of 24-hours-per-day/ 7-days-per-week telephone coverage which will immediately page an on-call medical professional. PCPs can meet this requirement by arranging for coverage through other providers. Another way they can meet this requirement is by having a phone message that that refers patients to the Nurse Advice Line serving SoonerCare Choice members. The state contracts with First Health to operate a separate Nurse Advice Line. The Nurse Advice Line is staffed entirely by registered nurses (RNs) with at least two years of experience, preferably in an intensive care unit or in an urgent or emergency care setting. There are 3-4 nurses staffing the phone lines during the day, and one or two people at night, providing advice to more than 20 facilities/groups including the SoonerCare Choice program. The advice line employs part-time Spanish-speaking staff and uses the AT&T language line for other translation when necessary. The Nurse Advice Line has provided service to SoonerCare Choice members since the beginning of the program.

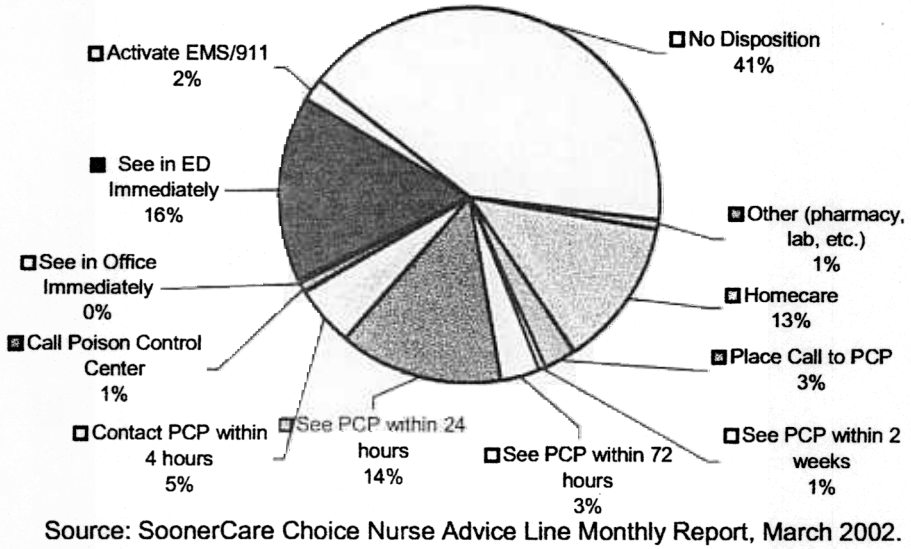
Over the course of a month, the Nurse Advice Line handles approximately 2,000 telephone calls from SoonerCare Choice members. Between 50-75% of incoming calls require nurses to triage patients with health problems, a smaller percentage (3-4%) are recipients requesting information about medications or with general health questions. Exhibit 1 displays the disposition of the calls to the Nurse Advice Line that required a medical issue. Calls recorded as 'No Disposition'

[18] OCHA's analysis showed that there were approximately 600 Native Americans that did not have access to an I/T/U provider within 45 miles, which is the state's prescribed access standard.

include calls meant for the Helpline, wrong numbers, or any calls concerning issues outside the contractual purpose of the Nurse Advice Line.

Approximately half of the triage calls are pediatric cases. The majority of these calls are for cough, cold symptoms, fever, vomiting and diarrhea. For adults, the most common calls are for abdominal pain, anxiety, chest pain, headaches, and questions about post-operative procedures. Between 35-40% of callers are repeat callers. Information is forwarded to the primary care providers on a daily basis every time a patient is referred to the emergency room. Further, the staff follow up emergency room referrals to see if the patient followed their advice, had any problems with the emergency room, and if they were satisfied with the advice they were given. Most of the rural providers with whom we spoke reported having received faxes from the nurse advice line that they find to be helpful; however, they continued to set up after-hours call coverage locally, rather than rely on the nurse advice line.

Exhibit 1. SoonerCare Nurse Advice Line
Triage Dispositions: January 2002



Source: SoonerCare Choice Nurse Advice Line Monthly Report, March 2002.

Member Service Line

In addition to the SoonerCare Helpline and the SoonerCare Choice Nurse Advice Line, OHCA also operates a toll-free agency Medicaid member services line for recipients to call with billing concerns. Recipients' Medicaid cards list the phone number for the member service line as well as the Helpline and the Nurse Advice Line. Several OHCA staff and provider representatives acknowledged that it was at times confusing for Medicaid recipients to know who to call for what type of problem.

SoonerRide
SoonerRide was established to provide non-emergency Medicaid transportation to Medicaid recipients in the fee-for-service system and in SoonerCare Choice. The program originally started in six counties in June 1999 and rolled out statewide within a year. OHCA contracts with Metropolitan Tulsa Transit Authority (MTTA) to run the SoonerRide program via a call center and managed transportation subcontracts in all 77 counties. SoonerRide occasionally contracts with local Community Action Programs (CAP) to provide the transportation.

SoonerRide will pay for the least expensive and most convenient form of transportation available to a qualifying recipient, ranging from taxis and van services to bus vouchers or mileage reimbursement. Transportation services are available from 6 am until 8 pm on weekdays and from 8 am to 1:00 pm on Saturdays. Under special circumstances and on a case-by-case basis, transportation may be arranged outside of these normal SoonerRide hours. When an eligible Medicaid recipient needs transportation to obtain a Medicaid covered service, the person calls a SoonerRide toll free phone number and the requested transportation is authorized and scheduled. Recipients are required to arrange their transport three-days in advance, but SoonerRide will try to work in patients even on short notice.

The providers with whom we spoke were uniformly pleased with the SoonerRide program, noting that it helped their patients access medical services. Typically, patients work directly with SoonerRide to arrange transportation, although the physician's office may help by giving patients the SoonerRide phone number. Providers noted that they had not heard of any problems from their patients in accessing these services.

Care Management
OHCA has a centralized care management team consisting of seven staff that was fully operational by February 2001. Five of the staff are nurses, the others health care analysts that assist in care coordination. The nurses function as exceptional needs coordinators (ENCs), working with patients with complex medical conditions. Some of the specific responsibilities of these ENCs include :

- Coordinating care for members with complex medical needs and/or exceptional health care costs.
  Processing and/or addressing member's issues and concerns related to managed care.
- Facilitating and coordinating discharge planning with physicians, facilities and members (including negotiating members out-of-state care when comparable in-state services are not available).
- Assisting in locating and recruiting providers (including specialists, DME, home health, pediatric rehabilitation and lock-in providers).
- Addressing members access issues (including, but not limited to medical care).
- Handling provider inquiries such as specialty referrals.
- Addressing plan issues (including enrollment/disenrollment, providers, plan-to-plan transitions, ENC collaboration).
- Educating members with high-risk pregnancies, high service utilization, and medical regimen noncompliance.

Conducting lock-in evaluations for recipients with drug-seeking behaviors; scheduled medication requests; enrollees who refuse pain management referrals and/or alternative treatment/prescriptions; those using multiple providers/pharmacies; and for individuals who frequent the emergency room.
Developing disease management protocols.

Patients in need of care coordination are identified through providers, self-referrals (typically through calls to OHCA's member service line), the Nurse Advice Line, OHCA provider representative, legislators and other state agencies. In addition, Medicaid recipients who have been locked-in to specific PCPs or pharmacists may be referred to the case managers—to ensure that the patient does not circumvent the system and bypass their designated PCP or pharmacist. Most of the rural providers with whom we spoke were aware of, and had used, the SoonerCare Choice care management unit for help with specialist referrals, autoassignment problems or for patient lock-ins. We did, however, talk to one practice that was unfamiliar with these services.

In 2001, more than two-thirds of the Medicaid recipients assisted by the care management team were Choice members (67%). The care management staff also assist Plus members (18%), and Medicaid recipients in the fee-for-service (FFS) system. The unit received an average of 1,647 calls per month. Only a small subset of cases require active care management—at the time of our visit, the number of cases being actively managed was approximately 240. Most of the other phone calls dealt with access to specialists or lock-in referrals, and could be addressed over the phone or with a referral. In 2001, the most frequently requested specialty referrals were to dentists, OB/GYN physicians, neurologists, orthopedists, and psychiatrists.

Each SoonerCare care management staff member has specialty areas (for example, high risk pregnancies, HIV/AIDS, transplants). Cases that fall within their specialty area are referred to them. The care managers will try to contact the patient by phone, and if unsuccessful, they will send a letter. Over half of the referrals they get do not have working phone numbers.

The SoonerCare Choice care management program was modeled after the SoonerCare Plus program's Exceptional Needs Coordinators. By contract, HMOs participating in SoonerCare Plus are required to have exceptional needs coordinators (ENCs) and other staff that help manage the care of patients. An internal study conducted by the largest participating HMO showed that the ENCs were very popular with their Medicaid recipients. As in the SoonerCare Choice Program, ENCs actively manage patients with specific conditions. Ventilator dependent children and/or children requiring skilled nursing, HIV/AIDS, hemophilia, sickle cell, schizophrenia, bipolar disorders, asthma, quadriplegia, transplants, TANF patients who have several behavioral health problems, and dialysis patients are all targeted for care management services. In SoonerCare Plus, the health plan ENCs are contractually required to make two contacts per month with their patients, and must have face-to-face visits for ventilator dependent or skilled nursing children.

Because of limited resources and the central location of ENCs, the SoonerCare Choice care management staff employed by OHCA are unable to provide care management services to all recipients in need, and are heavily reliant on the phone to provide services. At the time of our site visit, the SoonerCare Choice care management staff depended on provider, agency or self-

referrals to identify individuals in need of care management. However, the agency was interested in targeting their care management services to the Medicaid recipients that have the same health conditions that are being targeted in the Plus program. Appropriate individuals would be identified through claims data. In June 2002, the state planned to start a pilot program to identify patients with specified health conditions and provide more ongoing care management services. As part of the pilot program, case managers will provide more active outreach and attempt to contact the appropriate clients at least two times a month by phone, but face-to-face visits will not be provided on a routine basis.

Formal disease management protocols are not part of the state's care management system. The state had been involved in an asthma disease management pilot that included one large urban pediatric practice, but the pilot ended when the grant funds ran out. The state recently obtained funding Centers for Medicare and Medicaid Services (CMS) which paid for training to start another asthma disease management program targeting recipients receiving care within the Indian Health Services (see below). With the state's current budget shortfall, funds are not available to implement these programs more systematically across the state, although it would like to do so. While full-blown disease management protocols are not a feature of the SoonerCare Choice program's care management program, OHCA did describe plans to identify people with certain chronic conditions and to send out informational mailings to help them manage their condition.

Quality Assurance/Quality Improvement Initiatives

OHCA has three primary mechanisms to measure and improve quality of care: Quality Improvement System for Managed Care (QISMC), the Consumer Assessment of Health Plans Surveys (CAHPS), and the new asthma disease management initiative. In addition, the state is developing several new methods of examining utilization and quality, including modifying the Healthplan Employer Data Information System (HEDIS) measures, and physician profiles. Each is described more fully below:

Quality Improvement System for Managed Care (QISMC) and Incentive Payments

OHCA uses QISMC in both its SoonerCare Plus and SoonerCare Choice programs. Under QISMC, the state can require that HMOs undertake one state-designated quality improvement initiative. Under this authority, the state developed a quality improvement initiative with the HMOs around Medicaid's Early, Periodic Screening, Diagnosis and Treatment (EPSDT) initiative. OHCA contracted with the Oklahoma Foundation for Medical Quality (OFMQ), the state's External Quality Review Organization (EQRO), to perform medical record data extraction for their EPSDT quality initiative. The goal of this joint initiative is to collect the same data for the Choice and Plus programs to enable comparisons between HMOs and the SoonerCare program. However, at the time of our visit, the state had only begun to collect baseline data—so no outcomes data was available.

As part of the EPSDT quality improvement initiative in the Choice program, OHCA has developed a system of incentive payments to encourage providers to provide comprehensive screenings to children enrolled in their panel. Providers can qualify for extra payments if they reach a minimum threshold for EPSDT screenings. Initially, the state required providers to screen 60% of their enrolled children to receive the enhanced EPSDT screening payment. Over

the next two state fiscal years, the required percentage was increased by 5% per fiscal year, but few physicians met this threshold. At the suggestion of CMS, the state reduced this threshold to 45% so more providers could qualify. The minimum threshold has gradually increased, so that by state fiscal year 2002-2003 providers were required to achieve a 55% screening rate. PCPs must also show that medically necessary follow-up services are provided and/or that appropriate referrals are made. Providers who qualify receive an additional $1 for each EPSDT eligible child within their panel; however bonus payments may not exceed 20% of the provider's annual capitation payments. Table 9 describes the EPSDT incentive program between FY 1998 and 2001.

OHCA has also developed an incentive system similar to the EPSDT initiative targeting childhood immunizations. The state will pay PCPs an additional $3 for each child who is given the fourth dose of DPT/DtaP on or before the child's second birthday. Information about this and other incentives are included in the PCP contract, the provider handbook, and were further explained during scripted calls to providers during the first six months after the program was initiated. However, staff in only one of the rural practices with whom we spoke was even aware of the immunization incentive system (and had not applied for it, because the staff did not think they would qualify). Further, at the time of our visit, providers described difficulties ensuring timely immunizations because of national immunization shortages. Because of their inability to obtain needed immunizations and the lack of information about the new incentive program, no incentive immunization payments had been made at the time of our visit.

Table 9. EPSDT Incentive Payments to SoonerCare Choice Primary Care Providers

SFY	*Screening Threshold*	*# PCPs Requesting Payment*	*# PCPs meeting threshold and receiving payment*	*Total Payout in Incentive Payments*	*Average PCP Incentive Payment*
1997-1998	60%	31	15	$ 181,786	$ 12,119
1998-1999	65%	185	20	$ 199,092	$ 9,955
1999-2000	70%	231	23	$ 151,437	$ 6,584
2000-2001	45%	251	82	$ 953,360	$ 11,626

Source: Oklahoma Health Care Authority, January 2002.

Consumer Assessment of Health Plan Satisfaction (CAHPS)

OHCA staff have been actively involved in the development and piloting of various CAHPS tools. OHCA uses all of the CAHPS surveys that are appropriate for the Medicaid population. In addition to the traditional CAHPS survey measuring health plan satisfaction, the state has participated in the pediatric behavioral health (ECHO), adult behavioral health, adult SSI, children with special health care needs, and dental surveys. OHCA contracted with OFMQ to conduct the surveys in the Choice and Plus programs. The state has seen very little variation between the two programs (Plus and Choice), and little variation among the Plus HMOs (see Table 10).

Table 10. Comparison of 2000-2001 Consumer Assessment of Health Plan Satisfaction (CAHPS) Findings for SoonerCare Programs

	Choice		*Plus**	
	Children	*Adults*	*Children*	*Adults*
Overall Rating of Doctor	8.2	7.9	8.3 to 8.4	8.1 to 8.7
Overall Rating of Health Plan	7.5	7	7.7 to 8.3	7.4 to 8.4
Overall Rating of Health Care	8	7.9	7.9 to 8.4	7.5 to 8.3
Doctors Communicating Well With Patients Usually/Always	85.4	87.7	85.6 to 88.0	78.7 to 87.0
Getting the Care You Need Small problem/Not a Problem	89.2	83.8	86.1 to 92.5	82.2 to 92.2
Getting Care Quickly Usually/Always	75.4	76.7	76.4 to 79.3	68.3 to 78.9
Courtesy, Respect and Helpfulness of Medical Staff Usually/Always	86.3	88	86.5 to 90.1	81.6 to 88.3
Health Plan Customer Service, Information and Paperwork Small Problem/Not a Problem	85.4	81.7	83.5 to 92.6	85.0 to 90.6

The CAHPS data gives different scores for each of four HMOs. The figures listed in the Table include the range of the HMOs' scores.
The first three measures are on a scale of 1-10, with 10 being the highest. The last five measures are based on the percentage of respondents who rated the question according to the answers listed.
Sources: Sooner Care Choice Report Card 2000-2001 and Sooner Care Plus Report Card 2000-2001.

Asthma Disease Management Initiative

The state tested its first asthma disease management initiative with a large urban pediatric practice in one of the SoonerCare Plus plans. The project was an asthma quality improvement collaborative directed by the Institute for Healthcare Improvement. Because there was not funding provided for the project, data collected during the Pediatric Asthma Study by the Oklahoma Foundation for Medical Quality was used as a baseline. The initiative focused on educating providers to use the National Asthma Education and Prevention Program (NAEPP) guidelines promoted by the National Institute of Health (NIH) and to engage in patient education. The patient education component was accomplished through distribution of asthma home management instructions and the American Lung Association (ALA) list of Asthma triggers. Clinical indicators tracked included: the use of anti-inflammatory medications, peak flow meter use, action plan completion, self-management plan distribution, symptom-free days, and ER use. Outcome data were collected and tabulated monthly and reportedly suggested improvements for all indicators except ER use and symptom-free days. However, the methodology for collection of baseline data raises doubt as to whether the pre- and post-intervention data were comparable, and if the reported outcome improvements was accurate.

Building on lessons learned from the earlier asthma disease management project, OHCA is preparing to launch another asthma initiative targeting SoonerCare Choice members receiving care through Indian Health Services and tribal health facilities. OHCA used its existing contract with the state EQRO to identify a set of patients and collect baseline data. As before, the new initiative will focus on provider and staff education in use of the NAEPP Asthma Guidelines, and patient education in the use of an asthma self-management plan and prescribed anti-inflammatory medications. Americans Indians were selected for this initiative because of the

high incidence of asthma in this population, and the opportunity to also work with the adult population with asthma who can receive prescriptions above the three prescription limit for adults in the State Plan for the rural population. Further, the Centers for Disease Control (CDC) and CMS have explicit interest in developing disease management initiatives that benefit American Indians.

Healthplan Employer Data Information System (HEDIS)
OHCA is in the process of identifying HEDIS measures that would be most appropriate in a partially capitated model, and plans to use the data to compare utilization between the Choice and Plus programs.

Physician Profiling
Physician profiles are not currently used to examine utilization or practice variations across practices in the Choice program. However, OHCA recently contracted with Electronic Data System (EDS) to develop their new Medical Management Information System. Once it is operational, the state hopes to be able to examine referrals patterns and utilization across providers as a method for monitoring quality and developing initiatives to improve quality.

Indian Health Services (IHS) Initiatives

Native Americans have always been able to have direct access to Indian Health Services, tribal or urban Indian providers (I/T/U) within the Medicaid system. However, American Indian Medicaid recipients enrolled in the Choice program were still required to obtain referrals for specialists and non-emergency hospitalizations from their traditional primary care providers. Beginning in July 2001, some of the I/T/U providers began participating in the Choice program as PCPs. This made it easier for American Indian Medicaid recipients, who were already using the I/T/U clinics as their medical home, to get necessary referrals. However, unlike other PCPs who receive capitation payments, individual I/T/U providers are only paid a care management fee and services are reimbursed on a FFS basis. Indian health facilities are reimbursed using an all-inclusive rate for services they provide. This policy is advantageous to both the providers and to the state because the federal government pays 100% of the charges, which is higher than the partial capitation rate that the state would otherwise pay, and the state does not have to contribute the non-federal match portion of payments for these Medicaid recipients.

In April of 2002, there were 37 I/T/U clinics with approximately 170 participating providers. At the request of the I/T/U providers, OHCA is also developing a system for auto-assignment of American Indian Medicaid recipients to the appropriate I/T/U provider, although the system was not yet operational at the time of our visit. Such a program was viewed as desirable because it could ensure that Native Americans are assigned to I/T/U providers and eliminate the need for reassignment once the recipient seeks care and is determined eligible for I/T/U program benefits.

In addition to the PCCM arrangement, OHCA is working with one of the Indian Health Service offices to start the asthma disease management program previously described. The program was under development at the time of our visit, so little additional information was available.

Conclusions & Discussion About Rural Implications

Since the implementation of SoonerCare Choice, OHCA has been working to recruit more PCPs to participate in Medicaid. Program features such as the partial capitation payments, the contractor services unit, and to a lesser extent, the centralized care management system, appear to have addressed many of the provider concerns that previously discouraged primary care providers from participating in Medicaid. In addition to working to recruit more primary care providers, the state has improved patient access by establishing the SoonerRide program and by removing the two visits per month limit for primary care (the limit continues for specialty care).

However, some problems persist in accessing primary care providers. While there are generally enough primary care providers to meet OHCA's 45-mile access standards, providers in some parts of the state are still reluctant to participate in Medicaid. This causes burdens to the providers who are willing to accept Medicaid patients. Further, providers continue to have concerns with the state's auto-assignment process. Several of the rural providers whom we interviewed commented that new patients are not being assigned to providers with whom they have established relations. Patients, not aware that they have been assigned to another provider, seek services from their traditional provider. This causes administrative burdens to the rural providers because their staff must contact the state provider relations office or Help Line to get approval to care for the patient and to get the patient re-assigned to their office.

The state has several innovative models to encourage primary care providers to participate in SoonerCare Choice and to improve the quality of care provided to children. These include the partial capitation payments, stop-loss and hold-harmless payments, and the EPSDT and immunization incentive systems. However, providers are not uniformly aware of these programs. Many of these systems were new, which may explain why some providers were unaware of these initiatives. But to get the full benefit of these initiatives, more outreach may be necessary to primary care providers and their office staff.

Overall, the state appears to have made significant headway in recruiting primary care providers. But there are still significant barriers in accessing certain specialists. Rural providers noted shortages of certain types of specialists, including pediatric neurologists, dentists, behavioral health, and podiatrists. Some of these specialists are unwilling to participate in the Medicaid program or want to limit their Medicaid panels—leading to access barriers that are exacerbated in rural communities. For other specialties, there are simply too few specialists practicing in the state; and those that are practicing are more likely to practice in an urban area. Having the contractor services staff focus more closely on specialty recruitment, and having the care management staff available to assist with specialty referrals may help, but will not eliminate all access barriers to specialists.

The state faces bigger challenges in developing its care management and disease management initiatives. At the time of our visit, the state only had seven staff persons responsible for providing care management services to more than 152,000 SoonerCare Choice enrollees. The staff are responsible for direct patient assistance, coordinating care for individuals with complex medical needs, addressing patient access problems, supporting providers (e.g., helping to locate and recruit specialists and other type of medical suppliers, handle provider inquiries); and for handling inquiries from Congress and their state legislature. Further, the staff is involved in

developing the state's disease management protocol. With so few staff and so many differing responsibilities, the state is unlikely to obtain the same positive health outcomes as states or managed care organizations that invest more heavily in case and disease management services.

DISCUSSION & CONCLUSIONS

The current instability of capitated-managed care, particularly in rural areas, places many states in the position of having to redesign their Medicaid managed care programs. States are beginning to develop innovative primary care case management programs as one vehicle to improve access, enhance quality, and reduce program costs in rural areas. As more states engage in this process, it is useful for them to understand the approaches that other states have taken to improve access and ensure high quality and efficient care for their rural enrollees.

This study explored the experience of three states that have developed innovative primary care case management programs. They have each taken different paths, but contain some commonalities. All three of the states are employing case management techniques in their PCCM programs, and two of the three states (Florida and North Carolina) have gone a step further and invested heavily in disease management. Oklahoma relies more on other strategies to improve access and quality, including partial capitation payments to rural providers, a centralized nurse triage line and capitated transportation system. Two of the states are in the process of developing regional approaches linking smaller rural communities to urban centers. Each of these variations has significant implications for rural practice.

Case management, a central feature of all three states, can be especially beneficial to rural enrollees as they can increase the resources available to small rural practices and provide needed social services that might otherwise be unavailable. However, the structure of these programs differed dramatically. Care coordinators (or case managers) in all three states help coordinate the clients' medical care, and help link clients to other available services in the community. In Florida and North Carolina, the care coordinators also help with disease management, by providing more intensive patient education, monitoring the patient's condition, and providing follow-up. Despite these similarities, there are significant differences in how these programs operate. In Florida, the state contracted with multiple DMOs to provide services directly to beneficiaries, while in North Carolina, it is the responsibility of local provider networks to hire case managers who work directly with the provider network in managing the patient's care. Oklahoma has a centralized staff of case managers that work directly for the Medicaid agency.

In the rural areas of Florida, the DMO case managers typically coordinate the care of beneficiaries in multiple counties. Because rural enrollees are more geographically dispersed, there is an incentive to conduct case management by telephone rather than in person, as is often the case in urban areas. This can create problems for some rural beneficiaries who lack access to regular telephone service. To address this inequality, states could consider higher case management fees for rural enrollees, with requirements regarding the provision of in-person services. This may be a bigger problem in the new Pfizer initiative, as some communities will be managed exclusively through a centralized call center, rather than through the network of hospital-based case managers.

The Florida model also has implications for rural practitioners. The use of multiple disease management contractors, each handling different conditions, may be difficult for small rural practices with limited administrative staff. Also, smaller practices may not have enough patients to establish relationships with multiple managers. This problem is being partially addressed through the new Pfizer initiative, which streamlines the number of different disease management organizations working with different patients. Nonetheless, in most communities, providers will still be required to interface with multiple disease management organizations.

In the participating rural counties in North Carolina, there has been at least one case manager in every county and in some counties, multiple case managers. However, any given practice is usually assigned a single case manager. Case managers typically work closely with the local physicians, sometimes working directly out of the physicians' offices or spending time each week with the physicians. While the telephone is still a primary method of reaching clients, case managers have greater ability to provide case management services directly to the clients, for example, in the beneficiaries' homes or in the doctors' office. Nonetheless, there are still disadvantages in rural communities. Case managers have to travel further, and spend more time, to reach the homes of some rural beneficiaries in sparsely populated communities. Further, in rural areas, case managers may have more responsibilities because of the lack of other available community resources to provide patient education or address psychosocial problems. Because of the way the program is financed (based on a per member per month case management fee), some of the rural networks may not have enough patients to generate the income necessary to hire sufficient numbers of case managers to meet the needs of the rural beneficiaries. North Carolina could address this problem by ensuring that all participating counties have sufficient resources to hire at least one case manager, and/or to increase the per member per month payments to adjust for the greater travel distances and time involved in providing care to rural beneficiaries.

In Oklahoma, case management is provided by a centralized case management staff comprised of exceptional needs coordinators. In addition to traditional case management functions, the case managers help primary care providers with specialty referrals and in managing "lock-in" patients. Because of the lack of resources and centralized system, Oklahoma relies solely on the telephone for case management services. While the case management and provider relations staff appears to be doing a good job interfacing with rural physicians, they have less capacity to work intensively in meeting the health and psychosocial needs of rural beneficiaries.

Other options to support rural beneficiaries and rural practitioners are worth exploring. Oklahoma appears to have some success with their capitated transportation system and nurse-triage line, both of which improve access to services for rural beneficiaries. Oklahoma's provider relations and case management staff also have assisted rural providers in obtaining specialty referrals, when local specialists are unavailable.

The findings from the three case studies suggest that states should consider factors that are unique to rural areas when designing their Medicaid managed care programs. Some of the factors that should be considered include:

Small number of enrollees in geographic service areas. Rural counties typically have fewer Medicaid beneficiaries than urban communities. Providing in-home services to a rural

community often requires additional costs (in both travel and time). Further, per member per month payments may generate insufficient funds to support the program in some rural communities. States may need to adjust the case management fees to address these problems.

Fewer resources in rural communities. In many rural communities, there are fewer resources available to address the health, psychosocial and other needs of rural residents. Rural recipients may have to travel out of the community for specialty care or for other needed services. Care coordinators can help link patients to needed resources. This may be easier for locally based care coordinators than those in regional or centralized locations, as locally based staff are likely to have a better understanding of the available resources in the immediate or surrounding counties.

Ongoing transportation barriers. Transportation barriers are common in both urban and rural areas, but appear to be a bigger issue in rural communities. Not only do most rural areas lack public transportation, but rural residents often have to travel further to obtain needed health care services. Federal Medicaid laws require states to assure transportation so that Medicaid recipients can access necessary medical services; however, state transportation systems are not always effective. Oklahoma appears to have some success with its capitated transportation model that may be worth exploring in other states.

Smaller practices with fewer administrative staff. Some rural practices are small, with few administrative staff. Requiring small rural practices to interface with multiple case managers or different disease management organizations can create administrative barriers. On the other hand, trained care managers can serve as care extenders for rural practitioners, helping to arrange transportation, link the patient to available social services, or assist in patient education. Other systems can be established to reduce barriers for rural practitioners, for example, by helping to facilitate referrals to specialists. These services—provided at either the state or local level—can assist rural practitioners who may be a sole source of care for large populations.

Regional approaches. Regional approaches that link small communities to larger urban centers to create referral networks have the promise to improve care. But, if states rely on networking as part of their case management strategy, they need to develop strategies to address the potential distrust that some rural providers feel towards the larger urban providers.

Developing enhanced primary care case management programs, with case management, disease management, and/or other systems to improve access and quality may be more challenging in rural areas. Despite these challenges, the value of such programs in rural areas is significant and should be worth considering across states.

APPENDIX I: DMO CONTRACT EXCERPTS (FLORIDA)

ATTACHMENT V
METHOD OF PAYMENT

A. Introduction.

This is a fixed price (unit cost) contract. The Agency will manage this fixed price contract for the delivery of services to enrolled members (service units). [CONTRACTOR] will be paid by the Medicaid fiscal agent in accordance with the [Contractor] of this contract for a total dollar amount not to exceed $ **(Program Analysis to supply this)**, subject to the availability of funds. [CONTRACTOR] is prohibited from billing the recipient for disease management services.

2. [CONTRACTOR] will be paid by the Agency with a retrospective adjustment based on the level of savings that occurs when comparing the Agency's expected expenditures for [CONTRACTOR] enrollees to the actual expenditures for [CONTRACTOR] enrollees. The Agency will continue to pay submitted Medicaid fee-for-service claims through its fiscal agent for participating recipients. The Agency will reimburse Medicaid providers only for those services identified as compensable in the program specific Medicaid Coverage and Limitations handbooks.

B. Monthly Administrative Fee.

1. The Agency agrees to pay [CONTRACTOR] for the service units (enrolled members) at the unit price and limits listed below.

Service Units	Unit Price	Maximum # of Units	Maximum Time
1. Enrolled members	$ **(DMO to supply this)** per member per month	**(MediPass data to supply this)** estimated members per month**	24 months of contract period

*[CONTRACTOR] reserves the right to resubmit a proposed budget once Tier II participant levels are established.

**[CONTRACTOR] will implement the disease management project in 4 phases during the first 8 months of the contract period.

These funds will be a "draw down" against [CONTRACTOR'S] share of anticipated cost savings. The purpose of this fee is to help [CONTRACTOR] invest in administrative activities (e.g. care management, education and outreach) that present short-term costs but long-term savings to the Agency.

Unless this contract is extended or renewed, no disease management services will occur during the third contract year and, therefore, no monthly administrative fees will be paid during the third year of the contract.

2. The total amount of monthly fees will vary from month to month based on census levels. The administrative fees will be paid to [CONTRACTOR] through the Medicaid fiscal agent on a monthly basis.

3. The Agency will verify the Census List monthly. All known adjudications to any prior month's administrative fees (due to findings of Census List reviews) shall be made in the form of adjustments to an ensuing month's administrative payment.

4. For each of the three years of the contract, the Agency does not intend for total actual payments (paid claims, MediPass PCP case management fees plus the DMO's administrative fees) for enrolled recipients to exceed the total baseline payment. However, if the total actual payments exceed the baseline payment, [CONTRACTOR] will refund previously received administrative fees to the Agency, as necessary, so that the Agency's total actual payments do not exceed the total baseline payment. In a worst-case scenario, [CONTRACTOR] would refund all administrative fees received from the Agency. [CONTRACTOR] will submit payment to the Agency within 90 days of notification that a refund of monthly payments is required.

5. The Agency shall not pay a monthly administrative fee for a recipient automatically enrolled in the [CONTRACTOR] disease management project should a [CONTRACTOR] assessment indicate a recipient does not have ESRD, or is enrolled in CMS.C.

C. Shared Savings.

1. [CONTRACTOR] may receive payment in the form of shared savings. Savings available to be shared is the difference between actual Agency payments on behalf of [CONTRACTOR] enrollees (Medicaid claims payments including MediPass PCP case management fees) and the baseline payment.

2 Establishing the Baseline Payment:

(a) The baseline payment reflects an estimate of the level of MediPass recipient costs that the Agency would expect to incur in the absence of implementing the disease management initiative. The baseline payment will be derived from a claims analysis involving eligible MediPass recipients. These recipients will meet the Agency's criteria for having characteristics of [DISEASE].

(b) For the identified recipients, the number of MediPass recipient case months will be calculated for the 1997-98 fiscal year (defined as the "Baseline Period"). All paid claims for these recipients, while enrolled in MediPass, will be aggregated to determine total expenditures for the Baseline Period. The number of case months and the paid claims will be excluded for those months when recipients are in categories ineligible for disease

management services. These expenditures will be divided by the total number of case months for recipients eligible for [DISEASE] management to obtain a dollar expenditure amount per recipient per case month. This dollar expenditure amount per recipient per case month will be inflated based on yearly Medicaid budget adjustments and will be referred to as the baseline payment per recipient case month. This will be used in the calculation of the baseline payment.

(c) Fiscal year 1997-98 dates of service will be used to establish the Baseline Payment for [CONTRACTOR'S] first operational year. Fiscal year 1998-99 dates of service (or the most current available fiscal data) will be used to establish the baseline payment for [CONTRACTOR'S] second operational year.

3. Cost Savings Calculation:

(b) Paid claims of all recipients enrolled with [CONTRACTOR] will be identified. Only claims with service dates during periods of [CONTRACTOR] enrollment will be used.

(c) Paid claims will be aggregated to determine the expenditures for the identified recipients for all Medicaid service categories.

(d) Total cost savings will be calculated as follows:

1 [CONTRACTOR'S] baseline payment for the contract year, which includes MediPass case management fees paid to primary care providers

2. Minus all Medicaid paid claims made on behalf of [CONTRACTOR] enrollees for dates of service during the contract year, which includes MediPass case management fees to primary care providers. Only claims incurred during periods of [CONTRACTOR] enrollment are included in the calculation.

4. Shared Savings Payments:

(a) It is the intent of the Agency that the [CONTRACTOR'S] portion of savings will be reasonable and related to [CONTRACTOR'S] costs and not reflect a disproportionate share of the cost savings.

(b) If total cost savings exist in a given contract year, these savings will be shared with [CONTRACTOR] as follows:

1. [CONTRACTOR] will receive **X % (DMO to supply this)** of the savings until the savings reach a figure representing **X % (DMO to supply this)** of [CONTRACTOR] actual spending for the enrolled population;

2. [CONTRACTOR] will receive **X % (DMO to supply this)** of additional savings above **X % (DMO to supply this)** of [CONTRACTOR'S] actual spending for the enrolled population and up to 133% of [CONTRACTOR'S] actual spending for the enrolled population; and

3. Notwithstanding 4. (b) 1., 2., [CONTRACTOR'S] total share of savings shall not exceed the lesser of: (a) 133% of the total budgeted expenses for the first two (2) years of the contract period, as reported in the revised budget submitted to the Agency by [CONTRACTOR] to be **$X (DMO and Program Analysis to supply this)**, or (b) 133% of actual expenses incurred in completing the requirements of the contract.

(c) [CONTRACTOR] shall submit quarterly expenditure reports within 45 days of the end of each quarter. The expenditure reports shall be in the same format as the revised budget submitted to the Agency and shall show expenditures for the quarter, as well as, a year to date total of expenditures.

(d) Medicaid staff will perform the necessary analysis in order to determine total cost savings, the total monthly administrative fees previously paid to [CONTRACTOR] and the total amount that might be due [CONTRACTOR] for the contract year. Medicaid staff will transmit this information (including a statement of methodology and utilization data) to [CONTRACTOR'S] Project Manager. If money is owed to [CONTRACTOR] by the Agency, the Project Manager will submit an invoice to the Agency to be paid in compliance with F.S. 215.422. If [CONTRACTOR] owes the Agency money, the Project Manager will submit payment within 90 days of notification by the Agency.

(e) The Agency and [CONTRACTOR] agree to meet every six months after the contract effective date to review the status, calculation and methodology associated with the shared savings provision.

D. Reconciliation.

1. To allow for the adjudication of Medicaid claims, factoring in the delayed submission of claims, the Agency and [CONTRACTOR] shall conduct three payment reconciliations. Each reconciliation will have the following components:

   (a) the identification of a baseline payment;

   (b) the determination of whether cost savings exist;

   (c) the determination of the amount of [CONTRACTOR'S] share of cost savings, if any, that will be paid by the Agency to [CONTRACTOR]; and

   (d) the determination of the amount, if any, that must be repaid by [CONTRACTOR] to the Agency.

   (See Exhibit 1 to Attachment V for scenario examples illustrating C.4. (b) 1., 2. and D.1.(a-d)).

2. The reconciliation for the first contract year will be made after the first quarter of the second contract year. Cost savings will be determined after an analysis of paid claims with service dates during months 4 through 12 of the first year's contract period, to allow for a three-month project start-up period. The total amount of paid claims will be adjusted to an annual amount. Although the first reconciliation will not include paid claims during the first three-months of the contract, the administrative fees paid during all twelve months of the contract year will be included in the reconciliation process. The amount owed to [CONTRACTOR]

will be calculated using the formula described within this contract. Reconciliation shall consist of determining whether the total amount of administrative fees paid to [CONTRACTOR] is greater or less than the amount owed to [CONTRACTOR]. If the amount owed to [CONTRACTOR] is larger than the total administrative payments, the Agency will pay [CONTRACTOR] the difference. If the total of the administrative payments is larger than the amount owed to [CONTRACTOR], [CONTRACTOR] will pay the Agency 100% of the difference within 90 days of notification.

3. The reconciliation for the second contract year will be made after the first quarter of the third contract year. Cost savings will be determined after an analysis of paid claims with service dates during the second contract year. The amount owed to [CONTRACTOR] will be calculated using the formula described within this contract. Reconciliation shall consist of determining whether the total amount of administrative fees paid to [CONTRACTOR] is greater or less than the amount owed to [CONTRACTOR]. If the amount owed to [CONTRACTOR] is larger than the total administrative payments, the Agency will pay [CONTRACTOR] the difference. If the total of the administrative payments is larger than the amount owed to [CONTRACTOR], [CONTRACTOR] will pay the Agency 100% of the difference within 90 days of notification.

4. A final reconciliation will be made a year after the end of the second operational year to precisely adjudicate the final paid claims totals for applicable service dates during the first 24 months of the contract period and with payment dates encompassing all applicable months of the contract. The final reconciliation will have the same components as the first and second contract year reconciliations. If the amount owed to [CONTRACTOR] is larger than the total administrative payments, the Agency will pay [CONTRACTOR] the difference. If the total of the administrative payments is larger than the amount owed to [CONTRACTOR], [CONTRACTOR] will pay the Agency 100% of the difference within 90 days of notification.

APPENDIX II: ACCESS II/III PERFORMANCE MEASURES (NORTH CAROLINA)

	Asthma	*Diabetes*	*Attention Deficit and Hyperactivity Disorder*	*Polypharmacy*
Date implemented	Jan 2000	March 2001	September 2001	October 2002
Outcome measures	• Inpatient admission rate • Inpatient admission rate for asthma • ED utilization rate • ED utilization rate for asthma	• Inpatient admission rate • Inpatient admission rate for diabetes • ED utilization rate • ED utilization rate for diabetes	• # of teacher follow-up reports • Parent rating scale (using Vanderbilt) • Teacher rating scale (using Vanderbilt) • Annual cost of care	• #of pharmacy claims • Cost of pharmacy • % Using generics vs. brand • % Complying to best prescribing recommendations • Others under development
Process measures	• Proportion of asthma patients staged • Proportion of asthma patients staged as II, III or IV on Corticosteroids • Proportion of asthma patients with asthma action plan • Percent of asthma patients receiving an annual influenza vaccine	• Diabetic flow sheet in medical records [A & C] • Continued care visits at least 2 times/year [A & C] • Blood pressure at every continuing care exam [A & C] • Referral for dilated eye exam every year [A] • Referral for initial dilated eye exam 3-5 years after diagnosis if more than nine years old, and then annually [C] • Foot exam 2 times/year [A] • Glycosylated Hemoglobin (HgbA1c) every 6 months [A & C] • Lipid profile every 2-5 years [A]; every 5 years [C] • Urinalysis for microabluminuria done yearly if greater than 10 years old [A & C] • Influenza vaccine yearly [A & C] • Pneumococcal vaccine done once [A & C]	• Comprehensive evaluation in the medical record • Management plan • Diagnosis meets DSM IV criteria • Symptoms have been present for >6 moths • Onset of symptoms prior to 7th birthday	• Under development

[A] Adults
[C] Children

APPENDIX III: ACCESS II/III PERFORMANCE RESULTS FOR PROGRAMS IN EFFECT FOR MORE THAN ONE YEAR (NORTH CAROLINA)

Asthma Performance Results

Outcome Measures

Measurements	*SFY 2001 (Changes from SFY 2000)*
Inpatient admission rate	66.6 (9% decrease in rate)
Inpatient admission rate for asthma	8.6 (9% decrease in rate)
ED utilization rate[19]	594 (46% increase in rate)
ED utilization rate for asthma[19]	37.1 (10% increase in rate compared to 11% increase in rate in non-Access II and III)

Process Measures

Measurements	*2001 Audit Results (Change from 1999)*
% of asthma patients staged	70% (63% improvement)
% of asthma patients staged as II, III or IV on Corticosteroids	96% (2% improvement)
% of asthma Patients with asthma action plan	81% (23% improvement)
% of asthma patients receiving an annual influenza vaccine	27% (8% improvement)

Diabetes Performance Results

Outcome Measures

Measurements	*SFY 2001 (Changes from SFY 2000)*
Inpatient admission rate	66.6 (9% decrease in rate)
Inpatient admission rate for diabetes	5.7 (9% decrease in rate)
ED utilization rate[19]	594 (46% increase in rate)
ED utilization rate for diabetes[19]	15 (31% increase in rate)

Process Measures

Measurements	*2001 Audit Results (Change from 2000)*
Diabetic flow sheet in medical records [Λ&C]	82% (52% improvement)
Continued care visits at least 2 times/year [Λ&C]	91% (5% improvement)
Blood pressure at every continuing care exam [Λ&C]	93% (6% improvement)
Referral for dilated eye exam every year [Λ&C]	53% (26% improvement)
Foot exam 2 times/year [Λ]	49% (8% decrease)
Glycosylated Hemoglobin (HgbA1c) every 6 months [Λ,C]	79% (10% improvement)
Lipid profile every 2-5 years [Λ]; every 5 years [C]	80% (5% improvement)
Urinalysis for microabluminuria done yearly if greater than 10 years old [Λ&C]	66% (53% improvement)
Influenza vaccine done yearly [Λ&C]	39% (50% improvement)
Pneumococcal vaccine done once [Λ&C]	31% (3% improvement)

[Λ] Adults
[C] Children

[19] In September 2000, North Carolina started paying for emergency room visits for conditions that a reasonably prudent layperson considered to be an emergency. The prudent layperson definition was required as part of the Balanced Budget Act of 1997. In implementing this coverage, hospitals were allowed to resubmit bills for up to six months prior to the state's implementation date. Prior to that time, coverage of emergency room visits was far more stringent.