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Clinical Pharmacy Management Initiative: Integrating Quality into Medicaid Cost Containment

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About the Center for Health Care Strategies

The Center for Health Care Strategies (CHCS) is a nonprofit policy resource center that promotes high quality health care services for low-income populations and people with chronic illnesses and disabilities. We achieve this objective through providing grants and “real world” training and technical assistance to state purchasers of publicly financed health care, health plans, and consumer groups. CHCS program priorities are improving quality, reducing racial and ethnic disparities, and increasing community options for people with disabilities.

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Foreword

The shift to newer and more costly drugs, increases in drug utilization, and expansions in prescription drug coverage are just a few sources of the double-digit growth in pharmaceutical expenditures being experienced by state Medicaid programs, collectively the largest public purchaser of health care services in the United States. This growth has contributed to some of the worst budget deficits that states have experienced in the last three decades. In response, many policymakers are seeking extensive benefit changes, particularly in the area of pharmacy. The need to improve — or at least maintain — the quality of care for Medicaid beneficiaries can be lost in the intense drive for cost containment.

The health care needs of the expanding Medicaid population, which now includes nearly 47 million people, are increasing in complexity, with many enrollees suffering multiple chronic conditions. Effective treatment for chronic diseases (e.g., asthma, diabetes, congestive heart failure, etc.) relies to a great extent on pharmaceutical interventions coupled with clinical management. The failure to optimize prescription drug utilization and coordinate the care of chronic disease patients contributes substantially to the growth in overall annual health care expenditures. For example, approximately 37 percent of people with diabetes have an elevated hemoglobin A1c¹, an indicator of poorly controlled diabetes that can be improved through medication and other factors. Yet, uncontrolled diabetes is the cause of 43 percent of all kidney failures.²

This Report describes clinical pharmacy management strategies within Medicaid today that seek to reduce program costs through improvements in the quality of care beneficiaries receive. It also presents a framework to guide states in developing new clinical pharmacy interventions.

In response to increased state concern over skyrocketing pharmacy and program costs in Medicaid, the Center for Health Care Strategies (CHCS) established the Clinical Pharmacy Management Initiative to help states generate savings in Medicaid (perhaps beyond prescription drug lines) while improving the quality of care for beneficiaries. The initiative outlined in this Report is led by CHCS in partnership with The Health Strategies Consultancy LLC and an advisory group of health care industry experts.

Recognizing the complexity of this issue and the diversity of opinions within the health care industry, CHCS began its efforts by convening stakeholders in a forum on pharmacy held in June 2002 (page 5). Participants included leadership from states, health plans, consumer organizations, providers, pharmacy groups, pharmaceutical companies, pharmacy benefit management companies, and other national experts and policymakers. The collective conclusion of this group was

¹ 2002 *Quality Compass*. Database containing information about the quality and performance of 74 Medicaid organizations; available at www.ncqa.org

² <http://www.diabetes.org/main/type1/complications/kidney/kidney.jsp> Accessed March 21, 2003. American Diabetes Association.

that optimal solutions to Medicaid pharmacy management required implementation of clinically focused strategies that improve quality of care and that may also reduce total program expenditures.

We hope this Report provides all of our constituencies with both the case for integrating quality into overall pharmacy program design as well as clear examples of how quality-focused pharmacy management programs can be developed. While state fiscal pressures are likely to remain for the short-term, decisions about pharmacy management will have long-term clinical and financial implications for both states and millions of current and future Medicaid beneficiaries.



Anna M. Fallieras
Director, CHCS State Purchasing Programs

Building Pharmacy Management Capacity within State Medicaid Programs

CHCS, working with its partners, will inaugurate a combined training, technical assistance, and grant-making initiative for up to six states interested in developing quality-focused pharmacy management strategies. Primary focus areas for technical assistance include pharmacy case management and physician and patient profiling and education activities. The goal of the initiative is to find feasible solutions that improve quality, lower costs, and are amenable to all stakeholders.

Training and technical assistance will consist of a collaborative workshop and individual sessions with states and their contractors, beginning in Fall 2003. To help states develop pharmacy management programs, CHCS established a developmental framework for planning, implementation, and evaluation of state strategies. The framework, which is outlined in this Report, includes four basic components:

- Identification and Stratification.
- Clinical Goals.
- Outreach and Intervention.
- Monitoring and Evaluation.

CHCS will guide participants in designing programs that best suit the needs of their enrollees and the structure of the state marketplace. The goal is to assist participants in achieving:

- Improved information, coordination, and communication among providers and consumers.
- Improved compliance with evidence-based “best practices.”
- Improved disease monitoring and timeliness of interventions.
- Measurable improvements in outcomes and costs.

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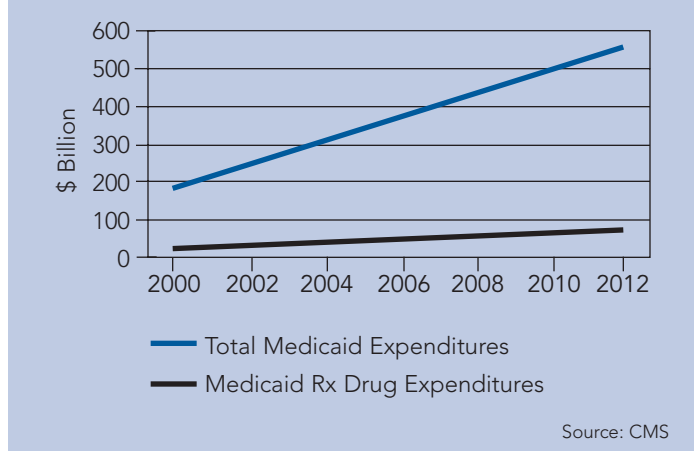
Introduction

As states face their largest deficits in decades, policymakers are aggressively seeking ways to reduce public spending. Representing one of the fastest growing segments in most state budgets, the Medicaid program continues to come under considerable scrutiny. Medicaid constitutes about 15 percent of state general fund spending, and is the second largest program in most states' budgets after elementary and secondary education.³ States expect Medicaid spending to increase nine percent in fiscal year 2003 on average. This is significantly higher than the 4.8 percent average growth rate that state legislatures appropriated in early 2003.

Within the total Medicaid budget, prescription drug spending is the most rapidly growing component, and has become a specific target for states' cost containment strategies. In fiscal year 2001, Medicaid fee-for-service prescription drug costs were \$24.7 billion (combined federal and state), and in 2003 the Centers for Medicare and Medicaid Services (CMS) projected costs to grow by approximately 24 percent to \$32.5 billion (Table 1).⁴ Most state officials attribute this growth to a combination of factors, including the increased utilization and price of prescription drugs, the increased number of products on the market, and the mix of drugs taken by beneficiaries.

In most states, drug spending is a separately appropriated item. This fuels an environ-

Table 1: Projected Medicaid Expenditures



ment in which drugs are seen as distinct from overall medical care. While increased use of pharmaceuticals may improve quality (e.g., lipid-lowering medications are widely known to be under-diffused) or even in some cases reduce costs (e.g., more aggressive use of asthma medication), states are focused on the increase in drug spending. Not surprisingly, 45 states reportedly plan to implement new controls on prescription drug spending this year.⁵

Given the magnitude of the current budget deficits, many states are focused primarily on cost-driven strategies that can produce immediate and measurable Medicaid savings. They are considering or have implemented provider reimbursement cuts or reductions in beneficiary services and program eligibility. Many states hope to manage rising prescription drug costs through preferred drug lists (PDLs) and limitations

³ Smith V., et al. *Medicaid Spending Growth: A 50 State Update for FY 2003*. Kaiser Commission on Medicaid and the Uninsured, January 2003.

⁴ Office of the Actuary, Centers for Medicare and Medicaid Services, fiscal year 2002 mid-session review of Medicaid baseline spending projections.

⁵ Smith, et al., op. cit.

Table 2: Current Cost Containment Strategies

- Sixteen states have implemented preferred drug lists; another 12 have received the authority or announced plans to implement a PDL.
- Thirteen states have hard limits on the number of prescriptions a beneficiary can fill monthly or annually.

on the quantity of medications beneficiaries may receive each month (Table 2).⁶

Especially in the area of prescription drugs, restricting benefits without a plan to ensure that quality is not compromised may increase hospitalizations and emergency room visits – and ultimately costs – over the long term. Unfortunately, the effects of these programs on quality are generally not being studied. Key stakeholder groups are thus concerned about the potential effect of state programs on quality.⁷

States are faced with a difficult balancing act: containing health care costs while maintaining beneficiaries' access to essential quality care. This Report focuses on a subset of state activities: clinical pharmacy management programs that have the potential to create overall savings in Medicaid while improving quality of care for beneficiaries. It is based on research

into specific initiatives that have been successfully implemented in several states across the country. The paper is divided into the following sections:

- **Case for Clinical Pharmacy Management:** Why states should incorporate quality-focused initiatives into their pharmaceutical cost containment strategies.
- **Characteristics Common to Clinical Pharmacy Management Programs:** Assists states in designing new clinical pharmacy management initiatives.
- **Working Models:** Examples of clinical pharmacy management activities working in states today, including descriptions of three states' and one health plan's experiences in this area.
- **Design and Implementation Issues:** Key issues for states to consider when developing new clinical pharmacy management programs.

⁶ The Health Strategies Consultancy LLC estimates based on a compilation of sources.

⁷ Bernasek C., et al. *Case Study: Michigan's Medicaid Prescription Drug Benefit*. Kaiser Commission on Medicaid and the Uninsured, January 2003.

Case for Clinical Pharmacy Management

Clinical pharmacy management initiatives focus on influencing prescription drug utilization and mix to promote the highest quality of care for beneficiaries and reduce Medicaid program costs.

State Medicaid programs have the ability to mitigate prescription drug costs by exerting influence on price, utilization, and drug mix.⁸ While Medicaid programs cannot control all of the external variables that influence rising drug prices, they have the ability to negotiate both pharmacy discounts (e.g., dispensing fees and ingredient cost reimbursement rates) as well as manufacturer rebates (e.g., through PDLs).

Clinical pharmacy management programs are more politically palatable, providing states the opportunity to save money without denying access to services or limiting eligibility.

Policymakers also can influence prescription volume, the number of prescriptions used per member, through drug utilization management techniques such as quantity limits. Finally, Medicaid programs can affect drug mix, or the combination of drugs used by a member. Strategies to influence drug mix and steer beneficiaries toward

the most appropriate and/or most cost-effective medications include generic mandates, prior authorization programs, and PDLs.

Clinical pharmacy management initiatives focus on influencing utilization and mix to enhance the quality of care provided to beneficiaries and reduce prescription drug and other program costs. Through education, nurse-patient case management, provider detailing, and other activities, clinical pharmacy management programs generally seek to eliminate inappropriate

Table 3: Washington

The Medicaid program in Washington implemented a three-part program designed to promote appropriate and cost-effective use of prescription drugs and improve quality of care. An initial review of the Therapeutic Consultation Service, a program run by Affiliated Computer Services (ACS) that targets high-volume utilizers and prescribers, has demonstrated savings of \$5.13 million in the first five months following implementation.

drugs from patients' regimens, reduce the risk of harmful and expensive drug interactions, and boost compliance. These initiatives also attempt to influence the mix of drugs taken by beneficiaries by promoting best practice guidelines that providers recognize, and by monitoring patients with a history of taking expensive medications. Often making small changes first to improve the drug regimens of the sickest, most expensive beneficiaries can lead to meaningful cost savings. Early data from some programs support the claim that states' immediate focus on quality can promote cost reduction in the short- and long-term (Table 3).⁹

In addition to the savings potential, there are other reasons for states to consider initiatives that promote clinical quality. These programs are more politically palatable, providing states the opportunity to

⁸The Health Strategies Consultancy LLC. *An Overview of Prescription Drug Cost Containment Approaches Used in Medicaid Programs and the Commercial Market*. Lessons Learned from State Medicaid and Pharmacy Assistance Programs, November 2001.

⁹The Lewin Group, Inc. *Supplement to Report No. 2: Pharmacy Initiatives*. Prepared for the Washington State Legislature, January 2003.

save money without denying access to services or limiting eligibility. Clinical quality management initiatives also typically focus on some of the most vulnerable

Clinical quality management initiatives focus on some of the most vulnerable beneficiaries in the Medicaid program to assure that their complex clinical care needs are met.

beneficiaries in the Medicaid program to assure that their complex clinical care needs are met. Key advocacy groups (both provider and patient) are more likely to embrace such efforts — especially faced with alternatives such as quantity limits that could compromise quality.

Outside of the discrete clinical management programs described in this

Report, states also could benefit from efforts to integrate quality checks into the design of existing cost containment strategies. For example, when pursuing PDLs, policymakers can mandate that states evaluate the impact of the new restrictions on beneficiaries' access to and overall quality of care. Not only will such monitoring protect beneficiaries and potentially win support of advocates, but it also may assist states in conducting useful cost-benefit analyses of new programs.

Characteristics Common to Clinical Pharmacy Management Programs

Clinical pharmacy management programs share many characteristics

Clinical pharmacy management programs establish systems or processes to monitor and intervene in (when necessary) the treatment of patients taking prescription drugs. The monitoring and intervention may be episodic, occurring at various points in time, or it may be an ongoing activity that affects patients over a period of months or years. In all cases, clinical pharmacy management initiatives seek to prevent medical complications, manage the progression of illnesses, and control rising medical costs.

The clinical pharmacy management programs working in Medicaid fee-for-service and managed care plans today share many

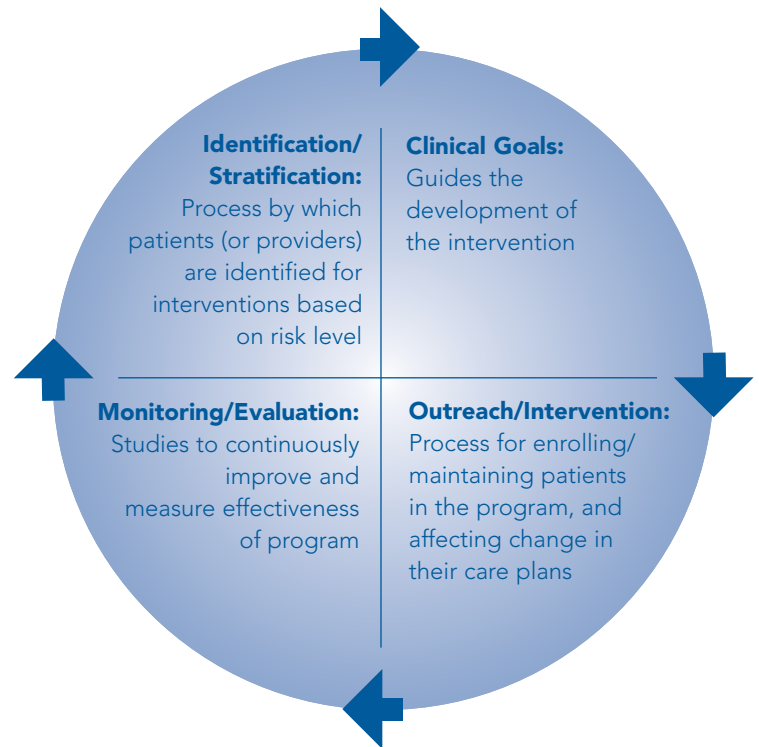
The CHCS Clinical Pharmacy Management Framework provides a consistent approach for states to design and implement quality and cost-focused solutions to clinical pharmacy management.

common characteristics. The structure of existing programs can be mapped using a framework developed by CHCS (Table 4). This framework provides a consistent approach for states to design and implement quality and cost-focused solutions to clinical pharmacy management with built-in mechanisms for evaluation and monitoring. The framework features:

1. Identification/Stratification.
2. Clinical Goals.
3. Outreach/Intervention.
4. Monitoring/Evaluation.

First, there are simple criteria that can be established to **identify** patients or physicians as candidates for some type of pharmacy management program. Criteria might

Table 4: CHCS Clinical Pharmacy Management Framework



include a particular event in a patient’s history (e.g., patient reaches a drug limit or develops a particular disease), or trends in a physician’s prescribing pattern (e.g., prescribing pattern falls outside of acceptable guidelines over a period of time). Some programs **stratify** these candidates based on criteria such as their future clinical needs, or risk of developing complications or comorbidities.

Second, **clinical goals** are established for the clinical pharmacy management program. It is important to determine specific program goals, the process by which these goals will be measured, and the most appro-

priate group of clinicians and program stakeholders to develop goals. These goals can be useful not only in guiding the development of the program, but also to track the program's effectiveness over time. Goals should be measurable and achievable. Third, in order to accomplish established goals, clinical pharmacy management programs rely on some type of **intervention** in the patient's therapy or care plan, or in the provider's practice patterns. The intervention becomes the bedrock of the clinical pharmacy management program, ideally facilitating both cost containment and quality improvements. An **outreach** process to enroll and maintain beneficiaries in the program, as well as an outreach plan to encourage provider participation, must be incorporated into the intervention.

Finally, program **monitoring, evaluations,** and follow-up are essential. States and plans must consider the data and personnel systems necessary to monitor the ongoing success of program implementation. For example, are prescriptions being filled, or are nurses contacting high-risk patients regularly? Data systems also should be developed to ensure that periodic evaluations are performed to measure the overall effectiveness of the program (i.e., are clinical and financial goals being met?).

Information collected during the ongoing monitoring and evaluation efforts should inform the state or plan's efforts to improve the clinical management initiative over time.

Lessons learned must feed back into the cycle of activities featured above to improve strategies to identify patients for the program, refine clinical goals, and enhance clinical interventions. Through such processes, administrators also may learn of opportunities to broaden the reach of clinical management programs to new populations, such as state employees.

States committed to improving quality within cost-effective pharmacy programs can adopt this framework to ease the development of a clinical pharmacy management program. The next section of this Report applies the Clinical Pharmacy Management Framework to four working clinical pharmacy models to offer insights on how states might construct a clinical-focused pharmacy approach.

States and plans must consider the data and personnel systems necessary to monitor the ongoing success of each program.

Working Models

Although insurers use a variety of terms to describe their programs, clinical pharmacy management activities generally fall into two broad categories: pharmacy case management and physician profiling.

Research yielded information on 13 states with operational clinical pharmacy management programs (Appendix). States and health plans use a variety of labels to describe their programs — clinical management, disease management, high-risk management, case management, drug utilization review, profiling — most of which share the same objective to promote the most appropriate treatment of beneficiaries. The Clinical Pharmacy Management Initiative focuses on those programs with a strong pharmacy management component. In general, clinical pharmacy management activities fall into two broad categories: pharmacy case management and physician profiling.

Pharmacy Case Management

Pharmacy case management refers to a system or program in which Medicaid or private insurers identify and manage beneficiaries meeting one or more of the following

criteria: generate high prescription drug costs, take a high number of prescription drugs, and/or have a certain disease. Case management is typically triggered when a patient reaches a set drug limit, generates claims above an established level, or is diagnosed with a particular disease.

Pharmacy case management activities can vary significantly in the degree to which interventions into patients' treatment regimens are exercised.

For example, plans may rely on high-intensity case management in which health professionals interact with patients regularly, or on lower-intensity direct mail or other disease education campaigns. The type of intervention may be driven by the clinical and cost goals that the state expects to meet through the program (Table 5).¹⁰

Interventions are usually driven by the clinical and cost goals that the state expects to meet through the program.

The following states currently have pharmacy case management programs in place: Colorado, Florida, Maryland, Massachusetts, Mississippi, Missouri, North Carolina, Texas, Utah, Virginia, Washington, and West Virginia.¹¹ (Different states and commercial plans may refer to similar initiatives by such varying names as disease management, case management, or drug utilization review).

Physician Profiling

Physician profiling is a technique used to identify providers who prescribe outside of accepted guidelines. Physician profiling programs are typically triggered through

Table 5: Colorado

Colorado recently established a pilot case management program for beneficiaries with schizophrenia who have medical co-morbidities and high costs. Once beneficiaries are identified, nurse case managers coordinate those aspects of patient care (medical and social) not typically managed by the state's capitated mental health providers, including drug regimen reviews with the prescribing physician and the monitoring of patient medication compliance.

¹⁰ Interview with Gary Montrose (independent consultant), Ashby-Montrose & Co., February 2003.

¹¹ Fifteen states responded to the survey, and 33 different pharmacy case management programs were identified in a total of 13 states.

drug utilization reviews, which generate data on physician prescribing histories and compare these data to expected prescribing patterns within select drug categories. Depending on the degree of variation, interventions might rely on general educational materials on prescribing protocols, or a pharmacist consultation to review specific patient medication issues. While few Medicaid agencies have implemented profiling programs, many private insurers rely on the technique (Table 6).¹²

The following states currently have physician profiling programs: Arkansas, Florida, Texas, and Washington.

Table 6: Florida

In 2000, Florida established a physician profiling program called Therapeutic Academic Intervention. This program targets a specific subset of high-volume/high-cost prescribers. Pharmacists, hired by the state, intervene and educate the identified physicians on a range of issues including adherence to protocols, compliance with the state's preferred drug list, and/or therapeutic alternatives.

¹² Interview with Trey Harrison, ACS, February 2003.

Case Studies

The following case studies from Maryland, North Carolina, Texas, and Washington represent a variety of plan types — Medicaid managed care, primary care case management (PCCM), and traditional fee-for-service (FFS) — and different approaches to incorporating pharmacy case management and/or physician profiling programs into a pharmacy benefit.¹³ The programs featured also are designed to pursue dual cost and quality goals.

This section provides details of four different approaches using the Clinical Pharmacy Management Framework to outline the structure of each program.

Abbreviated summaries of clinical pharmacy management programs identified through this initiative are included in the appendix.

Maryland Physicians Care: Disease-Driven Case Management

In 2000, Maryland Physicians Care implemented a disease-driven case management program for diabetes patients enrolled in its Maryland Medicaid managed care plan.¹⁴ The community-based diabetes management program is applied directly to providers — and indirectly to beneficiaries — in the plan. The program provides physicians with comprehensive information, tools, and counseling relative to treating beneficiaries with diabetes through an integrated approach. Implementation of this program has resulted in improved beneficiary health, reduced medical service utilization, and a net decrease in direct medical costs.

Framework

Identification/Stratification: The diagnosis of diabetes through claims data and physician referral triggers beneficiary enrollment. Patients are stratified on the basis of the number of complications/co-morbidities (e.g., end stage renal disease (ESRD), unstable angina), laboratory results, and other pharmacy factors (e.g., patients with hemoglobin A1c (HbA1c, also known as blood glucose) levels higher than 9.5 are stratified as high-risk beneficiaries).

Clinical Goals: The plan established clinical goals for the program prior to implementation. Plan administrators expect aggregate reductions in hospital admissions and emergency room visits, reduced HbA1c levels, and increased medication compliance.

Outreach/Intervention: Plan administrators provide education for treating physicians and help them expand their monitoring capabilities. Specifically, the plan funds weekly visits by an endocrinologist for “diabetes days” in participating clinics. During the visits, the specialist treats patients and counsels primary care physicians regarding American Diabetes

¹³ PCCM plans use primary care physicians to coordinate all aspects of care for beneficiaries for an additional fee.

¹⁴ Interview with Neil West, MD, and Arthur Pelberg, MD, Schaller Anderson, January 2003.

Association treatment protocols. The plan also has increased funding for nurse case managers. Nurse case managers contact beneficiaries regularly to monitor HbA1c levels and medication compliance. Finally, the plan, through a partnership with a pharmaceutical manufacturer and other community resources, provides an HbA1c monitoring machine for use in targeted clinics, which allows case managers to closely watch patients. This collaborative effort has proven to be an important program component as the monitoring machine allows case managers to track patients more closely.

Monitoring/Evaluation: The plan has been tracking 150 beneficiaries since program inception using medical and pharmacy claims data. Measures analyzed include medication compliance, HbA1c levels, hospitalizations, and emergency room visits. A preliminary analysis of patients' HbA1c levels found a 14 percent decrease in the number of beneficiaries with levels above 9.5.

The plan's contractor, Schaller Anderson, cites a number of factors that have contributed to the plan's success with the diabetes case management program. First, the plan could rely on its past experience in working with claims databases to identify patients, establish clinical goals, and monitor the program in "real-time." Second, the plan established a partnership with a pharmaceutical manufacturer early in the program, which helped to facilitate the purchase of a monitoring machine. The monitoring machine plays a significant role in helping physicians monitor beneficiaries' HbA1c levels more regularly and effectively. This program has not been independently reviewed to date, but the contractor plans to release a detailed analysis of program results in Spring 2003.

North Carolina Nursing Home Polypharmacy Initiative

Through its ACCESS PCCM Program, North Carolina Medicaid implemented a number of clinical pharmacy management initiatives, many of which focus on patients with particular diseases (e.g., asthma, diabetes, congestive heart failure (CHF), and gastroenteritis). North Carolina also implemented an innovative pharmacy case management program for beneficiaries in nursing homes.¹⁵ Like many other states, the management of nursing home beneficiaries is a critical policy issue for North Carolina; the state is particularly focused on the prescription drug regimens of this population.

North Carolina developed the following pharmacy case management program after discovering that an overwhelming number of nursing home beneficiaries were taking six or more prescription drugs daily, and that a significant and disproportionate share of the prescription drug Medicaid budget was being spent in this setting.

¹⁵ Interview with Jeffrey Simms, Assistant Director, Managed Care, and Torlen Wade, ACCESS II and III Project Director, January 2003.

Framework

Identification/Stratification: North Carolina selected 13 nursing homes served by physicians in the ACCESS network to participate in the program. Pharmacy claims data are analyzed to identify nursing home beneficiaries taking a high number of medications (i.e., more than eight prescription drugs per month) and/or taking high-cost prescription drugs, such as anti-psychotics. Patients are stratified as high- or low-risk based on the relative cost of their drug regimen or the number of drugs they take.

Clinical Goals: The intervention is designed to reduce the total number of drugs (by eliminating unnecessary medications) and/or shift the type of prescription drugs taken by beneficiaries to either generic or therapeutic alternatives.

Outreach/Intervention: Algorithms were developed by program administrators to screen patient records for signs of potential inappropriate and/or polypharmacy¹⁶ drug therapy problems such as therapeutic duplication, inappropriate drug utilization,¹⁷ multiple prescriber issues, and higher than normal drug usage. A physician/pharmacist team hired by the state verifies the completeness of the patient database as well as the completeness of the drug profile for each patient during the first visit to the nursing home facility. The physician/pharmacist reviews and confirms the patients' prescription regimen and then makes recommendations to prescribers for approximately 670 beneficiaries.

Monitoring/Evaluation: Preliminary findings indicate that the program achieved its cost and quality goals. The pharmacist-physician team identified the need for medication changes for 37 percent of the patients (changes could be attributed to therapeutic or generic substitution, medication duplication, and/or inappropriate use of medication). The economic benefits outweighed the investment of implementing this program by a ratio of 13 to 1.¹⁸

North Carolina confronted a key challenge with beneficiary and physician advocacy groups in the early design and planning stage of its nursing home case management initiative. It proved critical that program administrators reached out to these important groups from the onset, bringing them into the planning and implementation processes. After obtaining support from key stakeholders in the state, implementation of the program was smooth.

¹⁶ Polypharmacy is the "practice of prescribing too many prescriptions to a patient."

¹⁷ Inappropriate utilization could be determined by patients' utilization of drugs contained on the "Beers' list," which is a list of drugs to be avoided in elderly patients along with a list of recommended alternatives.

¹⁸ North Carolina Internal Report.

Texas Medication Algorithm Project

In 1996, Texas created the Texas Medication Algorithm Project (TMAP). The TMAP program was initially a small pilot intended to help standardize the prescribing practices affecting all adults receiving behavioral health services by the state for depression, schizophrenia, and/or bipolar disorder. It has grown to encompass children's behavioral health, and has been used as a model in other states looking to increase quality of care and decrease program costs.

Framework

Identification/Stratification: The program is initiated when an adult patient in a state-sponsored program is diagnosed with depression, schizophrenia, or bipolar disorder, or when a pediatric patient is diagnosed with depression or Attention Deficit and Hyperactivity Disorder (ADHD).¹⁹ Patients are not stratified by risk.

Clinical Goals: The intervention is designed to improve clinical outcomes, reducing the inappropriate use of psychotropic medications, and standardizing care of mental health patients in accordance with provider-developed guidelines.

Outreach/Intervention: The TMAP intervention consists of three separate parts: algorithms, or prescribing standards; patient and family education; and documentation.²⁰ The algorithms, which were created using peer-reviewed literature, advocacy community opinions, and expert experience, establish prescribing standards for each disease state. The algorithm component of the intervention consists of manuals created for each disease that provide best practices information and prescribing tactics for providers. The manuals are updated annually to reflect the latest clinical research findings. Consumer, education, and advocacy experts also developed curricula for patients and family members that explain the importance of the prescribing guidelines. The third part of the TMAP intervention involves documentation of the prescribers' practices and the patients' outcomes using standardized scales, clinical outcomes, and use of prescription medications. Finally, Texas uses an aggressive outreach campaign to inform providers of the program.

Monitoring/Evaluation: Results from a small-scale study of an initial pilot program was so promising that the state decided to require the use of TMAP for all mental health patients in the state with depression, schizophrenia, bipolar disorder, and ADHD (pediatrics only). According to Medicaid administrators, Texas is about to release results of a two-year study showing that patients receiving care influenced by TMAP achieved "superior clinical outcomes."

Part of the TMAP program's success can be attributed to Texas' effort to involve a broad set of stakeholders in the development of the overall program. Physicians were involved in creating the medication algorithms, while advocacy and patient representatives were involved in the development of the patient education component of TMAP. This participation helped secure buy-in from the physicians, as well as the advocacy and patient community. The fact that the

¹⁹ Interview with Steve Shon, MD, TMAP Medical Director, February 5, 2003.

²⁰ *Texas Medication Algorithm Project*, accessed March 3, 2003, at <http://www.mhmr.state.tx.us/centraloffice/medicaldirector>

state targeted certain diseases and waited to launch the program across the state until learning from its experience with a smaller pilot also helped Texas secure stakeholder support.

One of the key challenges confronting Texas in implementing the program relates to documentation requirements. The documentation process was set up to standardize the method for tracking beneficiary drug regimens and physician compliance with the state-developed algorithms. However, requiring documentation of individual prescription drug treatment plans is an administrative burden for some physicians and has resulted in inconsistent reporting across the state. Psychiatrists are familiar with the TMAP documentation forms, because many of their patients have depression, schizophrenia, or bipolar disorder. The primary care physicians, who are involved at the initial stages of treatment of depressed patients, are not as familiar with the forms, and therefore have had more problems completing them.

Disease-Driven Pharmacy Case Management in Washington

The Medical Assistance Administration (MAA) in Washington implemented several programs to contain pharmaceutical spending while maintaining quality of care, including the Therapeutic Consultation Service, an initiative to review physician prescribing patterns (see page 9), and an initiative to review the drug regimen of high-risk populations with specific diseases (e.g., asthma, diabetes, CHF, and ESRD).²¹ The profile below describes two of Washington's clinical management programs in the FFS Medicaid population.²²

After conducting an analysis of the costs and benefits of outsourcing, Washington contracted with two vendors, McKesson and Renaissance, to provide disease management services with a strong pharmacy component. McKesson uses a basic telephone case management design for three disease conditions (asthma, CHF, and diabetes), while Renaissance's ESRD program is based on direct nurse-patient interactions.

The asthma and ESRD programs began on April 1, 2002, and the CHF and diabetes programs began on July 1, 2002. As of October 2002, McKesson contacted 7,000 patients to participate in the diabetes program, 6,840 in the asthma program, and 1,500 in the CHF program. The state initially projected to enroll 150 beneficiaries in the ESRD program, but actual participation has exceeded expectations, with enrollment at 170 in October 2002.

²¹ Interview with Alice Lind, Care Coordination Section Manager, January 2003; interview with Siri Childs, Pharmacy Research Specialist, January 2003; and interview with Trey Harrison, ACS, February 2003.

²² In Washington, the state initially confronted confusion at CMS about the need to request a waiver before implementing the program. CMS ultimately determined that the program was a "prepaid health plan" and that a waiver was required. The state is currently preparing a section 1915(b) waiver for CMS. In the interim, the state's current state plan amendment has been approved and the state is proceeding with program implementation.

Framework

Identification/Stratification: The diagnosis of asthma, diabetes, CHF, and ESRD within medical claims data initiates the program. Medicaid beneficiaries with any of the diseases are referred to the appropriate vendor. McKesson enrollment technicians contact identified patients with asthma, diabetes, or CHF. Patients who agree to participate receive a risk assessment over the phone. Nurses, who assign patients to low-, medium-, or high-risk levels, perform the risk assessments.

Clinical Goals: The state established measurable clinical goals with both McKesson and Renaissance for each of the programs. For example, the state expects that 60 percent of enrolled asthma beneficiaries will be on preventive medication, and that 55 percent will be vaccinated against influenza. These endpoints will be used to evaluate each program annually. The state also hopes to reduce hospitalizations and unnecessary emergency room visits. It was critical that expectations were set with the vendor prior to program implementation.

Outreach/Intervention: Nurse care coordinators maintain regular contact with asthma, diabetes, and CHF patients to provide them with education about their disease and prescription drug treatments, and to help them manage their disease based on their risk levels. Patients with higher risk levels receive more frequent attention from the care coordinators, including in-person nurse management provided to about 10 percent of high-risk enrollees. Nurses make in-person visits to ESRD enrollees as they undergo dialysis. The initial visit consists of a basic patient assessment. Follow-up visits focus on education and patient management of ESRD, care coordination between physicians, and monitoring beneficiary health status and medication compliance.

Monitoring/Evaluation: The University of Washington will evaluate these programs using baseline per member/per month costs to determine program savings. The evaluation, due for completion at the end of 2003, will incorporate health outcome indicators, utilization, medical cost trends, and client satisfaction. By establishing clinical goals prior to program implementation, the state is better positioned to conduct a meaningful evaluation of the program.

Washington is distinguished from other case study states in two key ways. First, Washington outsourced the implementation of its clinical management programs through contracts that place the vendors at financial risk for achieving specified goals. The state was given a mandate to create disease management options for its FFS Medicaid beneficiaries, but with an incredibly small operating budget. Without the use of outside vendors, the MAA would not have been able to meet the legislation's mandate, according to a state official.²³ Second, Washington's MAA set very specific and quantifiable clinical and savings goals. These pre-determined goals will guide the evaluation of the programs from both a quality and a budgetary perspective.

²³ Interview with Alice Lind, Care Coordination Section Manager, January 2003.

Design and Implementation Issues

Research into clinical pharmacy management activity in 13 states revealed important design and implementation issues that policymakers must consider when developing these programs. The final section of this Report summarizes the key challenges that are likely to affect state success in integrating quality-focused initiatives into their current pharmaceutical benefit structures. More in-depth information on states' implementation experiences will be the focus of future reports and technical assistance sessions related to the CHCS Clinical Pharmacy Management Initiative.

Identification/Stratification

Identification: The first issue faced by states in designing a clinical management program is determining the method for identifying the beneficiary or provider to participate in the program. Examining the practices of state fee-for-service programs and certain targeted MCOs suggest that at least two options exist for identifying potential candidates: (1) using pharmacy and medical claims data (e.g., identify beneficiaries based on diagnosis or beneficiaries with frequent hospitalizations and/or emergency room visits) and (2) relying on physician referrals.

- *Use of Claims Data:* A number of programs use pharmacy claims and encounter data to identify beneficiaries for program participation. In some cases, states have used the volume of prescriptions and/or certain targeted medications (e.g., certain high-cost medications such as proton pump inhibitors) as the trigger. In

other cases, programs have used claims data to target beneficiaries with certain chronic diseases, such as asthma or diabetes. Finally, states have used claims data to target patients with long hospital admissions or frequent emergency room visits. These programs also often rely on the claims data for monitoring and evaluation. While most interviewees claim relative success with use of claims data, it is recognized that claims data are not always accurate. For example, files may contain outdated addresses and incorrect coding.

- *Physician Referrals:* Programs also rely on physician referrals as a method for enrollment. In most cases, these programs were small pilot or community-based programs and enrollment was relatively small.

Stratification: Some programs stratify patients by risk, and vary the intensity of the intervention based on different risk levels. Risk stratification and the task of tailoring clinical pharmacy management programs to address the unique needs of individual patients is a challenge for many states. We found that programs that attempt to stratify patients rely on disease-specific metrics or costs (based on pharmacy or medical claims data), or on risk assessment surveys. For example, Mississippi stratifies diabetes patients into low-, medium-, and high-risk levels based on their HbA1c values. The program intervention is varied according to risk levels (e.g., high-risk beneficiaries spend more time with their pharmacy case managers).

Clinical Goals

When established prior to program implementation, clinical goals can serve as the guide for designing and implementing clinical management programs. Developing clinical targets upfront can benefit states. It helps ensure that the program is clinically grounded, leading to quality improvements, not just cost reductions, and a greater likelihood of increased stakeholder support. Also, it provides administrators the opportunity to consider and plan for how goal attainment will be measured (i.e., which metrics will be measured, how, and when). These considerations also can direct program monitoring and evaluation processes.

It is important to develop a process to establish goals that is open and includes a variety of perspectives. For example, clinicians' input is critical to developing measurable clinical quality metrics. It also might be beneficial to include representatives from claims administration to address how claims data can be used to measure clinical goals.

Although most program administrators interviewed expressed interest in developing clinical goals in the future, few programs do so currently. Clinical goals that have been established in most cases are not quantified. For example, some programs indicated that a general goal was to reduce the number of medications prescribed inappropriately. Administrators of programs that did not have measurable, clinical goals established cited a lack of funding and infrastructure to do so.

Outreach/Intervention

Outreach: Provider participation is an important feature of clinical management programs. Participation often hinges on three key elements: provider awareness, program validity, and participation incentives.

- *Provider Awareness:* Provider awareness is essential to the success of the program. One of the problems confronting states that have attempted to implement clinical management programs unsuccessfully in the past was a failure to educate physicians about the program.
- *Program Validity:* Successful clinical management programs must be rooted in evidence-based practices. For example, pharmacy-driven disease management often requires adherence to recognized guidelines (e.g., asthma programs rely on guidance issued by the American Academy of Pediatrics). Physicians are more likely to reject efforts by states to influence prescribing practices if they are not grounded in respected clinical guidelines.
- *Participation Incentives:* States and health plans often use incentives to engage providers more actively in the program. For example, Mississippi provides additional reimbursement for managed care plans in the state that uses pharmacists to perform drug regimen reviews for asthma patients.

Intervention: There are significant variations in how states structure their pharmacy interventions. Some key structural aspects include: program focus, use of outside vendor, service reimbursement, program launch, and enrollment/maintenance.

- *Program Focus:* States may consider whether the beneficiary, provider, or both, will be the focus of the program. That is, will the intervention encourage the beneficiary to change their prescription drug regimen (e.g., case management to increase compliance)? Or will the intervention apply pressure to the provider to alter the drug regimen (e.g., compliance with prescribing guidelines)?
- *Use of Outside Vendor:* Some states have outsourced the design and implementation of the intervention to an outside disease management or other vendor. In other instances, the state has designed and managed programs internally. In Washington, it was critical that the state work closely with representatives from each vendor before implementation, to establish the structure of the programs, develop measurable goals to guide the interventions, and institute an evaluation process that would ultimately measure program success.
- *Service Reimbursement:* States have developed varying payment structures. For example, states may provide payment for certain services (e.g., reimbursement for pharmacist consulting), adjust payment for performance, or require outside vendors to assume risk. Washington requires participating vendors to assume financial risk by incorporating performance-based payments into the contract.
- *Program Launch:* In Texas, it also was important that the state gradually phase in the TMAP intervention. Texas benefited from launching a pilot TMAP program and expanding into new regions and populations only after the pilot's success. Not only did the state gain experience with the new program, but it also had time to secure buy-in from major stakeholders, such as mental health providers, nurses, and patient groups.
- *Enrollment/Maintenance:* States and plans also must determine how they will enroll and maintain beneficiaries. The researched programs rely on both passive (opt-out) and active (opt-in) enrollment methods. Programs that have active enrollment generally have lower participation. Opponents of this method contend that the enrolled beneficiaries end up being those beneficiaries that are already taking an active role in managing their health care and thus, not good candidates for management. Some states have benefited from passive enrollment. While this method of enrollment provides a rich pool of beneficiaries, it may be difficult to truly engage beneficiaries in the program.

Monitoring/Evaluation

- *Measurable, Objective Outcomes:* States that have been successful in implementing clinical management programs have established quantifiable outcomes that can be defined and measured in objective ways. When designing clinical management programs, states must determine which outcomes will be measured and how they will be measured prior to program implementation. For example, states may want to consider the following: adherence to clinical treatment guidelines, adherence to prescribing algorithms in areas where large variations in prescribing exist, management/monitoring of patients with diseases in which compliance with prescription medications is critical (e.g., diabetes, asthma, CHF), and prevention of acute events, such as hospital readmissions or emergency room visits. When developing savings targets, it is important to consider the time-frame over which savings can reasonably be expected to accumulate.
- *Documentation Requirements:* When constructing evaluations, states must consider the potential administrative burden the documentation places on providers. If program evaluations rely on provider-generated data, states also must work to ensure that potential variability in the ways providers document clinical activity is minimized.

In Texas, physicians have had difficulty keeping up with the documentation involved with the program, especially those primary care physicians who are not as accustomed to the standardized forms as psychiatrists in Texas. Psychiatrists are familiar with the TMAP documentation forms, because many of their patients have depression, schizophrenia, or bipolar disorder. The primary care physicians, who can sometimes be involved at the initial stages of treatment of depressed patients, are not as accustomed to the forms, and therefore tend to have more complications completing them. In addition, even though standardized scales are used to document progress, the state has noticed that the method with which each physician documents each patient can vary, especially with primary care physicians for the reasons described above.

Conclusion

Clinical pharmacy management programs are attractive to states because they provide the basis for improvement in beneficiary care with the potential for long-term cost savings. Through education, case management, provider detailing, and other activities, clinical pharmacy initiatives eliminate inappropriate drugs from patients' regimens, reduce the risk of harmful and

States and health plans should use the information captured through monitoring and evaluation activities to improve the design and implementation of their clinical management programs.

expensive drug interactions, and boost compliance. The interventions target the most vulnerable populations who have the most intensive medical needs and drive state Medicaid spending.

States and health plans should use the information captured through monitoring and evalu-

ation activities to improve the design and implementation of their clinical management programs. By communicating the results of effective clinical pharmacy management pilots within the state Medicaid agency to other state agencies, to contractors, and across state lines, improved quality and cost reductions can be applied to broader populations. Implementing clinical pharmacy management across multiple state programs can set global standards for care and reduce administrative burden and confusion among providers who participate in multiple state programs.

Through the Clinical Pharmacy Management Initiative, CHCS and The Health Strategies Consultancy LLC will work to assist states in addressing these issues and developing effective clinical management interventions in the Medicaid prescription drug program. Key, complementary goals of the project are to assess the knowledge base on clinical management programs, draw lessons from the available information, highlight key areas where additional investigation is necessary, and transfer the working knowledge base to purchasers of publicly funded health care services to improve overall quality.

Appendix

State Summaries of Clinical Pharmacy Management Programs

The Health Strategies Consultancy LLC relied on a combination of primary and secondary resources to develop information on states' clinical management strategies. We conducted a survey of all 50 state Medicaid programs and a literature review of news articles, health care journals and other periodicals, and state government reports to learn about states' existing clinical management initiatives. Once programs were identified, interviews were conducted using an open-ended protocol with key representatives in 13 states.

Representatives from targeted Medicaid managed care plans were interviewed to learn about managed care approaches to control the cost and raise the quality of care for low income individuals, which could potentially inform state Medicaid strategies.

The appendix provides a sampling of the types of clinical pharmacy management approaches used in state Medicaid programs (fee-for-service, managed care, and primary care case management). Program details available on or provided by researched states and health plans varied.

State Summaries of Clinical Pharmacy Management Programs						
State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/Disease(s) Covered	Identification/Stratification	Outreach/Intervention	Monitoring/Evaluation
Arkansas	Fee-for-service (2000-2002)	Pharmacy Case Management: <i>High Volume</i>	M-3 Program	Patients taking psychotropic medications identified for review residing in participating nursing homes.	State-hired pharmacist reviewed patient charts for duplicate prescriptions and potential medication errors, with focus on psychotropic medications.	<p>Twenty percent of nursing home charts reviewed; of those:</p> <ul style="list-style-type: none"> Seventy-six percent had > two psychotropic medications. Fifteen percent received larger than normal dosages of psychotropic medications. Only 20 percent had no problems in their files.
Colorado	Fee-for-service (2001-current)	Provider Profiling	PIG (Process Indicators Groups)	Providers within nursing homes given option of participating in program.	Workshops for providers on “process” of health care, which include discussion of guidelines and clinical standards for care delivery.	Given program’s non-intrusive methods, nursing home participation expected to be higher than that in the M-3 program.
	Fee-for-service (2003-current)	Pharmacy Case Management: <i>Disease</i> (National Jewish Medical; sponsors: Novartis, AstraZeneca)	Asthma	Diagnosis of asthma through claims data or physician referrals; targeting enrollment for 250 beneficiaries (75 percent children, 25 percent adults).	Intervention includes: assessment of disease status, aggressive outbound calls from nurses, 24/7 care line (National Jewish Medical).	Patient compliance with (National Heart, Blood and Lung) guidelines; reductions in days of work and school lost; reductions in emergency room and hospital visits.
	Fee-for-service (2003-current)	Pharmacy Case Management: <i>Disease</i> (Specialty Disease Management Services, Inc.; sponsor: Eli Lilly)	Schizophrenia	Diagnosis of schizophrenia and other co-morbidities through claims data.	Care coordination by team of community outreach nurses, including reviews of drug regimens, to manage co-morbidities of patient.	Decrease unnecessary hospitalizations due to co-morbidities.

²⁴ This initiative focuses on those programs with a strong pharmacy management component. In general, clinical pharmacy management activities fall into two broad categories: pharmacy case management and physician profiling. Pharmacy case management refers to a system or program in which Medicaid or private insurers identify and manage beneficiaries meeting one or more of the following criteria: generate high prescription drug costs, take a high number of prescription drugs, and/or have a certain disease.

²⁵ If the state contracts (contracted) with a vendor, it will be noted in this column in parentheses. If a vendor is not listed, then the state Medicaid program administered all aspects of the clinical management initiative.

State Summaries of Clinical Pharmacy Management Programs						
State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/ Disease(s) Covered	Identification/ Stratification	Outreach/ Intervention	Monitoring/ Evaluation
Colorado (continued)	Fee-for-service (2003-current)	Pharmacy Case Management: <i>Disease</i> (McKesson; sponsor: Eli Lilly)	Diabetes	Rolling enrollment for identified patients, unclear how diabetics are identified.	Education and self-management tools provided to enrolled beneficiaries.	Increase patient ability to self-manage their disease; improve overall health outcomes and quality of life.
	Fee-for-service (2003-current)	Pharmacy Case Management: <i>Disease</i> (Colorado's Women's Cancer Initiative)	Breast and Cervical Cancer	Patients enrolled through Colorado's Women's Cancer Control Initiative; patients must be under 250 percent FPL, have a diagnosis of breast or cervical cancer, and be more than 65 years old.	Case managers assigned to each patient to help manage disease.	Currently designing longitudinal study, which will track prescription drug spending and include a quality of care survey. Evaluation plan still in development.
Florida	Fee-for-service (2000-current)	Pharmacy Case Management: <i>High Volume</i> (ACS)	Therapeutic Consultation Service	Patient flagged at pharmacy when fifth brand name prescription is requested.	ACS pharmacists review patient drug regimen with prescriber before granting authorization for fifth brand name prescription.	Promote cost savings and reduce duplicate or unnecessary therapies; state estimated savings for FY 2000-2001 at \$70M.
	Fee-for-service (2000-current)	Pharmacy Case Management: <i>High Volume</i> (ACS)	Compliance Monitoring Program	Patients identified when an initial pharmacy request is denied, and an equivalent medication is not substituted.	State pharmacists follow up with both patient and prescriber to make sure that condition is treated.	Decrease medication errors and increase compliance with necessary medications.
	Fee-for-service (2000-current)	Provider Profiling (ACS)	Therapeutic Academic Intervention	Prescribing data analyzed to identify high-volume and high-cost prescribers in certain therapeutic categories.	Educational material presented to prescribers in their offices by state-hired pharmacists.	Program decreased costs and increased use of preferred drugs on PDL. For 160 site visits in a one month period the state estimated a 6.7 percent decrease in utilization of non-preferred drugs and an approximate savings of \$189,449.25 per month for all targeted providers.

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State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/Disease(s) Covered	Identification/Stratification	Outreach/Intervention	Monitoring/Evaluation
Florida (continued)	Fee-for-service (2001-2003)	Pharmacy Case Management: Disease (Pfizer)	“Florida: A Healthy State,” Disease Management Programs for Asthma, Congestive Heart Failure, Diabetes, and Hypertension	Patients with asthma, congestive heart failure, diabetes, and hypertension identified through claims data by software within high-volume Medicaid hospital/ health systems.	Case managers intervene to reduce costs and promote healthier outcomes, with patient access to a 24/7 call center.	Improve health outcomes; savings guaranteed (for all Pfizer DM programs) of \$15M in year one and \$18M in year two.
			Community Based Health Management Programs for Diabetes and Behavioral Health	Minority Medicaid beneficiaries with diabetes or behavioral health problems identified through a “promotora” (community lay health worker) using a faith-based outreach model.	Promotora educates targeted patients with culturally competent educational materials to better manage the care of their diseases and coordinate care with community resources.	Prevent diseases when possible and help those with diabetes and behavioral health disorders to better manage their care.
	Fee-for-service (2001-2003)	Pharmacy Case Management: High Volume/High Cost (GlaxoSmithKline)	Medication Error Reduction Demonstration Program	No identification of specific Medicaid beneficiaries.	Education provided to Medicaid beneficiaries about causes and consequences of medication errors.	Decrease medication errors, guaranteed savings of \$6.75M in year one; \$8.1M in year two combined for both GlaxoSmithKline programs.
			Select Product Compliance Programs (Asthma)	Medicaid beneficiaries with asthma diagnosis identified through claims data.	Intervention includes compliance monitoring, educational activities, and free products for enrolled beneficiaries.	Increased compliance of asthma medications, guaranteed savings of \$6.75M in year one, \$8.1M in year two combined for both GlaxoSmithKline programs.

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Maryland	Medicaid Managed Care (2000-current)	Pharmacy Case Management: <i>Disease</i> (Schaller Anderson)	Diabetes	Diagnosis of diabetes through claims data; stratified based on number of complications/co-morbidities and lab results.	Physicians educated on American Diabetes Association treatment protocol; nurse case managers interact with patients regularly; physicians use machine to monitor blood glucose levels (HbA1c) and receive assistance from diabetes specialist.	Reduce HbA1c levels, reduce hospital admissions, reduce emergency room visits.
	Medicaid Managed Care and Primary Care Case Management (2000-2001)	Pharmacy Case Management: <i>High Volume</i>	Antibiotic Project	Pediatric patients from six months to six years with upper respiratory infections identified through pharmacy claims data.	Education for providers and patients/caregivers explaining appropriate antibiotic use through established guidelines.	Improve clinical care, promote appropriate prescribing behavior.
Massachusetts	Medicaid Managed Care and Primary Care Case Management (2001-current)	Pharmacy Case Management: <i>Disease</i>	Diabetes Provider/Member Education Project	Patients at four sites (MassHealth participating health centers) identified for inclusion in program based on diagnosis of diabetes.	Diabetes guidelines given to both providers and patients to help chosen sites encourage better management of high-risk diabetes patients.	Improve diabetes-specific clinical outcomes for patients with diabetes at selected sites. Evaluation due in June 2003.
	Medicaid Managed Care and Primary Care Case Management (not yet implemented)	Pharmacy Case Management: <i>High Volume</i>	Controlled Substance Management Project	Beneficiaries identified through claims data as high volume users or beneficiaries with a high number of prescribers.	Identified beneficiaries more closely managed by primary care physician (PCP) and pharmacist; plan informs PCPs of targeted members; physician reviews drug regimen with plan and adjusts regimen, if needed; beneficiary also limited to one pharmacy.	Coordinate care between providers, eliminate duplicative or inappropriate prescriptions. Program under construction.

State Summaries of Clinical Pharmacy Management Programs						
State	Delivery System (Date)	Type of Clinical Management Program ^{2,4} (Vendor) ^{2,5}	Name of Program/ Disease(s) Covered	Identification/ Stratification	Outreach/ Intervention	Monitoring/ Evaluation
Mississippi	Fee-for-service (1999-current)	Pharmacy Case Management: <i>Disease</i>	Asthma	Patients with diagnosis of asthma or diabetes identified through claims data or physician referral.	University of Mississippi Medical Mall pharmacists act as case managers; review drug regimen and make recommendation for change, if needed.	Decrease emergency room visits and hospital admissions; estimated savings of \$100,000 in first year of program (no published evaluation).
	Fee-for-service (1999-current)	Pharmacy Case Management: <i>Disease</i>	Diabetes	Patients with diagnosis of diabetes identified for program; patients may also self refer or be referred by a physician.	Coordinated care case management using a team from the University of Mississippi Medical Mall to monitor and review overall patient care, including prescription drug regimen; team includes physicians, dietitians, pharmacists, and nurse case managers.	Reduce HbA1c levels; preliminary evaluation shows average decrease of 2.2 in patients who have had the disease on average nine years.
	Fee-for-service (1999-current)	Pharmacy Case Management: <i>Disease</i>	Coagulation Disorders	Patients identified through physician referral only; 400 patients in this program.	University of Mississippi Medical Mall pharmacists act as case managers; review drug regimens with physicians and adjust medications, if needed.	N/A
	Fee-for-service (2003-current)	Pharmacy Case Management: <i>Disease</i> (McKesson)	Asthma, Diabetes, High-risk Hypertension	Claims data used to identify patients with asthma, diabetes or high-risk hypertension; patients stratified by risk level.	Case managers oversee care of identified beneficiaries telephonically; degree of telephonic intervention based upon level of risk.	Decrease costs through improved quality of care, decrease hospital admissions and emergency room visits. Evaluation to be conducted by state.

State Summaries of Clinical Pharmacy Management Programs						
State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/Disease(s) Covered	Identification/Stratification	Outreach/Intervention	Monitoring/Evaluation
Missouri	Fee-for-service (1999-current)	Pharmacy Case Management: Disease (Heritage Information System)	Asthma, Diabetes, Heart Failure, Depression	Patients with diagnosis of asthma or diabetes identified through claims data; patients also may be referred by physicians; once identified, patients stratified by "risk index;" risk index developed with complex algorithms including number of prescriptions being taken, number of prescribing physicians, and complications and co-morbidities.	Drug regimen review with plan and prescribing physician; educational intervention for prescribing physicians and pharmacists including reviewing drug regimen.	Reduce expenditures (including pharmacy and medical) at least \$37M annually; increase adherence to treatment guidelines.
	Medicaid Managed Care (1998-current)	Pharmacy Case Management: Disease (Schaller Anderson)	Asthma	Diagnosis of asthma through claims data, physician referral, and/or patients with a high number of prescriptions.	Case managers review care plan, including prescription drug regimen; managers make recommendations to prescribing physicians, if needed.	Program resulted in reduced hospitalizations and emergency room visits (reduced by approximately 50 percent); increased the number of maintenance medications being taken.
North Carolina	Primary Care Case Management (2002-current)	Pharmacy Case Management: High Volume	Polypharmacy Initiative	Patients in selected nursing homes who are taking six or more prescriptions.	State-hired physician/pharmacist team reviews patient drug regimens.	Decrease number of prescription drugs used inappropriately; preliminary results show that benefits outweigh the investment of implementing by a ratio of 13:1.

State Summaries of Clinical Pharmacy Management Programs						
State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/Disease(s) Covered	Identification/Stratification	Outreach/Intervention	Monitoring/Evaluation
Texas	Fee-for-service and Medicaid Managed Care (2001-current)	Pharmacy Case Management: <i>High Volume</i>	Pharmacy Case Management	Medicaid beneficiaries taking more than nine systemic medications within a one-month period identified during a retrospective review.	Letters sent to all providers of the identified beneficiary, requiring each to respond with a feedback form justifying the medications.	Reduce inappropriate use of medications; 75 percent physician response rate; no formal evaluation of program planned.
	Fee-for-service and Medicaid Managed Care (2002-current)	Pharmacy Case Management: <i>Disease</i>	Disease Management- Asthma Pilot	Pediatric patients who have been hospitalized for asthmatic episodes identified for inclusion in program.	Case coordinator assigned to each patient; coordinator contacts all providers including pharmacists and school nurse; provides education to patients.	Reduce emergency room visits and hospital admission rates; decrease school absenteeism; decrease overall costs; annual report to be submitted in 2004.
	Medicaid Managed Care (1999-2001)	Pharmacy Case Management: <i>Disease</i>	Disease Management- Diabetes Managed Care Pilot	Providers of patients with a diagnosis of type one, two or gestational diabetes identified for inclusion in program. Providers also may participate voluntarily.	Providers of enrollees given continuing medical education on diabetes care including drug therapy prescribing protocols; patient care tracked through software system; diabetes education also given to patients.	234 patients of enrolled providers evaluated from July 1999 until December 2001; program had difficulty maintaining continuity of care due to turnover in Medicaid population; no clinical outcomes measured due to small sample.
	All physicians providing mental health services in the state (1995-current)	Provider Profiling	Texas Medication Algorithm Project (TMAP)	Patients with adult diagnosis of depression, schizophrenia, bipolar disorder or pediatric diagnosis of depression and Attention Deficit Hyperactivity Disorder identified through claims data; all patients receiving care through any state health program (beyond Medicaid eligible).	Algorithms developed by team of experts to dictate standards of medication treatment; physicians educated on treatment protocols; patients provided disease education; state requires physicians to document treatment plan using standardized scales to track and monitor progression of treatment.	Initial feasibility study showed decreased costs, improved patient health status, and increased compliance with algorithms; currently completing a two-year study comparing TMAP patients to non-TMAP-treated patients, preliminary results show TMAP patients have superior outcomes.

State Summaries of Clinical Pharmacy Management Programs							
State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/ Disease(s) Covered	Identification/ Stratification	Outreach/ Intervention	Monitoring/ Evaluation	
Utah	Medicaid Managed Care and Fee-for-service (1998-current)	Pharmacy Case Management: Disease	Hemophilia	Medicaid beneficiaries with a diagnosis of hemophilia identified through claims data.	Case management involving monthly home visits and education, and sole source supply of anti-thrombotic factor (AHF).	Decrease AHF utilization, decrease costs, reduce number of bleeds, and decrease hospital and emergency room visits.	
Virginia	Medicaid Managed Care and Fee-for-service (1991-1993)	Pharmacy Case Management: High Costs	Anti-ulcer Medication Education Initiative	Beneficiaries who received acute therapy of H2 antagonists.	Physicians and pharmacists managed patients to reduce dosing of H2 antagonists after acute therapy was completed.	Retrospective review of claims data showed aggregate savings and overall patient care maintained.	
	Medicaid Managed Care (1995-1997)	Pharmacy Case Management: Disease	Virginia Health Outcomes Partnerships	Patients identified through claims analysis who are assigned to a PCP and have a diagnosis of asthma.	Prescribers educated regarding how to communicate more effectively with patients about appropriate medication.	Even though utilization of medications increased, savings were noted in other areas of the program; program ran in the mid-1990s and was reviewed by the Medical College of Virginia/Virginia Commonwealth University.	
	Medicaid Managed Care and Fee-for-service (1997-current)	Pharmacy Case Management: Disease (Various Vendors)	Contracted DM programs (Various Diseases)	Patients with various diagnoses identified through claims analysis.	Pharmacists act as case managers for each disease state addressed; prescribers receive alerts about health status of identified patients (e.g., HbA1c levels of diabetic patients); all providers receive best practices information.	Baseline comparisons (from one year prior to implementation) showed that though prescription drug costs rose, emergency room visits and hospitalizations declined.	

State Summaries of Clinical Pharmacy Management Programs							
State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/Disease(s) Covered	Identification/Stratification	Outreach/Intervention	Monitoring/Evaluation	
Washington	Fee-for-service (2002-current)	Pharmacy Case Management: <i>High Volume</i> (ACS)	Therapeutic Consultation Service	Patient flagged at pharmacy when fifth brand name prescription is requested or if a non-preferred drug is requested.	ACS pharmacists review patient drug regimen with prescriber before granting authorization for fifth brand name prescription.	Promote appropriate pharmaceutical utilization and cost-effective prescribing, increase use of preferred drugs, and decrease duplicate treatments. Initial evaluation following first year of program showed \$5M in savings for all three ACS programs.	
			Intensive Benefits Management	Patients identified through claims data as high cost or high volume patients.	Drug regimen review; educational letters sent to providers and beneficiaries.		
	Fee-for-service (2002-current)	Provider Profiling (ACS)	Therapeutic Academic Service	Prescribing data analyzed to identify high-volume and high-cost prescribers in certain therapeutic categories.	Educational material presented to prescribers within their offices by state-hired pharmacists.	Decrease costs, improve clinical outcomes.	
			Disease Management: Asthma, Diabetes, CHF	Claims data used to identify patients with asthma, diabetes or CHF; patients stratified by risk level.	Case managers oversee care of identified beneficiaries telephonically; degree of telephonic intervention based upon level of risk.		

State Summaries of Clinical Pharmacy Management Programs							
State	Delivery System (Date)	Type of Clinical Management Program ²⁴ (Vendor) ²⁵	Name of Program/Disease(s) Covered	Identification/Stratification	Outreach/Intervention	Monitoring/Evaluation	
Washington (continued)	Fee-for-service (2002-current)	Pharmacy Case Management: Disease (Renaissance)	End Stage Renal Disease Management	Patients receiving dialysis treatment identified through claims data.	Case managers (RNs) coordinate care for beneficiaries receiving dialysis treatment.	Decrease costs, improve clinical outcomes.	
	Medicaid Managed Care (2002-current)	Pharmacy Case Management: Disease (Community Health Plan of Washington)	Diabetes Disease Management	Pharmacy claims data used to identify beneficiaries taking at least two anti-diabetic drugs.	Patient and physician education; physicians educated on treatment and prescribing guidelines established by the National Committee on Quality Assurance; patients educated about self-monitoring and medication compliance.	Improve medication compliance, improve compliance with best treatment practices. Cost effectiveness not measured.	
	Medicaid Managed Care (2002-current)	Pharmacy Case Management: Disease (Community Health Plan of Washington)	Asthma Disease Management	Patients with multiple hospital admissions or emergency room visits identified through medical claims data or referred by physicians.	Telephonic case management with nurse practitioners.	N/A	
West Virginia	Medicaid Managed Care and Fee-for-service (2001-current)	Pharmacy Case Management: Disease	Diabetes Disease Management	Patients enrolled through physician referral.	Certified diabetes educator reviews medications, educates patients, and monitors testing.	Maintain control of HbA1c levels (reduced 15 percent), reduce complications, long-term reduction in cost of care through reduced emergency room and hospital visits.	

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