Introducing the Scorecard to Pharmacy Benefit Managers

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Abstract

Prescription drugs are considered the fasting growing component of national health care expenditures, experiencing double-digit growth rates in the last 6 years. The rising cost of prescription drugs has gained the attention of policy makers, health plan sponsors, health care practitioners, and patients. Many have looked to pharmacy benefit management companies to help achieve cost effective, high quality pharmaceutical care at a high level of service.

The pharmacy benefit management industry has performance measures that help track progress towards this goal. This study identified performance measures employed in the pharmacy benefit management industry. The measures are classified using the Balanced Scorecard model. This management tool enables the industry to more fully use performance measures. Using the Balanced Scorecard framework, a survey was developed to determine the extent of use of the identified performance measures. The survey was sent to mid to senior managers of pharmacy benefit management companies.

The findings revealed financial related measures were most commonly used. The second most commonly used measures were those relating to internal business processes followed by learning and growth measures. The least most commonly used measures were those relating to customers.

CHAPTER ONE

INTRODUCTION

The Centers for Medicare and Medicaid Services (CMS) recently reported that national health care expenditures reached $1.6 trillion in 2002, up from $1.4 trillion for the previous year (CMS, 2004b). This 8.7 percent increase in expenditures marked the sixth consecutive year in which the nation's healthcare spending grew at an accelerated rate. According to CMS (2004b), more than half of the 2002 national health expenditures were funded by private payers; thirty-five percent from private health insurance, fourteen percent from out of pocket of beneficiaries, and the remainder from other private funds. The public sector accounted for 46 percent of national health expenditures, with Medicaid funding 16 percent of the aggregate spending and Medicare 17 percent.

Prescription Drugs

Among the major components of national health care expenditures, the fastest growing is prescription drugs. For 2002, total spending for prescription drugs was $162.4 billion compared to $140.8 billion in 2001, an increase of 15.3 percent. Although a slight decrease from the previous year's growth rate of 15.7 percent, prescription drugs continue to lead the rise in personal health care expenditures (CMS, 2004c). With double digit percent increases since 1995 (a mean annual average of 15 percent), prescription drugs have become an influential driver of overall health care expenditure, gaining a larger piece of the expenditure pie with each year (CMS, 2004c). According to Sica (2001, p35),

prescription drugs comprised as little as three percent of national health expenditures in the early 1980s. Today, prescription drugs account for over 10 percent of national health expenditures, a three fold increase over two decades (CMS, 2004c).

According to CMS, spending on prescription drugs increased by over 200 percent from 1990 to 2000. It has been projected that prescription drug spending will continue to increase well into the future, estimated at $519.8 billion in 2013 (CMS, 2004d). With the escalating cost of drugs, policy makers, health care administrators, health care practitioners, and patients have made prescription drug cost containment a significant issue for discussion (Shah, 2003). Many are looking to entities such as pharmacy benefit managers to assist, advise and help them navigate through the complexities of providing cost effective and high quality pharmaceutical care to health plan members in both the private and public sectors (Vogenberg, 2003).

Pharmacy Benefit Managers

What exactly is a pharmacy benefit manager? Pharmacy Benefit Managers or Managements are mainly for-profit organizations that design, implement, and administer outpatient drug benefit programs for major employers, insurers (private and public) and managed care organizations (Lipton, 1999, p361-362). Most major employers provide health benefits to employees, which may or may not include outpatient prescription drugs. If an employee has this benefit, he or she can go to a pharmacy and get medications at no cost or lower

cost than an individual who does not have a prescription drug benefit plan. As part of a prescription benefit plan, plan members may be restricted to certain drugs, restricted to a network of pharmacies to obtain medication, and required to pay a specified out of pocket expense. This prescription drug benefit plan is designed, implemented and administered by a pharmacy benefit manager. These organizations play a key role in the health care delivery system and perform functions that few others, if any, entities can fulfill (Slezak, 2003).

Medicare Prescription Drug Benefit

The demand for pharmacy benefit management services is expected to increase with the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, signed into law by President George W. Bush on December 8, 2003. This bill opens opportunities for those organizations that seek to manage prescription benefits for seniors and individuals with disabilities, which is estimated to be 40 million Americans (CMS, 2004a).

The federal government is turning to private entities, such as pharmacy benefit managers, to make outpatient prescription drugs more affordable and to improve the quality of pharmaceutical care for this population segment. In essence, these private entities will be managing the new Medicare prescription drug benefit on behalf of the federal government (Sroka, 2000, p2). According to Cook et al. (2000), the basis for seeking the services of pharmacy benefit managers is to apply private sector best practice techniques while distancing the

federal government from pharmaceutical pricing and from administering the benefits.

There will be stiff competition between pharmacy benefit managers for market share. The organizations that want to compete must demonstrate high performance and be able to differentiate themselves to successfully capture the market. Business executives are always in search of management tools that will help them monitor and refine performance to ensure the organization is meeting its goals and mission. (Inamdar and Kaplan, 2002). A new business concept called the Balanced Scorecard has received attention from various public and private organizations. The scorecard aligns an organization's strategy with performance measures to achieve long-term successes. Pharmacy Benefit Managers can adopt this business tool to improve the organization's competitive market positioning, financial results, and customer satisfaction.

Research Purpose

The purpose of this research is threefold. First, to provide a brief description of Pharmacy Benefits Managers and the Balanced Scorecard. Second, to identify performance measures in the pharmacy benefit management industry and categorize them in light of the Balanced Scorecard. Lastly, to describe the frequency of use of the performance measures in the industry.

Description of the Chapters

Chapter Two provides an in-depth review of the literature relevant to pharmacy benefit managers and the Balanced Scorecard. Chapter Three provides a discussion of the research setting. The conceptual framework, descriptive categories, is presented. By using the framework of the Balanced Scorecard, the industry's performance measures will be operationalized. Chapter Four explains the methodology used in the study, survey research. Questionnaire construction, population technique, data collection and descriptive statistic will be discussed. Chapter Five provides an analysis of the research results. Percentages, presented in table format, are utilized to document the results. Finally, Chapter Six summarizes major findings and provides conclusions.

CHAPTER TWO

LITERATURE REVIEW

Purpose

The purpose of this chapter is to examine the literature to provide an overview of Pharmacy Benefit Managers and the Balanced Scorecard. Specifically, it will discuss the role of pharmacy benefit managers in the healthcare sector, its operations, organizational strategy and overall mission. The Balanced Scorecard is discussed in terms of a business management tool, its framework, and the role of performance measures.

Pharmacy Benefit Managers

Introduction

Pharmacy Benefit Managers (PBMs) are organizations that design, implement, and administer prescription drug benefit plans for major employers, insurers (private and public) and managed care organizations. These entities have been in the healthcare arena in one form or another for over thirty years (Lipton, 1999, p363). Not until the late 1980s did the services offered by PBMs gain greater use by health plan sponsors (Mullins and Wang, 2002, p10). Pharmacy benefit managers coordinate a complex web of relationships with benefit plan sponsors, pharmacies, and pharmaceutical manufacturers to make prescription drugs available to plan enrollees (Cook et al., 2000). Figure 2.1 illustrates a PBM's relationship with multiple stakeholders.

Figure 2.1: Pharmacy Benefit Managers' Relationships
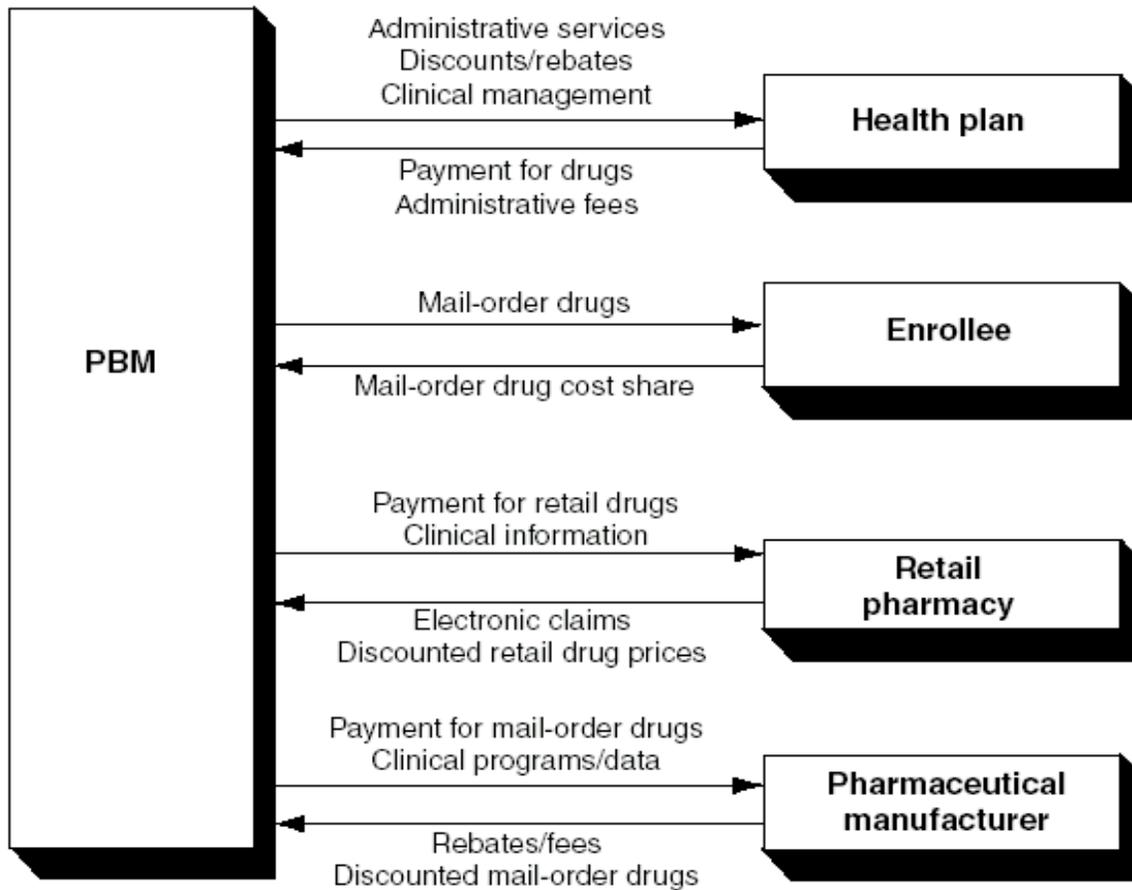
One of the primary reason clients seek pharmacy benefit managements' services is the organization's ability to reduce the overall cost of offering prescription drug benefit (Weber et al., 2001).

According to the National Association of Chain Stores (NACS), an organization representing the largest component of pharmacy practice (chain community pharmacies such as CVS, Walgreens, and Eckerds), over 3 billion prescriptions were dispensed in 2002, up 4.3 percent from the previous year.

NACS (2004) estimated that pharmacy benefit managers process two-thirds of all U.S. prescriptions and cover approximately 200 million lives.

The Atlantic Information Services (AIS), a publishing and information company that surveys pharmacy benefit managers for health care managers, found that 4 out of 97 pharmacy benefit management companies, dominated the market in 2002. In terms of the number of prescription processed per year, the four companies and their respective market share are Medco Health Solution (18%), ACS (16%), AdvancePCS (15%) and Express Script (14%) for a total of 63 percent of the market. The annual number of prescriptions processed is not the only measure to determine a PBM's market share; annual drug spending and number of covered lives may be considered. In terms of the annual drug expenditures, the four previously mentioned pharmacy benefit management companies together dominated the market but with different rankings. Medco Health Solution captured 21% of the market, followed by Express Scripts with 19%, AdvancePCS with 18%, and lastly, ACS with 15%. The four companies together control 73 percent of the market. In considering the number of covered lives, the four PBMs that control 53 percent of the market include AdvancePCS (19%), Medco Health Solutions (15%), Express Scripts (12%) and Wellpoint Pharmacy Management (9%). Since there are limitations with each of these market share indicators, AIS recommends looking at all three business volume indicators to estimate market share and growth among pharmacy benefit managers (DCMR, 2004).

Since the birth of the industry, pharmacy benefit managers have taken on many forms. According to a report by Health Policy Alternatives, a consulting firm on specific health care issues, pharmacy benefit managers were originally claims administrators and mail service pharmacies that evolved into pharmaceutical administrators and care managers. Over the last 20 years, there have been many changes in the industry, including acquisitions, mergers and spinoffs with pharmaceutical manufacturers, managed care organizations, chain pharmacies, and other pharmacy benefit managers (Cook et al., 2000, p10-13). Today these companies vary in size and the services they offer to clients. By working with employers, insurance companies, unions, managed care organizations, government entities, and others, PBMs reduce the overall cost of providing prescription drug benefit, improve the quality of pharmaceutical care, and improve the administration of the benefits. (Vogenber, 2002, p45). The operations of pharmacy benefit managers are designed to deliver services in an efficient and effective manner while ensuring the highest standards of performance, integrity, customer service, and fiscal accountability.

Operations

The operations of a pharmacy benefit manager fall under two functions: administrative or clinical (Sica, 2001, p37). Depending on the contractual relationship with clients, pharmacy benefit managers may provide administrative services, clinical services, or a combination of both.

Administrative

Pharmacy benefit managers perform administrative functions that include: client services, pharmacy network administration, mail service pharmacy, claims adjudication, call centers, and manufacturer contracting and rebate administration.

- **Client Services.** Client services consist of benefit administration, eligibility administration, and reporting (HCFA study, 2001, p66). Benefit administration consists of designing and maintaining the prescription drug benefit plan. This function includes determining which drugs are covered, placing limits on covered drugs and determining plan member cost sharing requirements. Pharmacy benefit managers can design a standard benefit package for clients to adopt or one can be customized to meet individual client needs (Lipton et al., 1999, p373). Eligibility administration mainly deals with maintaining eligibility files that are received from the client. Reporting includes standard and ad hoc report packages offered to clients. These reports are used for oversight and management of the pharmacy benefit management's services or in determining whether adjustments need to be made to the benefit plan (HCFA study, 2001, p68-69).

- **Pharmacy Network Administration.** Pharmacy network administration involves the enrollment and contract management of the pharmacies that service plan members (Sroka, 2000, p6). The network is typically

comprised of chain and independent retail pharmacies, supplemented by mail and specialty pharmacies (HCFA study, 2001, 70). This function encompasses recruiting and credentialing pharmacies, negotiating discounts from pharmacies for drug ingredient cost and dispensing fees, monitoring pharmacies for quality and customer service, auditing pharmacy records, and ensuring adherence to contract requirements (Health Policy Alternatives, 2003).

- **Mail Service Pharmacy.** Mail service pharmacy is offered by almost all pharmacy benefit managers, either through a facility that is owned and operated or through a contract arrangement with an independent facility (Goff, 2001, p4). In contrast to a local or community pharmacy, there is a lack of face-to-face interaction with the plan member and the pharmacy staff. Medications are filled and mailed to consumers, and communication is achieved with the use of telephone, fax, mail, or the Internet (HCFA study, 2001, p74). Since there is a delay when plan members receive medication, mail service pharmacy is primarily designed for maintenance medication treating chronic conditions such high blood pressure, diabetes, asthma, and depression. (Sica, 2001, p39).

- **Claims Adjudication.** A core activity performed by virtually all pharmacy benefit managers is the online adjudication of prescription claims commonly referred to as claims processing (Chawla et al., 2001, p74). Adjudication is the process of determining whether a claim is payable. It is estimated that approximately 99 percent of prescription claims are

processed electronically at the point of service (HCFA study, 2001, p76). Pharmacy benefit managers are linked to their network of retail and mail service pharmacies through an advanced electronic communication system that allows for the exchange of information (Health Policy Alternative, 2003). This linkage makes it possible to provide real time determination of payable prescription drug claims, improving the effectiveness and efficiency of determining drug reimbursement.

Upon receipt of a prescription, a pharmacy enters the necessary information into the computer and submits it to the pharmacy benefit manager's claims processing system for adjudication. Once the claim is captured, the system verifies member eligibility and drug coverage, determines the amount of cost-sharing paid by the member, and calculates the appropriate reimbursement to the pharmacy. After the system adjudicates the claim, a message is sent back to the pharmacy as to whether or not the claim is payable. The entire adjudication process, from the time the pharmacy submits the prescription claim to the time the pharmacy receives the determination message, occurs in seconds (HCFA study, 2001, p75).

- **Plan Member/Provider Call Center.** Pharmacy benefit managers operate call centers to support plan members and pharmacy staff. Members can use this service to help answer benefit related questions such as drug coverage, participating pharmacies, and cost sharing, or request forms and identification cards. The call center for providers is available for

pharmacy staff to obtain assistance with claims adjudication process and answer inquiries regarding the formulary, drug reimbursement amount and service fees (HCFA study, 2001, p73).

- **Manufacturer Contracting and Rebate Administration.** Manufacturer contracting and rebate administration involves working directly with pharmaceutical manufacturers to develop rebate agreements, invoicing and collecting rebates, and allocating rebates to clients. Pharmacy benefit managers receive rebates and administrative fees from manufacturers of branded drugs for all products dispensed to qualified members. Rebates are usually shared with or passed completely on to plan sponsors, depending on the contractual agreement, while administrative fees are retained by the pharmacy benefit manager (Sica, 2001, p39-40). Pharmacy benefit managers can negotiate rebates in a variety of ways. Manufacturers may agree to pay a flat rebate to the pharmacy benefit manager on per-unit sales volume of a product, regardless of the actual number of units purchased. In other cases, rebate amounts may be scaled according to the pharmacy benefit manager's documented experience in shifting the market in favor of a particular product. Rebates can also be negotiated where the administrative fee is included in the per-unit rebate. (Health Policy Alternative, 2003).

Clinical

Pharmacy benefit managers offer an array of services that are clinical in nature, where the functions have pharmaceutical and medical focuses. The

services are intended to work in concert with each other as well as along with the client's drug benefit plan. The most common clinical services provided by pharmacy benefit managers are formulary management, therapeutic substitution, utilization management, and disease management (HCFA study, 2001, p56).

- **Formulary Management.** Formulary management is the process of developing and maintaining a formulary, which is a list of drugs approved for reimbursement (HCFA study, 2001). Sica (2001) described three types of formularies that exist: open, closed and incentive. Open formularies are the least restrictive in that all drugs and drug products listed are available to the plan members. Closed formularies are the most restrictive, containing a limited list of drugs approved for use or covered under the benefit plan. Incentive formularies are managed with the use of incentives and interventions to encourage the use of "preferred" products. Most often, pharmacy benefit managers use a panel of clinical experts, called a Pharmacy and Therapeutics (P&T) Committee, to help develop and update the formulary. Drugs are often reviewed by the committee for safety, clinical efficacy and cost before recommending inclusion in the formulary. The P&T Committee is comprised mainly of physicians and pharmacists but can include other individuals with appropriate clinical expertise. (Cook et al., 2000, p15). Typically, pharmacy benefit managers develop a basic formulary, which can be adopted or customized to meet the particular needs of the health plan sponsor. The final decision rests with the client on the exact formulary that will be used in conjunction with

its benefit plan as well as the techniques that will be applied to encourage formulary compliance (Health Policy Alternatives, 2003, p6).

- **Therapeutic Substitution Programs.** Therapeutic substitution or interchange programs are used to increase formulary compliance, encouraging physicians and patients to switch products that are comparable (Sroka, 200, p6). Therapeutic substitution programs are used for two reasons:

  ❑ One drug is identified as superior, and not therapeutic equivalent to the other drugs in a particular therapeutic category; or

  ❑ One drug is more cost effective than other drugs in the same therapeutic category (HCFA study, 2000, p80).

Pharmacists are key to the operations of therapeutic substitution programs in that they educate and encourage physicians and plan members to consider other products. Since the ultimate authority for the medication prescribed rest with the physician, pharmacists must contact the physician for approval of a switch in therapy (Cook et al., 2000, p22-23). The task of contacting physicians for education on an alternative products can be time consuming. For this reason, therapeutic substitution programs are more successful with mail service pharmacies than retail or community pharmacies (Lipton et al., 1999, p377).

- **Utilization Management Programs.** Utilization management programs are designed to ensure appropriate use of drugs as well as compliance to

the benefit plan. The programs include prior authorization, drug utilization review, academic detailing and consumer education (HCFA study, 2001).

Prior authorization is defined as a requirement for pre-approval of a drug before a pharmacy can dispense it to the plan member as a covered benefit (Health Policy Alternatives, 2003). For the most part, pharmacy benefit managers select drugs for prior authorization that are very expensive, have a high potential of misuse, and have extensive off-label usages[1] (HCFA study, 2001, p81). The major goal of prior authorization requirements is to assure appropriateness and suitability of the prescribed medication in terms of clinical and cost (Cook et al., 2000, p26-27).

Pharmacy benefit managers perform drug utilization review (DUR) to assure that prescriptions are appropriate, medically necessary, and are not likely to result in adverse medical results. According to Lipton et al. (1999), utilization review allows for interpretation of patterns of drug use in relation to predetermined criteria and attempts to prevent or minimize inappropriate prescribing. Drug utilization review may be conducted prospectively (before the point of service), concurrently (at the point of service), and retrospectively (after the point of service). In essence, at any point of the drug dispensation process, DUR allows opportunities for enhancement of pharmaceutical care.

Pharmacy benefit managers have developed academic detailing programs to influence physicians' prescribing patterns. In these programs, clinical pharmacists meet with physicians to discuss outlying prescribing patterns

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[1] Off label usage – prescribing a drug for an indication not approved by the Food and Drug Administration

and to focus on the cost-effectiveness of alternative drugs (Cook et al., 2000, p30).

Pharmacy benefit managers make educational materials for plan enrollees on appropriate prescription use as well as other health and wellness issues. The information can be disseminated directly to plan enrollees via a pamphlet or newsletter format or made available by using a web-based interactive program linked to the pharmacy benefit manager's website (Cook et al., 2000, p31-32).

- **Disease Management Programs.** Pharmacy benefit managers develop disease management programs to identify patients with chronic, high cost medical conditions and to direct these patients towards a specific treatment protocol (Sica, 2001, p40). According to Lipton et al. (1999), the program is designed to treat a disease across the continuum of care: from wellness to critical conditions, from prevention to tertiary care, and from home to hospital. Disease management programs educate plan members on their chronic medical condition, maximize patient drug therapy, work towards increasing their compliance to the drug regimen, and assure routine laboratory and physician visits (Cook et al., 2000, p28). Pharmacy benefit managers have disease management programs mainly aimed at asthma, diabetes, hypertension, hypercholesteremia, depression, HIV, chronic obstructive lung disease, and gastrointestinal disorders.

The operations of a pharmacy benefit manager include the functions necessary to design, implement and administer prescription drug benefit for

health plan sponsors. In addition, the operations are in part to carry out the organization's strategy in achieving its overarching mission.

Mission and Strategies

According to Vogenberg (2003), prescription benefits are managed for cost, quality and accessibility reasons. The industry strives to provide high quality, cost-effective pharmaceutical care at a high level of service. Ideally, pharmacy benefit managers ensure plan members have access to pharmaceutical products that are affordable without compromising quality of care. Pharmacy benefit managers ensure plan enrollees receive high quality drug management by evaluating for appropriate drug use, drug interactions and patient adherence to drug regimen. Controlling for drug cost and utilization are primary reasons health plan sponsors seek pharmacy benefit managements' services (Garis et al., 2004). In addition to these reasons, pharmacy benefit managers improve provider and member relationships as well as improve the efficiency of administering the prescription benefit. Pharmacy benefit managers develop, execute, and refine the organization's strategies to meet the mission of providing cost effective, high quality pharmaceutical care at a high level of service. Strategies deployed by pharmacy benefit managers include: discounts from pharmacies, rebates from brand-name drug manufacturers, mail service pharmacies, drug formulary, drug utilization, disease management and education (Kreling et al., 2000).

- **Rebates from drug manufacturers**. Pharmacy benefit managers negotiate rebates from drug manufacturers to reduce the net drug program cost. The ability to negotiate favorable rebate contract terms can be attributed to the number of covered lives serviced by the pharmacy benefit manager (Sroka, 2000, p5-6). By representing a volume purchaser of a manufacturer's product, a pharmacy benefit manager can leverage the buying power to obtain substantial rebates. Rebates are mainly negotiated with brand-name drug manufacturers but also can be obtained for generic drugs. Rebate arrangements may have stipulations such as formulary inclusion or pharmacist and patient incentives to influence market shares of rebated products (Kreling et al., 2000).

- **Network of pharmacies**. Pharmacy benefit managers may negotiate payments or reimbursements to pharmacies for prescription ingredient costs and/or dispensing fees (Sica, 2001, p39). Pharmacy benefit managers can customize the pharmacy network to negotiate better prices and fees. Deeper discounts can be obtained with fewer participating pharmacies. Restricting the network, however, limits plan members' accessibility to pharmacies for medications (HCFA study, 2001, p57). Having a network not only ensures controlling for cost but also for quality. Through the network system, pharmacies and the pharmacy benefit manager can communicate important information more efficiently and ensure consistent implementation of programs. The exchange of information includes, but is not limited to, verification of member eligibility,

drug coverage, member cost sharing, and pharmacy reimbursement amounts. In addition, the network allows pharmacies access to leading edge technology where online messages alert pharmacies when a drug-drug interaction occurs or when information is needed about specific therapeutic guidelines (Kreling et al., 2000).

- **Mail service pharmacies.** Pharmacy benefit managers encourage the use of mail service pharmacies because drug purchases are made in larger quantities at a much lower cost. Additional savings are also derived from reducing the number of dispensing fees paid to pharmacies as plan members are allowed to receive up to a 90 day supply of medication (Sroka, 2000, p7). With the convenience of having prescriptions delivered by mail, the quantity allowed for dispense at one time and the cost-savings aspects, mail service pharmacy is an appealing option for plan members. Mail service pharmacies also provide an environment for stringent quality assurance, such as multi-step quality control processes. In the community setting, there is a short period from when the plan member drops the prescription off at the pharmacy to the time it is dispensed by the pharmacist and finally handed to the plan member. Since there is a delay in the deliverance of medication with mail service pharmacies, multiple verification of product dispensed by trained pharmacy professionals and implementation of various clinical programs are permitted (Kreling et al., 2000). With this delay, pharmacy benefit managers view mail service

pharmacies as an avenue for controlling costs and services (Sica, 2001, p40).

- **Use of drug formularies**. Pharmacy benefit managers use formularies to control cost and improve quality (Kreling et al., 2000). By specifying which drugs are covered or reimbursable, pharmacy benefit managers can control or influence drug utilization. Formularies encourage the use of cost-effective drugs without diminishing quality of care (Sica, 2001. p41). Pharmacy benefit managers implement prior authorization and step therapy programs to encourage patients and physicians adherence to the formulary. For drugs excluded from the formulary and subjected to prior authorization, special permission must be obtained for coverage (Cook et al., 2000, p26). Often times these drugs are high cost and/or have a high potential for misuse, and thus, predefined clinical criteria are established and must be met to obtain permission. Physicians are required to submit a prior approval request documenting the medical necessity of the drug (Kreling et al., 2000). Step therapy program requires failure of a formulary or "preferred" drug before the patient can have a drug that is not covered or restricted by the benefit plan. Therapeutic substitution programs are designed to have prescribers switch to comparable products that are in the formulary leading to formulary compliance and a shift to rebated products (Sica, 2001, p40).

- **Drug utilization review (DUR).** Pharmacy benefit managers perform drug utilization review to reduce costs associated with inappropriate

prescribing and use of drugs. Drug utilization review can avoid drug interactions, adverse drug events and duplication of therapy, all of which can be a cost savings effort (Kreling et al., 2000). DUR helps to identify and avert over and under utilization of a particular drug which may increase program cost. However, this increase could potentially be offset in other health care cost areas if the disease is better controlled and other costs avoided. Online DUR edits[2] can be used to alert pharmacists to potential switches to formulary drugs and thus steer drug use to preferred or less costly agents (Goff, 2001, p3-4). In addition, the edits may alert pharmacists to potential adverse events with the use of a particular drug due to duplicative therapy, drug interaction, or high dose.

- **Disease management.**   Pharmacy benefit managers use disease management programs to improve drug use and compliance by patients leading to enhanced health outcomes for patients and better disease control (Lipton et al., 1999, p379). According to Wieners and Harris (2003), individuals with chronic conditions make up 30 percent of all plan enrollees but are responsible for 85 percent of the organization's health care expenses.   Disease management programs take a proactive approach in developing ways to reduce costs and addressing long-term issues by evaluating the treated population and targeting specific chronic conditions (Wieners and Harris, 2003). The theory behind the holistic approach is to maximize drug therapy effectiveness and outcomes, for

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[2] Online DUR edit are messages sent, via the PBM electronic communication system, to pharmacies alerting them of certain drug related concerns.

reduction in overall health care spending and improvement in the quality of life for the patients managed (Kreling et al., 2000). Although this strategy may increase program cost with patient compliance and the addition of perhaps newer and better drugs, the overall long-term benefits may be substantial.

- **Patient cost-sharing.** Pharmacy benefit managers use patient cost sharing techniques to shift some cost responsibility to plan members in an effort to raise patient's sensitivity to cost due to drug utilization (Kreling, et al., 2000). Pharmacy benefit managers work with plan sponsors in structuring benefit designs to include a cost sharing to make plan members bear more of the drug cost. Patient cost-sharing can exist in two forms: co-payment and co-insurance. Co-payment is a fixed dollar amount each time a plan member obtains a prescription. Co-payments are often differential or tiered to increase the cost sharing paid by plan members and thus reduce program costs. The most common is the three tiered arrangement where differential co-payments exist between brand, generic and non-formulary drug. Typically, the higher up the tier, the higher the co-payment is for the plan member (Sica, 2001, p37). With co-insurance, plan members pay a percentage of the cost of each prescription dispensed. Similar to co-payment cost sharing, the percent is typically fixed. In contrast to co-payments, however, the out of pocket expense by the plan member is not constant for a given drug type such as brand name, generic, or formulary. In other words, as the cost of the drug

dispensed increases, so does the amount of cost-sharing by the plan member. Both types of cost sharing can affect plan members' perceptions of coverage and the quality of the prescription drug benefit. By shifting a portion of the drug cost to the plan member, undoubtedly the plan member is made aware and becomes sensitive to the drugs that are available for treatment (Kreling et al., 2000).

- **Education.** A key factor to the success of pharmacy benefit managers is consumer and provider education (Herzfeld, 1995). Non-compliance, either from patients not adhering to the drug therapy or physicians not adhering to the formulary, can be detrimental to a pharmacy benefit manager's financial success. Plan enrollees are educated on the drug coverage, network of pharmacies and cost sharing. They are encouraged to use generic products and educated in the importance of adhering to their drug regimen. Pharmacies and physicians are provided educational material regarding the formulary and prior authorization process and are encouraged to use generics or alternative cost-effective products (Cook et al., 2000, p30-32).

Conclusion

Pharmacy benefit managers use various strategies to meet the overall mission of providing cost effective, high quality pharmaceutical care at a high level of service to the clients. The Balanced Scorecard, a management tool that focuses on organizational strategies and performance measures, has recently

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gained widespread use. Pharmacy benefit managers can adopt this new business concept to help better manage the organization's strategies and improve overall performance.

Balanced Scorecard

Introduction

Introduced in the early 1990s by Robert Kaplan and David Norton, the Balanced Scorecard concept is considered to be the most successful idea in the field of performance management (De Waal, 2003). Since its introduction, the scorecard has achieved widespread use among businesses on a global scale. It is estimated that 50% of Fortune 1000 firms and up to 45% of large companies in Europe are using this concept in one form or another (Brewer, 2002). The scorecard has been adopted by a wide range of organizations such as corporations, universities, and government agencies, all of varying sizes.

What is the Balanced Scorecard? The scorecard is a business management tool, derived from the concept, designed to help organizations achieve their overarching mission (Kaplan and Norton, 1996, p2). Today, organizations have a number of management tools designed for the same purpose to choose from that have been around for years. So what makes the Balanced Scorecard so unique? The power of the scorecard is that it links strategy with performance measures. Strategy, in its simplest definition, is a road map detailing the activities or actions necessary to achieve the organization's mission. The Balanced Scorecard provides a new framework for integrating measures derived from the strategy (Kaplan and Norton, 2000 p18). Since

actionable measures are linked with strategic objectives, organizations are able to evaluate their performance and progress towards achieving their overarching mission.

According to Kaplan and Norton, there are several factors that make the scorecard "balanced." The measures in the scorecard represent a balance between external measures for shareholders and customers and internal measures for critical internal business processes as well as learning and growth. The selected measures equalize varying perspectives of groups with vested interest in the organization's success, i.e. stakeholders, customers, managers, and employees. The measures are balanced between outcome measures (lagging indicators) with performance driver measures (leading indicators). This mixture of measures shows where the organization has been as well as where the business is heading. Finally, the set of measures provides an organization with both short and long term plans and results (Kaplan and Norton, 1996, p25-29).

Although the Balanced Scorecard has been recognized as one of the most successful influential business concept of its time, according to Anthes (2003), many of the scorecard's underlying ideas go back much further. In fact, one or more of the Balanced Scorecard's principles are in use today by organizations without any formal adoption of the entire concept. The scorecard has fundamental principles. First, to obtain a comprehensive view of performance, an organization must be viewed in four different perspectives: financial, customers, internal business process, and learning and growth. Second, relying

solely on financial measures is insufficient to assess the health of the

organization, and therefore, non-financial measures should be considered.

Lastly, linkages must exist between strategic objectives and actionable measures

that emphasize a cause-and-effect relationship[3] (Kaplan and Norton, 1996 p10).

Figure 2.2 illustrates the fundamental principles of the Balanced Scorecard.

Figure 2.2: Balanced Scorecard

Source: Robert S. Kaplan and David P. Norton, The Balanced Scorecard: Translating Strategy into Action, *Harvard Business School Press*, Boston, Mass., 1996, p. 9.
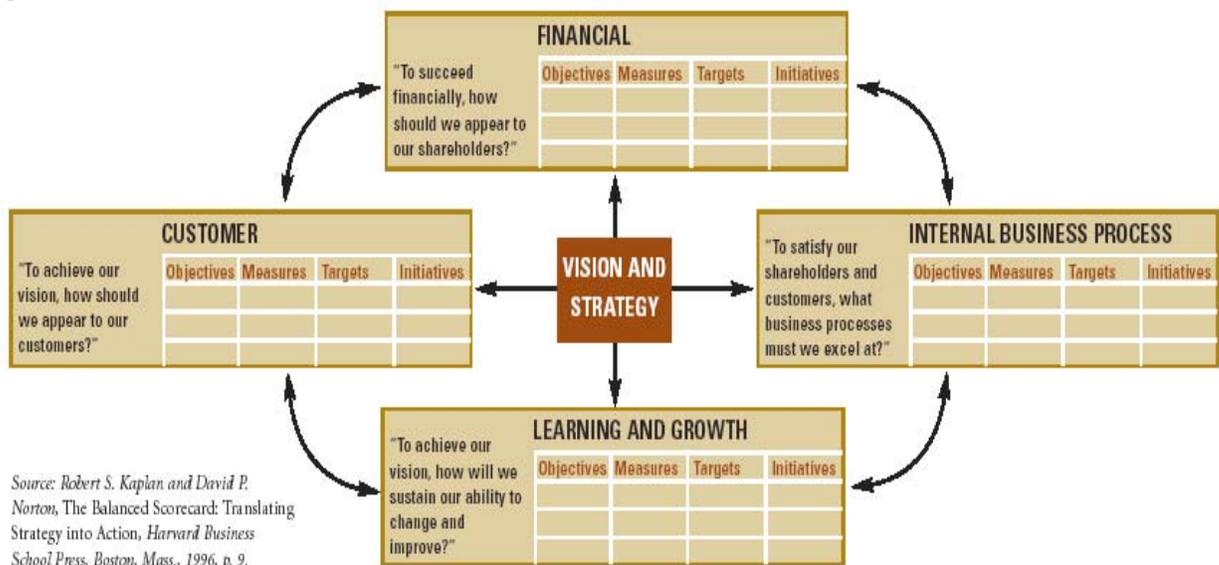
Four Perspectives

According to Kaplan and Norton (1996), in order to obtain a comprehensive assessment of the business, an organization must consider four key perspectives. The four perspectives are Financial, Customer, Internal Business Process, and Learning and Growth. This approach provides a holistic view of the organization in terms of where it has been and where it is heading

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[3] This paper will not discuss the details of the cause-and –effect relationship.

(Shih-Jen and McKay, 2002).   More importantly, the perspectives help determine whether the organization is achieving its overarching mission (Leauby and Wentzel, 2002).   Voelker et al. (2001) considers the perspectives critical for organizational success.

- **Financial.** The financial perspective helps an organization to answer the question "How should we appear to our shareholders?" (Kaplan and Norton, 1996 p9). The financial goal for most organizations is to increase revenues, improve cost and productivity, enhance asset utilization and reduce risk (Kaplan and Norton, 1996, p25). Performance measures in this perspective relate to growth, profitability, cash flow and shareholder value (Leauby and Wentzel, 2002). Although financial measures have been criticized for their short-term focus and historical or backwards looking, these types of measures are invaluable yardsticks for evaluating whether the organization is meeting the "bottom-line" (Newing, 1995). Examples of measures that fall in this perspective include return on investment, average length of hospital stay, and operating expense (Oliveira, 2001).

- **Customer.** The customer perspective helps an organization to answer the question "How should we appear to our customers?" (Kaplan and Norton, 1996 p9). It highlights the factors that really matter to customers such as value for money, time, quality, and performance (Clarke, 1997). Organizations must focus on determining who the customers are and identifying the individual's respective needs (Maholland and Muetz, 2002).

In essence, the goal is to supply the customers with what they want and need. Businesses that strive to achieve long-term superior financial performance must create and deliver products and/or services that are valued by the customer. According to Kaplan and Norton (1996), customers are critical to the success of an organization, and therefore, evaluation of performance must occur through customers' eyes. Examples of customer perspective measures include satisfaction, loyalty, retention, acquisition and profitability.

- **Internal Business Process.** The internal business process perspective helps an organization to answer the question "What business processes must we excel at?" (Kaplan and Norton, 1996, p9). For this perspective, managers must identify the processes that are most critical for achieving customer and shareholder objectives (Kaplan and Norton, 1996 p27). The perspective reflects the organization's core skills and the critical technology involved in adding value to the business (Newing, 1995). The internal business perspective encourages the company to look at existing operational processes to determine which are critical. Once identified, the organization must take the necessary steps to excel in those processes to be successful (Leauby and Wentzel, 2002). Additionally, the perspective challenges the company to find new ways of conducting business for the future (Maholland and Muetz, 2002). Examples of measures derived from the internal business process perspective include cycle time, quality

performance, productivity and post-sale service (Leauby and Wentzel, 2002).

- **Learning and Growth.** The learning and growth perspective helps an organization to answer the question "How will we sustain our ability to change and improve?" (Kaplan and Norton, 1996, p9). This perspective allows for the organization to remain forward-focused by encouraging the organization to evaluate the ability to improve, innovate and learn (Leauby and Wentzel ,2002). In an intensely competitive market, organizations must be able to make continual improvements and have the ability to introduce new products and services (Clarke, 1997). According to Shutt (2003), the learning and growth perspective aids organization in determining what capabilities will be required to meet the value demands of future customers and shareholders.

 Kaplan and Norton (1996) express the importance of organizations investing in their infrastructure such as employees and systems. For example, employees must be reskilled once they reach a certain level of efficiency and effectiveness. Systems must be updated and enhanced to keep up with advancements in technology. If organizations neglect their infrastructure, they are putting themselves at risk of not achieving ambitious long-term financial objectives (Kaplan and Norton, 1996). Examples of measures in the learning and growth perspective include employee attitude survey, annual investment in employee development,

and annual investment in technological improvements (Leauby and Wentzel, 2002; Dalton, 2002).

Performance Measures

The Balanced Scorecard provides a framework to identify measures that are used in evaluating the organization's progress towards achieving its mission (Banker et al., 2004, p2). The strength of the Balanced Scorecard lies in its use of both financial and non-financial measures providing a more comprehensive view of the organization. According to Shih-Jen and McKay (2002), this mixture provides information on the achievements that have been made by the organization and the successes that are to come. Financial measures, such as return on investment metric, and operating and cash flow budget, are traditionally found in many performance measurement systems. These measures focus on short-term results but, more importantly, provide an evaluation on whether a company is meeting its "bottom-line" (Maholland and Muetz, 2002). Argued by Kaplan and Norton (1996), organizations should not be managed solely on the "bottom- line."

Financial measures have limitations. According to Corriga (1996), these traditional accounting measures are backwards in that the measures reflect results of actions already taken and fail to provide any indication of the organization's future financial performance. As organizations move toward emphasizing the capabilities toward future successes, non-financial measures must be taken into account. By using both financial and non-financial measures,

a comprehensive view of the organization is achieved - where the organization

has been and where the organization is heading (Kaplan and Norton, 1996).

CHAPTER THREE

PERFORMANCE MEASURES[4]

Purpose

This chapter discusses the use of the Balanced Scorecard's framework to categorize performance measures for the pharmacy benefit management industry that were identified in the literature. The framework consists of four major categories: financial, customer, internal business process, and learning and growth. The measures are classified for the purpose of discussion. Table 3.1 illustrates the categorization of the industry's measures.

Introduction

What is the big hype about performance measures? Performance measurement has permeated organizations worldwide, significantly changing the way business is conducted. Management tools and techniques such as management by objective, zero-base budgeting, and activity base accounting, use performance measures. Such initiatives will continue to be examined because measuring performance makes too much sense (Theurer, 1998).

According to Frigo (2003), performance measures guide an organization into activities that are monitored in measurable results. Not only do the measures allow for performance monitoring but also for identifying opportunities for improvement, gauging the progress of improvement initiatives, and assessing

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[4] For the purpose of this paper, performance measures for the industry were collected and categorized to discuss the frequency of use. Critiquing the measures, in terms of strengths and weaknesses, is reserved for future papers.

the impact of change (Stryer, 2003). Measuring performance can let us know when a problem is on the rise so that proper actions can be taken to prevent, correct, or redirect the situation (Schroeder, 1996). According to Lau (2002), performance measures can be used as a vehicle to communicate goals and objectives to staff so that employees' actions are all heading in the same direction. The use and success of performance measures are clearly documented in the literature.

There are a number of performance measures for pharmacy benefit managers identified in the literature. By using the framework of the Balanced Scorecard, the measures are categorized for the purpose of discussion in terms of the frequency of use. Performance measures for the pharmacy benefit management industry can be categorized as the following: financial, customer, internal business process, and learning and growth.

Financial

For the most part, pharmacy benefit managers are private, for profit organizations. Regardless whether the company operates in the private or public sector, a financial responsibility exist. The organization must generate profit or meet demands with the monies that have been appropriated. Two key factors that significantly affect the financial "bottom-line" of pharmacy benefit managers are drug **cost** and drug **utilization** (Vogenberg, 2002). Pharmacy benefit mangers negotiate discounts and rebates from manufacturers and discounts to pharmacies on drug products (Chawla et al., 2001). Discounts and rebates

reduce the cost of a purchased drug by the pharmacy benefit manager, and therefore, must be factored in when calculating the net cost of the drug. Rather than calculating the net cost of each drug, pharmacy benefit managers can evaluate drug expenditure through prescription claims by plan members or for a set period of time. The following measures have been identified in the literature that relate to drug cost (Chawla et al., p74-78; HCFA study, 2001).

- Average ingredient cost per prescription
- Average annual cost per member
- Average rebate per claim
- Manufacturer and pharmacy discount as percentage of total drug costs
- Rebate as percentage of total drug spending
- Percent collection of rebate
- Average cost of prescription per member per month

Utilization also contributes to the overall benefit manager's drug expenditure. Utilization refers to the total number of medications a plan member receives for treatment of their medical conditions (Sica, 2001). As utilization increases, so does drug expenditure for the pharmacy benefit manager. In an effort to control drug utilization, benefit managers develop clinical programs such as disease management, drug utilization review, and therapeutic substitution (Sica, 2001). The programs are designed to encourage the use of more cost-effective therapy (generics, preferred products) and reduce inappropriate drug use. Performance measures identified in the literature relating to drug utilization include (Chawla et al., 2001):

- Average number of prescriptions per member per year
- Generic/Brand fill rate
- Dispense as written fill rate
- Drug utilization review savings per member per year
- Drug utilization review savings per member per claim
- Number of drug claims in a therapeutic class

Customer

According to Clark (2003), customer satisfaction improvements have a direct relationship to business outcomes. Pharmacy benefit managers have two main customers: **plan members** and **pharmacy providers**. A prescription benefit plan for members includes, but is not limited to, the drugs that are covered, the pharmacies within the plan's network for members to obtain prescriptions, and how much out of pocket expense the plan member will pay for the medication (Vogenberg, 2002). Plan members must have access to their prescription drug benefit plan. Access to benefit is influenced by formulary restriction and the pharmacy network. A formulary contains those drugs that are covered by the benefit plan. The pharmacy network consists of pharmacies that are contracted with the PBM to deliver prescriptions to plan members (Lipton et al., 1999). The out of pocket amount plan members have to pay for medication may also hinder access to their benefit (Vogenberg, 2002). A plan member may opt not to purchase their medication due to a high out of pocket expense. Having too restrictive of a formulary (covering only a few number of drugs), a small network of pharmacies to have prescriptions filled, and high out of pocket expense for the beneficiaries could limit plan members' access to the benefits. Such restrictions and limitations in turn could result in plan member dissatisfied with the services of the pharmacy benefit manager. Measures that could monitor beneficiaries' satisfaction with access to the benefits include (Chawla et al., 2001, p74; Voelker et al., 2001):

- Patient satisfaction survey
- Number of complaints associated with patient
- Average time for complaint resolution
- Pharmacy to member ratio
- Pharmacy to certain region (zip code, etc) ratio

As mentioned above, pharmacies are considered customers of pharmacy benefit managers. These customers include retail, independent and mail order pharmacies. Pharmacy benefit managers must recruit and retain pharmacies since they perform the actual deliverance of prescription drugs to plan members (Berenbeim, 2001). Pharmacies need to be paid adequately and timely for the services delivered in order to stay in business. Additionally, pharmacy staff should receive excellent customer service when contacting the call center to resolve claims processing problems and/or discuss members' benefits. Some measures that can be used to determine whether a pharmacy benefit managers is meeting the needs and demands of the pharmacies include (Voelker et al., 2001):

- Provider satisfaction survey
- Number of complaints
- Average time for complaint resolution
- Pharmacy provider turnover rate
- Number of late reimbursement payments

Internal Business Process

Pharmacy benefit managers must continually improve their internal processes to stay viable and succeed in a competitive market. Two key internal business processes for pharmacy benefit managers can be categorized as **administrative** and **clinical** (Litpon et al., 1996). Administrative processes

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mainly involve claims processing and adjudication, while clinical processes encompass formulary and utilization management (Lipton et al., 1996).

Claims processing and adjudication occurs through an electronic system hosted by the pharmacy benefit manager. When a plan member goes to a pharmacy to get their prescription filled, the pharmacy must submit all necessary information to the electronic system. The system verifies the claim in terms of eligibility, drug coverage, and cost sharing. Once completed, the system will send a message back to the pharmacy approving or denying the claim. A call center staffed with trained individuals is available to assist pharmacy staff in the claim submissions and provide information on plan members' drug benefit (Lipton et al., 1999). An administrative function of pharmacy benefit manager may also include processing prescriptions thorough the mail service pharmacy. Determining efficiencies and accuracies of the claims adjudication process are critical despite the environment where prescriptions are dispensed. The system must be able to process large numbers of claims and be available throughout the day, especially for those emergency situations. The call center should be well staffed to answer call and resolve customer problems. Some measures identified that could be used to monitor administrative processes include (Chawla et al., 2001):

- Average time required to process a claim
- Claim processing accuracy percentage
- Customer request response time
- Total number of prescriptions processed
- Percent of system availability
- Percent phone answered time
- Percent phone call abandonment
- Mail order turn around time

The second key internal process, identified as clinical, involves management of drug formulary and utilization (Lipton et al., 1999). Formulary updates, which may be an inclusion or exclusion of certain drugs, are performed for a number of clinical reasons such as new safety information, over prescribing by physicians, and drug cost. Reviews and updates should be done routinely to ensure recipients have the most cost-effective, clinically effective, and safe drug available to them (Vogenberg, 2002). Physicians and pharmacies are encouraged to adhere to the formulary. Drugs in the formulary are often rebated products or more cost-effective than non-formulary drugs. Pharmacy benefit managers develop clinical programs to enhance pharmaceutical care. These programs are designed to increase the use cost effective drug products, identify inappropriate drug use, prevent adverse drug events, and increase patient compliance to drug regimen. Some measures that can be used to monitor clinical processes include (Chawla et al., 2001)

- Frequency of formulary reviewed and updated
- Physician/pharmacy compliance to formulary
- Reduction in utilization or costs from program
- Adverse drug event per 1,000
- Frequency of inappropriate drug use
- Patient adherence to drug therapy

Learning and Growth

Kaplan and Norton (1996) encourage organizations to invest in **employees** and **systems**, as they are key to an organization's success. Investments made in employees consist of training and education to bring about

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a sense of autonomy that leads to employee initiatives. The organization must be able to retain and recruit the best qualified staff. The organization must keep up with the latest technology, whether it is to update, enhance, or replace existing computers and/or machineries (Kaplan and Norton, 1996 p134). Pharmacy benefit managers have both of these key elements. Pharmacy benefit managers employ pharmacists who need to keep up with clinical knowledge of drugs and diseases. Pharmacy benefit managers also employ individuals with business, technical, and vocational backgrounds all of which are professions that are continuously changing.   Despite the individual's area of expertise, all pharmacy benefit manager's employees should receive training and education for professional and personal development. To determining whether employees' needs are being met, pharmacy benefit managers should assess the attitudes of the employees. The organization should evaluate service years and turn over rate of employees to determine employee retention. Some measures that can be used to monitor how well benefit managers invest in their employees include (Stewart and Bestor, 2000; Leauby and Wentzel, 2002; Dalton, 2002; Voelker et al., 2001):

- Employee attitude survey
- Average years of consecutive services of all employees
- Annual investment in employee development
- Frequency of training and employee development
- Frequency of advancement opportunities
- Employee turnover rate

The heart of most pharmacy benefit managers is the electronic claims system (Lipton et al., 1999). Therefore, it is important to invest in modifications and enhancements to increase their competitive advantage such as increase

processing time and data storage capabilities.   The claims system not only processes prescription claims submitted by pharmacies but may also serve as a data warehouse (Chawla et al., 2001).   A separate data warehouse can be used for larger storage of historical data.   Having data and being able to translate them so that the information becomes useful are capabilities that can add value to an organization.   Therefore, investments in systems performing data collection, storing, and reporting are essential.   Some measures that can be used to monitor how well pharmacy benefit managers invest in their systems include (Leauby and Wentzel, 2002):

- Number of technological improvements performed
- Frequency of software purchases
- Annual investment in system enhancements and software

Conclusion

Table 3.1 summarizes the measures that fall within each of the Balanced Scorecard categorizes.   The Balanced Scorecard's framework has not been applied to the pharmacy benefit management industry.   Nevertheless, pharmacy benefit managers do use a variety of performance measures.   How close or far away is the current system to the Balanced Scorecard's framework?   How frequent are each type of measures currently used in the industry?   The next chapter describes the methodology used to answer the above questions.

Table 3.1: Conceptual Framework

Financial

- Cost
    - Average ingredient cost per prescription
    - Average annual cost per member
    - Average rebate per claim
    - Manufacturer and pharmacy discount as percentage of total drug costs
    - Rebate as percentage of total drug spending
    - Percent collection of rebate
    - Average cost of prescription per member per month

- Utilization
    - Average number of prescriptions per member per year
    - Generic/Brand fill rate
    - Dispense as written fill rate
    - Drug utilization review savings per member per year
    - Drug utilization review savings per member per claim
    - Number of drug claims in a therapeutic class

Customer

- Plan Member
    - Patient satisfaction survey
    - Number of complaints associated with patient
    - Average time for patient complaint resolved
    - Pharmacy to member ratio
    - Pharmacy to certain region (zip code, etc) ratio

- Provider
    - Provider satisfaction survey
    - Number of complaints associated with providers
    - Average time for provider complaint resolved
    - Provider turnover rate
    - Number of late reimbursement payments

Internal Business Process

- Administrative
    - Average time required to process a claim
    - Claim processing accuracy percentage
    - Customer request response time
    - Total number of prescriptions processed
    - Percent of system availability
    - Percent phone answered time
    - Percent phone call abandonment
    - Mail order turn around time

- Clinical
    - Frequency of formulary reviewed and updated
    - Physician/pharmacy compliance to formulary
    - Reduction in utilization or costs from program
    - Adverse drug event per 1,000
    - Frequency of inappropriate drug use
    - Patient adherence to drug therapy

Learning and Growth

- Employees
    - Employee attitude survey
    - Average years of consecutive services of all employees
    - Annual investment in employee development
    - Frequency of training and employee development
    - Frequency of advancement opportunities
    - Employee turnover rate

- Systems
    - Number of technological improvements performed
    - Frequency of software purchases
    - Annual investment in system enhancements and software

CHAPTER FOUR

METHODOLOGY

Purpose

The purpose of this chapter is to describe the methodology used to assess the different types of performance measures in the pharmacy benefit management industry. Survey research, questionnaire construction, population, data collection, statistics and the operationalization are discussed.

Research Methodology

Survey research was used to capture data about which types of performance measures are most prevalent in the pharmacy benefit management industry. According to Babbie (2004, p243), surveys are used for descriptive, explanatory and exploratory purposes. Surveys are flexible, allowing for many questions to be asked on a given topic. This research method is considered perhaps the most frequently used mode of observation in the social sciences (Babbie, 2004, p243).

Questionnaire Construction

The conceptual framework discussed in Chapter Three was used to develop the questionnaire utilized for this research. Table 3.1 demonstrates the linking of the survey instrument to the conceptual framework. The table lists the corresponding survey question for each of the category. To encourage a high

rate of response, the survey instrument presented participants with statements and asked for a response based on "yes" or "no." This type of questionnaire was appropriate since the goal was to determine whether or not certain performance measures were currently in place at the organization. According to Babbie (2001, p238-258), keeping the questionnaire simple increases the likelihood it will be answered. Additionally, surveys were sent via electronic mail. This mode of communication was chosen to ensure individuals were notified verses mailing the surveys where there is the chance that it may not get to the intended person. Table 4.1 shows the survey instrument used in the research.

Table 4.1: Survey Instrument

What is your position title?		
	YES	NO
Please indicate if the following measures are currently in place:		
Average number of prescription per member per year		
Generic/Brand fill rate		
Average ingredient cost per prescription		
Average annual cost per member		
Average rebate per claim		
Manufacture and pharmacy discount as percentage of total drug costs		
Rebate as percentage of total drug spending		
Percent collection of rebate		
Average cost of prescription per member per month		
Dispense as written fill rate		
Drug utilization review savings per member per year		
Drug utilization review savings per member per claim		
Number of drug claims in a therapeutic class		
Patient satisfaction survey		
Number of complaints associated with patient		
Average time for patient complaint resolved		
Pharmacy to member ratio		
Pharmacy to certain region (zip code, etc) ratio		
Provider satisfaction survey		
Number of complaints associated with providers		
Average time for provider complaint resolved		
Provider turnover rate		
Number of late reimbursement payment		
Average time required to process a claim		
Claim processing accuracy percentage		
Customer request response time		
Total number of prescriptions processed		
Percent of system availability		
Percent phone time answered		
Percent phone call abandonment		
Mail order turn around time		
Frequency of formulary reviewed and updated		
Physician/pharmacy compliance to formulary		

Reduction in utilization from clinical program		
Adverse drug event per 1,000		
Frequency of inappropriate drug use		
Patient adherence to drug therapy		
Employee attitude survey		
Average years of consecutive services of all employees		
Annual investment in employee development		
Frequency of training and employee development		
Frequency of advancement opportunities		
Employee turnover rate		
Number of technological improvements performed		
Frequency of software purchases		
Annual investment in system enhancements and software		
Does your organization use the business concept of the Balanced Scorecard?		
Comments:		

Population

Experts in the pharmacy benefit management industry were surveyed to determine the types of performance measures currently being used. The National Council for Prescription Drug Programs, Inc. is a not-for-profit organization representing virtually every sector of the pharmacy services industry. The organization maintains a database identifying pharmacy benefit management companies nationwide. The membership directory provided a list of member name, company affiliation, job title, contact information and category of service. Category of service was used to identify those companies that are Pharmacy Benefit Managers. Ninety-four companies were identified using the category. For these organizations, senior to mid level managers were selected to participate in the survey. Appendix C provides the list of pharmacy benefit managers that were surveyed.

Data Collection

Surveys, along with a cover letter, were sent via electronic mail on March 1, 2004 requesting responses by March 15, 2004. A copy of the survey and cover letter is included in Appendix A. A reminder electronic mail message was sent on March 9-10, 2004, followed by phone calls on March 12, 2004. For all those who failed to respond by the original due date, an e-mail message was sent on March 16, 2004 notifying them that the response date was extended until March 20, 2004.

Statistics

A simple descriptive statistic, specifically percentage, is used to evaluate the results of this study. By using percentage with the data compiled, the prevalence of each category of performance measures can be discussed.

Operationalization

Table 4.2 illustrates how the conceptual framework was operationalized.

Table 4.2: Operationalization of the Conceptual Framework

Financial

• Cost
   − Average ingredient cost per prescription
   − Average annual cost per member
   − Average rebate per claim
   − Manufacturer and pharmacy discount as percentage of total drug costs
   − Rebate as percentage of total drug spending
   − Percent collection of rebate
   − Average cost of prescription per member per month
 	
• Utilization
   − Average number of prescriptions per member per year
   − Generic/Brand fill rate
   − Dispense as written fill rate
   − Drug utilization review savings per member per year
   − Drug utilization review savings per member per claim
   − Number of drug claims in a therapeutic class

Customer

• Plan Member
   − Patient satisfaction survey
   − Number of complaints associated with patient
   − Average time for patient complaint resolved
   − Pharmacy to member ratio
   − Pharmacy to certain region (zip code, etc) ratio
 	
• Provider
   − Provider satisfaction survey
   − Number of complaints associated with providers
   − Average time for provider complaint resolved
   − Provider turnover rate
   − Number of late reimbursement payment

Internal Business Process

- Administrative
  - Average time required to process a claim
  - Claim processing accuracy percentage
  - Customer request response time
  - Total number of prescriptions processed
  - Percent of system availability
  - Percent phone answered time
  - Percent phone call abandonment
  - Mail order turn around time

- Clinical
  - Frequency of formulary reviewed and updated
  - Physician/pharmacy compliance to formulary
  - Reduction in utilization or costs from program
  - Adverse drug event per 1,000
  - Frequency of inappropriate drug use
  - Patient adherence to drug therapy

Learning and Growth

- Employees
  - Employee attitude survey
  - Average years of consecutive services of all employees
  - Annual investment in employee development
  - Frequency of training and employee development
  - Frequency of advancement opportunities
  - Employee turnover rate

- Systems
  - Number of technological improvements performed
  - Frequency of software purchases
  - Annual investment in system enhancements and software

Conclusion

The purpose of this research is to discuss performance measures in the pharmacy benefit management industry in terms of the frequency of use. The research technique used was survey. The survey instrument was constructed by using the framework of the Balanced Scorecard. Experts in the pharmacy benefit

management industry were identified and surveyed. The following chapter

discusses the results of the research.

CHAPTER FIVE

RESULTS

Purpose

The purpose of this chapter is to present the results of the survey administered to senior and mid-level managers in pharmacy benefit management companies. The compiled results show the frequency of the performance measures currently being used in the industry.

Financial

Pharmacy benefit managers must control for the cost of providing prescription drug benefit. The literature identified two drivers for the escalating drug expenditure: cost and utilization. To achieve the net cost of a drug many factors must be considered, such as discounts and dispensing fees to pharmacies, discounts and rebates from manufacturers, and the total amount of rebate collected. Utilization is also a driver of drug expenditure. Not only are there more people taking medications, but also people are taking more drugs to treat medical conditions. More often than not, there is inappropriate use of medication, which in turns becomes unnecessary spending, and therefore, needs to be monitored. Tables 5.1a-c summarize the frequency of financial related performance measures currently used by respondents.

Table 5.1a: Summary of Cost Measures

Cost	N	Percent Yes
Average ingredient cost per prescription	23	96%
Average annual cost per member	23	100%
Average rebate per claim	23	100%
Manufacturer and pharmacy discount as percentage of total drug costs	22	77%
Rebate as percentage of total drug spending	22	95%
Percent collection of rebate	22	82%
Average cost of prescription per member per month	23	100%
Average Percent		**93%**

Table 5.1b: Summary of Utilization Measures

Utilization	N	Percent Yes
Average number of prescriptions per member per year	23	100%
Generic/Brand fill rate	23	100%
Dispense as written fill rate	23	87%
Drug utilization review savings per member per year	23	78%
Drug utilization review savings per member per claim	23	61%
Number of drug claims in a therapeutic class	23	100%
Average Percent		**88%**

Table 5.1c: Summary of Financial Measures

Financial	
Overall Percent Yes	**91%**

Based on the respondents, overall performance measures in the cost category are used more frequently than the measures in the utilization category, 93% verse 88%, respectively. In the cost category, a "yes" response to a performance measure ranged from 77% to 100% while in the utilization category, the range was from 61% to 100%. Three of the eight measures in the cost category had a percent yes value of 100%, indicating that all respondents

currently use these performance measures. "Average ingredient cost per prescription" was the second most frequently used measure (96%) followed by "rebate as percentage of total drug spending" (95%). The least frequently used measure by respondent was "manufacturer and pharmacy discount as a percentage of total drug costs," receiving a percent yes value of 77%. In the utilization category, three of the six measures had a percent yes value of 100%. The "dispense as written fill rate" is a measure used by 87% of respondents followed by "drug utilization review savings per member per year," with a percent yes value of 78%. Respondents indicated the "drug utilization per member per claim" was the least frequently used performance measure in the utilization category, receiving a percent yes value of 61%. In considering both cost and utilization, the financial category received an overall average percent yes value of 91%.

Customer

Pharmacy benefit managers focus on two main customers: plan members and providers or pharmacies. Although clients (plan sponsors, managed care organization, private and public insurers) may be considered as customers to pharmacy benefit mangers, the performance of the company is primarily evaluated on the services provided to plan members and pharmacies in the PBM network. For example, are plan members satisfied with their prescription drug benefit in terms of the formulary, pharmacy access, and amount of cost sharing? As for providers, are contracted pharmacies satisfied with the organization in

terms of assistance with claims processing, notification of formulary updates, and timely reimbursement of drug cost and service fees? Tables 5.2a-c summarize the frequency of customer related performance measures currently being used by respondents.

Table 5.2a: Summary of Plan Member Measures

Plan Members	N	Percent Yes
Patient satisfaction survey	23	61%
Number of complaints associated with patient	21	52%
Average time for patient complaint resolved	22	59%
Pharmacy to member ratio	23	57%
Pharmacy to certain region (zip code, etc.) ratio	23	70%
Average Percent		**60%**

Table 5.2b: Summary of Provider Measures

Providers	N	Percent Yes
Provider satisfaction survey	22	68%
Number of complaints associated with providers	23	70%
Average time for provider complaint resolved	22	64%
Provider turnover rate	21	33%
Number of late reimbursement payment	22	45%
Average Percent		**56%**

Table 5.2c: Summary of Customer Measures

Customer	
Overall Percent Yes	**58%**

Based on the respondents, 60% currently use performance measures listed in the plan members category, while measures in the providers category where used by 56% of the respondents. The performance measure in the plan members category used the least by respondents was "the number of complaints associated with patients," receiving a percent yes value of 52%. Of the five

measures in the plan members category, "pharmacy to certain region ratio" was the most frequently used among the respondents, with a 70% percent yes value. The second most commonly used measure in this category was "patient satisfaction survey" (61%) followed by "averaged time for patient complaint resolved" (59%). "Number of complaints associated with patient" was the least most commonly used measure in plan members category, a percent yes value of 52%. In the providers category, measures used by respondents ranged from 33% to 70%. "Provider turn over rate" and the "number of late reimbursement payment" received the fewest percent yes value by respondents, 33% verse 45% respectively. "Number of complaints associated with providers" was the most frequently used measure in the providers category according to respondents, receiving 70% percent yes value. The second most commonly used measure in this category was "provider satisfaction survey," a percent yes value of 68%. In considering both plan members and providers, the customer category received an overall percent yes value of 58%.

Internal Business Process

Health plan sponsors not only seek pharmacy benefit management services to reduce the cost of providing prescription drug benefit, but also to improve the effectiveness and efficiency of administering the benefit plan as well as the quality of pharmaceutical care. The processes to achieve these goals must be monitored to meet performance standards. Additionally, the organization must excel in these critical processes in order to stay viable in a

competitive market. The operations and functions of pharmacy benefit managers vary greatly between companies and are dependent on the contractual agreement with the client. These functions can be categorized into two types of services: administrative and clinical. Table 5.3a-b summarizes the frequency of internal business process related performance measures currently being used by respondents.

Table 5.3a: Summary of Administrative Measures

Administrative	N	Percent Yes
Average time required to process a claim	23	96%
Claim processing accuracy percentage	23	87%
Customer request response time	22	68%
Total number of prescriptions processed	23	100%
Percent of system availability	23	100%
Percent phone time answered	23	91%
Percent phone call abandonment	23	91%
Mail order turn around time	23	87%
Average Percent		**90%**

Table 5.3b: Summary of Clinical Measures

Clinical	N	Percent Yes
Frequency of formulary reviewed and updated	22	95%
Physician/pharmacy compliance to formulary	21	86%
Reduction in utilization from clinical program	22	86%
Adverse drug event per 1,000	21	24%
Frequency of inappropriate drug use	21	43%
Patient adherence to drug therapy	21	57%
Average Percent		**65%**

Table 5.3c: Summary of Internal Business Process Measures

Internal Business Process	
Overall Percent Yes	**78%**

Based on respondents, overall performance measures in the administrative category (90%) are used more frequently than measures in the clinical category (65%). The percent yes value ranged from 68% to 100% in the administrative category while in the clinical category the range was 24% to 95%. The least frequently used measure in the administrative category was "customer request response time," receiving a percent value of 68%. This measure is followed by "claims processing accuracy percentage" and "mail order turn around time," both with 87% percent yes value. The remaining five performance measures in the administrative category received over 90% of respondents indicating the measures were currently being used in the organization. In the clinical category, there appears to be a wider range in the use of the different measures by the respondents, 24% to 95%. Only 24% of respondents indicated that they currently measure adverse drug events per 1,000 patients. The most frequently used measure by the respondents in the clinical category was "frequency of formulary reviewed and updated", receiving a percent yes value of 95%. This measure was followed by "physician/pharmacy compliance to formulary" and "reduction in utilization from clinical program," both receiving a percent yes value of 86%. Four of the six measures in the clinical category are used by at least 50% of the respondents. The overall percent yes value for each category shows a stronger emphasis on evaluating administrative than clinical operations, 90% verse 65%, respectively. In considering both administrative and clinical, the internal business process category received an overall percent yes value of 78%.

Learning and Growth

Pharmacy benefit managers must make investments in the organization's infrastructure, which mainly comprises of employees and systems. Employees carry out the functions necessary to achieve the organization's mission and goals, appearing in virtually every step of the strategy. For this reason, employees need to be empowered with knowledge as well as sought after for the valuable information they currently hold as individuals directly involved in the day-to-day operations. Some employee investment opportunities include providing regular training, career development and promotions. Once these individuals are well trained and acquire the necessary knowledge and skills to perform their job, efforts need to be made to retain them as the cost of training new hires can be costly to an organization.

Pharmacy benefit managers must also invest in their systems to keep up with the advancements and improvements in technology. Pharmacy benefit managers are connected to their network of pharmacies through an electronic communication system. This system allows for exchange of information, mainly for the purpose of adjudicating prescription claims. Additionally, pharmacy benefit managers have systems in place for data warehousing and reporting capabilities. Updates and new software purchases are necessary to improve efficiency, increase storage of information and streamline and automate processes. Table 5.4a-b summarizes the frequency of learning and growth related performance measures currently being used by respondents.

Table 5.4a: Summary of Employee Measures

Employees	N	Percent Yes
Employee attitude survey	23	61%
Average years of consecutive services of all employees	23	57%
Annual investment in employee development	21	57%
Frequency of training and employee development	22	73%
Frequency of advancement opportunities	21	43%
Employee turnover rate	23	83%
Average Percent		**62%**

Table 5.4b: Summary of Systems Measures

Systems	N	Percent Yes
Number of technological improvements performed	23	57%
Frequency of software purchases	23	65%
Annual investment in system enhancements and software	23	83%
Average Percent		**68%**

Table 5.4c

Learning and Growth	
Overall Percent Yes	**65%**

Based on respondents, performance measures relating to systems are more frequently used than measures relating to employees, 62% verse 68% respectively. In the employee category, "employee turnover rate" was the most frequently measured by respondents, with an 83% percent yes value, followed by "frequency of training and employee development, a percent yes value of 73%. Sixty-one percent of respondents indicated the organization measured employees' attitudes. The least frequently used measure in this category, according to respondent, was " frequency of advance opportunities," with a percent yes value of 43%. In the systems category, 83% of the respondents

indicated that the annual investment in systems enhancement and software are currently measured by the organization. The performance measure in this category that received the lowest percent yes by the respondents was the "number of technological improvements performed," a 57% value. In considering both employees and systems, the learning and growth category received an overall percent yes value of 65%.

CHAPTER SIX

CONCLUSION

The purpose of this research study was threefold. First, an overview of Pharmacy Benefit Managers and the Balanced Scorecard was discussed. Second, performance measures for pharmacy benefit managers were identified in the literature and categorized by using the framework of the Balanced Scorecard. Lastly, the frequency of use of the measures in the industry was discussed. To achieve the third purpose, a survey instrument was developed from the conceptual framework and sent to 94 pharmacy benefit managers. Generalization of results is difficult due to a low response rate, 24.5%. During the survey period, participants that have not responded were contacted to encourage a better response rate. Those that declined stated that the information was considered proprietary and thus cannot be disclosed. Additionally, certain companies stated the information could not be shared due to the possibility of the data being used for the purpose of comparing the various pharmacy benefit management companies.

For those participants that responded, there was over 50% usage of the performance measures, which were categorized as financial, customer, internal business process, or learning and growth. The most frequently used measures among responders were those related to financial. It is not surprising that financial related measures rank the highest among the four types since most for-profit entities have a strong focus on how they are performing financially.

Financial measures are used mainly to determine whether the organization is meeting the bottom-line as well as for determining profit growth.

The second most frequently used measures among respondents were those relating to internal business processes. Pharmacy benefit managers' operations include both administrative and clinical functions. Based on respondents, administrative processes have a much stronger emphasis for evaluation than clinical related processes. A stronger focus on administrative process, however, does not suggest that administrative functions are far more important. The clinical operations of pharmacy benefit managers are key to driving down drug expenditures for health plan sponsors. A possible reason for the substantial difference in the percent usage of clinical related measures is the difficulty in quantifying the effectiveness of these processes.

Based on respondents, the third most commonly used measures were those relating to learning and growth. Investments made to systems were evaluated more so than those made to employees. During times of tight budgets, employees are often times neglected. The allocation for employee training, career advancements, and bonuses are lost. It is important for organizations to evaluation whether they are meeting the need of their employees for the purpose of retention. Lost of employees due to lack of investments may cost the organization more money when hiring and training new employees.

Customer related measures were the least frequently used among the respondents. In a service related industry, collecting customer measures are

very important. However, customer satisfaction surveys collected in other industries have received response rates as low as 2%. Limited customer related measures provide incomplete feedback from end users. Feedback is important to evaluate current products and services as well as to make improvements.

Performance measures help organizations track their progress towards objectives, goals and ultimately the organization's overarching mission. The key is not to collect as many as possible, but rather to collect those that are critical for success. Pharmacy benefit managers have a variety of measures to assist them in achieving the mission of providing cost effective, high quality pharmaceutical care at a high level of service. The Balanced Scorecard's framework was used in this research to categorize the industry's performance measures for the purpose of discussing the frequency of use. The success of the scorecard as a business management tool, used by companies of varying sizes both in the public and private sectors, is well documented in the literature. This research revealed that only 18% of respondents had knowledge of the Balanced Scorecard. The PBM industry may find benefits using the scorecard's framework to better make sense of the performance measures collected. In addition, since the framework of the Balanced Scorecard is derived from an organization's strategy, using this management tool would better guide pharmacy benefit managers in achieving their mission.

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Appendix A: Survey Cover Letter

Dear Director/Manager:

My name is Kim Pham and I am a graduate student at Texas State University pursing a Masters in Public Administration. I am currently working on my thesis paper to fulfill the requirements for my degree. I would like to request your participation in a short survey.

This research project is non-funded. The survey will not be used to make comparison between companies. The intent of this survey is to examine the types of performance measures currently in place within Pharmacy Benefit Managers. In addition, it will assist in determining the usefulness of a management tool called the Balanced Scorecard in the industry. **The survey will take no longer than 5 minutes.**

Due to the sensitive nature of the material, your responses will be kept confidential and only group statistics will be reported. All information will be used for research only. The survey will not be used to make comparisons between companies. Although participation is strictly voluntary, I encourage all directors/managers to participate so that enough data will be received to achieve statistical integrity. If there is someone in your department who is more appropriate to respond to this survey, please feel free to forward it to them for completion.

Thank you very much for your time and cooperation. If you have any comments or questions, please feel free to contact me or the professor overseeing the research project. **Your response is requested by March 20, 2004.**

Thank you for participating in this survey.

Sincerely,

Kim Y. Pham, Pharm.D.
Graduate Student, Texas State University at San Marcos
8565 Steamline Circle
Austin, TX 78745
(512) 423-3306

Oversight Professor:
> Patricia Shields, Ph.D.
> Director, Masters of Public Administration Program
> Department of Political Science
> Texas State University
> San Marcos, TX 78666
> (512) 245-2143
> ps07@txstate.edu

Appendix B: Survey Instrument

Survey: Performance Measures for Pharmacy Benefit Managers

What is your position title?		
	YES	NO
Please indicate if the following measures are currently in place:		
Average number of prescription per member per year		
Generic/Brand fill rate		
Average ingredient cost per prescription		
Average annual cost per member		
Average rebate per claim		
Manufacture and pharmacy discount as percentage of total drug costs		
Rebate as percentage of total drug spending		
Percent collection of rebate		
Average cost of prescription per member per month		
Dispense as written fill rate		
Drug utilization review savings per member per year		
Drug utilization review savings per member per claim		
Number of drug claims in a therapeutic class		
Patient satisfaction survey		
Number of complaints associated with patient		
Average time for patient complaint resolved		
Pharmacy to member ratio		
Pharmacy to certain region (zip code, etc) ratio		
Provider satisfaction survey		
Number of complaints associated with providers		
Average time for provider complaint resolved		
Provider turnover rate		
Number of late reimbursement payments		
Average time required to process a claim		
Claim processing accuracy percentage		
Customer request response time		
Total number of prescriptions processed		
Percent of system availability		
Percent phone time answered		
Percent phone call abandonment		
Mail order turn around time		
Frequency of formulary reviewed and updated		
Physician/pharmacy compliance to formulary		
Reduction in utilization from clinical program		
Adverse drug event per 1,000		
Frequency of inappropriate drug use		
Patient adherence to drug therapy		
Employee attitude survey		
Average years of consecutive services of all employees		

Annual investment in employee development		
Frequency of training and employee development		
Frequency of advancement opportunities		
Employee turnover rate		
Number of technological improvements performed		
Frequency of software purchases		
Annual investment in system enhancements and software		
Does your organization use the business concept of the Balanced Scorecard?		
Comments:		

Please **respond by March 20, 2004** via e-mail, facsimile, or postal service.
E-mail address: kim_pham13@yahoo.com
Fax number: 512.280.8345
Address:
   Attention: Kim Pham
             8565 Steamline Circle
             Austin, TX 78745

If you have any questions or comments, please contact me at 512.423.3306.

Appendix C: List of Pharmacy Benefit Managers Surveyed

4-D Pharmacy Management
aClaim/MAR
ACS, Inc.
ActivaRx Inc.
AdvancePCS
Aetna, Inc.
Agelity, Inc.
Allwin Data Services
American Health Care
American Homecare Fed, Inc.
Ameriscript
AmerisourceBergen Corporation
Anthem Prescription Management, LLC
Argus Health Systems, Inc.
BeneScript Services, Inc.
Cardinal Health, Inc.
Caremark Rx, Inc.
CBCA Rx
CIGNA Healthcare
Destination Rx
EBRX, Inc.
Eckerd Health Services, Inc.
EDS
Employee Health Insurance Management, Inc.
Envision Pharmaceutical Services
Express Scripts, Inc.
First Health Service Corporation
Garden State Pharmacy Owners Provider Serv.
General Prescription Programs, Inc.
Health Net Pharmaceutical Services, Inc.
Health Resources, Inc.
Health Extras
Health Trans
HIP of Greater New York
ICORE Healthcare
Innoviant, Inc.
IPC, Inc.
Kroger Prescription Plan
LDI Pharmacy Benefit Management Services
Maxor Plus
Medco Health

Medicine Shoppe International
MedImpact Healthcare Systems, Inc.
Member Health, Inc.
MSC
National Medical Health Card, Inc.
National Prescription Administrators, Inc.
Navitus Health Solutions
Netcard Systems
NMHCRX
Northwest Administrators, Inc.
Northwest Pharmacy Services
Novant Health
NPAX, LLC.
Partners Rx Management, LLC
PBM PLUS, Inc.
PDX/NHIN
PharmaCare
Pharmaceutical Care Network
Pharmaceutical Technologies, Inc.
Pharmacy Data Management, Inc.
Pharmacy Provider Services Corp.
Pharmacy Providers of Oklahoma
PharmaStar
Prescription Solutions
Prime Therapeutics, Inc.
ProCare
Progressive Medical, Inc.
RX Pharmacy Solutions, Inc.
Ramsell Corporation
RESTAT
RX Canada, Inc.
Rx Options, Inc.
Rx Solutions, Inc.
RxAmerica
RXWest
ScriptNet
Script Solutions
Script Care, Inc.
ScriptSave
Serve You Custom Prescription Management, Inc.
SMCRx, Inc.
Smith Premier Services
Specialized Pharmacy Solutions
SunRx, Inc.

SXC Health Solutions, Inc.
The Inteq Group, Inc.
Tmesys
UNISYS Corporation
United Drugs
US Script, Inc.
Walgreen Health Initiatives, Inc.
WebMD Corporation
WellPoint Pharmacy Management