METHODS OF DRUG PRODUCT MANAGEMENT IN HEALTH MAINTENANCE ORGANIZATIONS

by

ROBERT E. MUCHA

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE
(Pharmacy)

at the

UNIVERSITY OF WISCONSIN - MADISON

1991

APPROVED: David H. Kreling

David H. Kreling, Ph.D.
Associate Professor

DATE: 7 February 1991

ACKNOWLEDGEMENTS

I acknowledge Dr. David H. Kreling for his guidance and support throughout this project and throughout my graduate education. I wish to thank Dr. Joseph B. Wiederholt, Dr. Robert W. Hammel, Dr. Rockwell I. Schulz and Dr. Melvin H. Weinswig for their comments and suggestions. Also, my sincere thanks to Lynn R. Gruber, J.D., of InterStudy, for her help in providing me with a mailing list. The encouragement of my fellow graduate students also is valued and appreciated.

This manuscript is dedicated with love to my wife, Meg.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

ABSTRACT

A national study was conducted to examine drug product management methods used by Health Maintenance Organizations (HMOs) to control product costs and product selection. Several drug product management methods were explored with emphasis on investigating innovative contracting for pharmaceuticals. Several hypotheses also were developed to determine whether some methods of drug product management were influenced by HMO characteristics such as model type, enrollment size and ownership type. An eight page survey was pretested and mailed to the pharmacy director at 480 HMOs in the United States. A response rate of 34.3 percent was achieved.

Methods of drug product management that were used by a majority of the HMOs included formularies (65%), Pharmacy and Therapeutics committees (69%) and maximum allowable cost (MAC) lists (54%). Other methods used by HMOs to control drug costs included prior authorization (41%) and manufacturer contracts for co-marketed (45%) and single-source (45%) drug entities. Overall, "exclusive" status (34%) and "preferred" status (34%) were equally popular among HMOs in managing co-marketed entities. However, more HMOs used "preferred" status (40%) versus "exclusive" status (25%) in

managing single-source products. Most HMOs excluded experimental drugs, over-the-counter medications (other than insulin), Retin-A for cosmetic use, and Rogaine from their pharmacy benefits.

Relationships were found between HMO model type and HMO enrollment size and formulary use. HMO model type also was associated with formulary type used. HMO model type, HMO enrollment size, and formulary use were associated with participation in manufacturer contracts for both licensed co-marketed and single-source drug entities. Furthermore, a relationship between participation in manufacturer contracts for both licensed co-marketed and single-source drug entities and the use of "exclusive" and "preferred" status for such products was found.

This study showed that HMOs used a variety of drug product management methods to control product costs and product selection and that the use of some methods was associated with HMO model type and HMO enrollment size.

CHAPTER 1

INTRODUCTION

Managed care, as its name implies, exists in order to manage, direct and control the provision of health care (Penna 1989). Managed health care may be defined as systems, programs or actions aimed at controlling health care utilization and costs (Anonymous 1987a). The concept of managed care was developed in an attempt to control total spending for health care services; however, managed care implies that other aspects of health care delivery, such as price, quality and accessibility also can be managed (Curtiss 1989a). Managed care's attempt to control such aspects as price, quality and accessibility is exemplified in its administration of prescription drug benefits.

Prescription drug benefits are accepted as an integral part of most managed care systems, including Health Maintenance Organizations (HMOs). In 1985, 83 percent of prepaid plans surveyed by the Group Health Association of America (GHAA) offered pharmacy benefits (Anonymous 1987b). In 1988, pharmacy benefits were available in about 94 percent of all established HMO benefit plans and in 100 percent of new benefit plans (McCarthy 1989). According to the Group Health Association of America's 1989 HMO Pharmacy

Survey, overall 97 percent of plans offered pharmacy benefits; 23 percent of plans covered prescription drugs within the basic benefit package and 74 percent as a rider to the package (Gold et al. 1989).

Not only is prescription drug coverage popular, expenditures for drugs in managed care programs are growing. Prescription drugs are one of the fastest-growing budget items, according to John Middleton, president of pharmacy programs for Minneapolis-based United HealthCare Corporation. The average HMO pharmacy budget is growing at the rate of one to one and a half percent per month (Keith 1989). Some of the reasons for the growing budgets and increased management concern include the high price of new drugs, particularly biotechnology products, shorter hospital stays that result in more outpatient drug treatments and the growing number of elderly who use far more prescription drugs than other groups (Keith 1989).

Despite an acceptance that prescription drugs are an extremely cost-beneficial form of therapy, annual price increases of 15 percent have encouraged implementation of cost controls (Petty 1989). Managed care executives challenged by increasing costs are responding by applying various drug product management control strategies to their prescription drug benefits. How these cost controls are operationalized is important to understanding drug

product management in managed care.

The development of managed care systems produced profound changes including some unique, innovative and often controversial programs relating to the control of the drug benefit (Penna 1989). The types of cost controls and drug product management strategies applied to drug benefit programs include: product cost discounts, discounted usual-and-customary fees, generic and therapeutic substitution, mail-order programs for maintenance medications, formularies , user copayment or coinsurance, greater cost-sharing for brand name products, quantity or day's supply restrictions, peer review, retrospective and prospective drug utilization review, and prescription capitation (Curtiss 1986).

Some HMOs are trying different strategies to contain drug costs. Examples of these different strategies being considered are a restrictive formulary to cut drug duplication, a maximum allowable cost program and therapeutic interchange (Anonymous 1988). Other measures include requiring pharmacists to submit their claims electronically to reduce manual labor costs, hiring clinical pharmacists to perform drug utilization review, providing doctor and patient education, and obtaining rebates from manufacturers (Anonymous 1988).

More recent developments in drug product management include contract negotiations with brand name manufacturers to control costs (Bonhaus 1990). These arrangements have caused many HMOs to implement strategies which encourage the use of specific contracted drug products (Landes 1990). This effort is often coordinated through the use of "exclusive" and "preferred" drug lists which help the HMO achieve specific contract goals and thus cost savings (DeanCare 1989).

The result of this diversity is the need to quantify less well documented strategies used to manage the drug benefit. The purpose of this study was to investigate methods of drug product management that were not cost sharing mechanisms but were specific to controlling product costs. Specific methods such as restrictive formularies, maximum allowable cost lists, prior authorization, drug exclusions, manufacturer contracts and "exclusive" and "preferred" product lists were explored because their use among HMOs has not been well established.

CHAPTER 2

LITERATURE REVIEW

This literature review begins with an overview of managed care organizations, the development and structure of HMOs, drug expenditures in HMOs, and HMO formularies. Then a review of studies that fall under the rubric of general drug product management and a summary of each is presented. A limited number of studies that examined HMO drug product management methods or cost-containment strategies used to manage the prescription drug benefit was found. This chapter concludes with an overview of new approaches to drug product management which are not quantified in the current studies and is a reason for this study.

Managed Care

Managed health care is a rapidly growing phenomenon manifested in such arrangements as Health Maintenance Organizations (HMOs) and Preferred Provider Organizations (PPOs). The concept often is associated with alternative delivery systems, managed care also has been adopted by indemnity insurance plans and corporate purchasers of health care (MacKeigan and Larson 1988).

Before managed care plans emerged, health benefits for employees and other covered groups and individuals were financed through premiums paid to traditional indemnity insurance companies that made reimbursements based on fee-for-service (Curtiss 1989a). In 1984, 89 percent of the U.S. private health insured population was enrolled in traditional fee-for-service indemnity insurance plans and managed care plans accounted for 11 percent (Kenkel 1988). Now, the managed care industry can be segmented into three basic types of plans: HMOs, PPOs and fee-for-service plans that are "managed" in some way such as through the imposition of mandatory use-review programs. By 1987, 56 percent of the private health insured population was enrolled in a managed care plan. By 1992, managed care plans are expected to account for 85 percent of the U.S. private insurance market. It has been predicted that less than 10 percent of the U.S. private health insured population will be covered by traditional fee-for-service plans by 1997 (Curtiss 1989a).

Health Maintenance Organizations (HMOs)

HMOs were first described as having five components: an enrolled population, prepayment of premiums, coverage of comprehensive medical services, centralized medical and hospital services and salaried staff physicians.

That is, HMOs combined prepayment with delivery of health care services in one organization. The savings in health care services were expected from reduced use of services, since physicians had no financial incentive to provide more services to generate income. Also, savings were expected from the commitment of HMOs to truly be health "maintenance" organizations through the provision of comprehensive services and expansion of coverage to wellness programs and early-detection programs (Curtiss 1989a).

Although prepaid group practice plans have been around since the turn-of-the-century, they were not a significant part of the U.S. health care system until the early 1970s. In a 1971 Health Message to Congress, the Nixon Administration declared that HMOs would be the keystone of a major national health initiative (Mayer and Gilbert-Mayer 1985). In 1973, the Health Maintenance Act was passed providing funds to develop HMOs. By 1975, there were 166 HMOs with 5.8 million enrollees, up from 33 HMOs in 1970 (Mayer and Gilbert-Mayer 1985).

As of January 1, 1990, enrollment in traditional HMOs reached 33.1 million members in 575 HMO plans (The InterStudy 1990). A total of 13.9 percent of the U.S. population was enrolled in a HMO in 1989 (Marion Managed Care Digest - HMO Edition 1990). HMOs are projected to enroll 28

percent of the U.S. private insurance population by 1992 and 50 percent by 1997 (Curtiss 1989a).

Much of the growth in HMO plans in the 1980s was in plans that had no salaried staff physicians. Thus, the definition of an HMO expanded to include organizations that contracted with independent physicians (Curtiss 1989a). Four principle HMO models exist. Staff model HMOs deliver health services through a physician group that is controlled by the HMO (salaried staff physicians). Group model HMOs contract with one independent group practice to provide health services. Network model HMOs contract with two or more independent group practices, possibly including a staff group, to provide health services. Independent physician association (IPA) model HMOs contract directly with physicians in independent practices; and/or contracts with one or more associations of physicians in independent practice to provide health services (The InterStudy 1990).

Some HMO structures include a combination of these four model types; for example, staff-IPA model HMOs combine the characteristics of both the staff model and the IPA model HMOs, employing some physicians who provide services in centralized clinics and contracting with an IPA panel of physicians to provide services outside the designated clinics (Curtiss 1989a). Combination

HMOs also are known as hybrid models.

HMO Drug Expenditures

According to the Marion Managed Care Digest - HMO Pharmacy Edition, 1990, pharmacy benefits accounted for an average of 10 percent (range 6-11%) of total HMO operating expenses in 1989, almost the same as in 1988. Staff models had the lowest average cost of drugs relative to total operating costs at six percent, and IPA models had the highest costs at 11 percent.

HMO enrollees received an average of 5.0 prescriptions per member in 1989, up two percent from 4.89 in 1988. Thus, HMO enrollees obtained about 170 million prescriptions during 1989. The average amount spent for drugs during 1989 was $70.23 per member, a slight decrease from $71.49 in 1988. Using these data as a basis for a national estimate, HMOs spent an estimated $2.4 billion on pharmaceuticals in 1989 (Marion Managed Care Digest - HMO Pharmacy Edition 1990).

The average ingredient cost per prescription, across all model types, rose to $14.20 in 1989, up 24 percent from the 1988 level of $11.50 per prescription. For both 1989 and 1988, staff models had the lowest average ingredient cost per prescription at $10.90 up 15 percent from 1988. IPA models had the highest

ingredient cost at $15.20 per prescription, up 30 percent from 1988 (Marion Managed Care Digest - HMO Pharmacy Edition 1990). From a cost perspective, it is apparent that staff model HMOs are managing their drug benefits more effectively than IPA model HMOs. Staff model HMOs may implement more aggressive control measures aimed at reducing drug product costs and influencing prescribing behaviors of staff physicians. Furthermore, most staff model (and group model) HMOs use in-house pharmacies and are able to control what drug products are dispensed. Network and IPA model HMOs use pharmacies either under direct contract or under contract through a third-party administrator (Gold et al. 1989) and are less able to exert the same control as in staff models regarding what products are dispensed. Few IPA and network model HMOs use in-house pharmacies (Marion Managed Care Digest - HMO Pharmacy Edition 1990).

HMO Formularies

In an attempt to keep drug costs under control, many HMOs are turning to formularies. Cost-effectiveness is a motivating factor for establishing a formulary. According to Hank Blissenbach, director of pharmacy at United Healthcare, "the formulary is just one part of the equation of managing

therapeutic costs (Perrin 1989)."

The American Society of Hospital Pharmacists (ASHP) defines the formulary system as a method whereby the medical staff of a hospital appraises and selects from among the numerous medical agents available those that are considered most useful in patient care, together with the pharmaceutical preparations in which they may be administered most effectively (ASHP 1983).

In 1983, the ASHP published a statement suggesting that the formulary system could by adopted to almost any health-care setting. Many HMOs looked upon this event as a means of adopting a well-accepted and proven cost-containment measure for their prescription drug benefit plans (ASHP 1983 and Martens 1990).

The formulary guides the physician in prescribing the least expensive alternative among a class of therapeutically equivalent drugs. The formulary encourages the use of generics and may foster price-bidding among brand-name manufacturers to get their products on the approved list (Keith 1989 and Curtiss 1989b). According to Blissenbach, "the formulary is just a list of drugs. It's how it's used and how it's followed that are important (Perrin 1989)."

There are two critical elements that distinguish drug formularies from one another. The first one is the scope of the formulary itself. The extent to

which prescribing is limited within the formulary often determines the extent of savings. The second is the design of the formulary and the financial incentives that are included in the design. Is the formulary mandatory or voluntary? Does the plan impose financial disincentives for prescribing or purchasing outside of the boundaries of the formulary (Martens 1990)?

Though the popularity of formularies has been reported, the specific types in use (eg. non-restrictive (open) or restrictive (closed or negative)) has not been well examined in the HMO industry. A better understanding of specific types of formularies in use would provide insight into the extent to which prescribing is limited. Also, the frequency with which additions and deletions are made to the formulary is not well documented.

A common, almost mandatory, component of the formulary system is the Pharmacy and Therapeutics (P&T) Committee (Black et al. 1988). The P&T Committee is an advisory group of the medical staff and serves as the organizational line of communication between the medical staff and the pharmacy department. Its purpose, stated broadly, is to consider all matters related to the handling or use of drugs. One of the P&T Committee's functions, as stated in the ASHP guidelines, is to enforce and revise the formulary (ASHP 1984).

The P&T Committee is comprised of the chief pharmacist and physicians selected under the guidance of the medical staff (ASHP 1984). According to Rucker and Visconti, membership on hospital P&T Committees most commonly consists of eight physicians, one pharmacist, one nurse and one administrator (Rucker and Visconti 1978). However, little is known of the composition of HMO Pharmacy and Therapeutics Committees and the relationship or association of these committee members to the HMOs. The extent to which consultants are members on these committees also is not known. A clearer description of HMO P&T committee composition would provide better insight into the understanding of key decision makers in HMOs, with regard to drug policy.

Exposition of Current General Drug Product Management Studies

Six studies were reviewed that related to drug product management control strategies used in HMOs. A summary of each is presented. These studies revealed common control strategies in place to manage the drug benefit and which measures likely are adopted by the four HMO model types.

Zuvekas et al.

A study by Zuvekas et al. surveyed 20 HMO pharmacy managers by telephone. The sample included four staff, eight group, five IPA, and three network model HMOs. The respondents were queried about how they previously had organized their pharmacy benefits and what changes were implemented or contemplated. Some topic areas included the nature of the drug benefit offered and cost-containment strategies used. The results showed all prescription drugs were covered, however, a few plans excluded oral contraceptives. Experimental drugs, home diagnostic or testing agents and over-the-counter (OTC) drugs, except for insulin, also were excluded.

The study HMOs used a variety of cost-containment techniques to control price and utilization. Fourteen of the 20 HMOs, or about 70 percent, had a formulary. Formularies were most common in HMOs with in-house pharmacies (group and staff model HMOs), but also were used by other models. These formularies were typically established by a Pharmacy and Therapeutics Committee, comprised of physicians, pharmacists and less frequently, nurses and/or administrators. Generic substitution was used by 80 percent (16 of 20) of the HMOs, while only about 35 percent (7 of 20) engaged in therapeutic substitution. One half of the study HMOs conducted some type of drug

utilization review (DUR) on a periodic or regular basis.

Doering et al.

Doering et al. investigated the practice of therapeutic substitution as it occurred in the HMO outpatient setting. A mail survey was sent to 481 HMOs operating in the U.S.. A total of 192 HMOs responded, 32 group, 39 staff, 38 network, and 82 IPA model HMOs. One respondent did not report organizational type. Of 187 HMOs, 57 (30.5%) HMOs reported that their plan allowed therapeutic substitution. When analyzed according to model type, 58 percent of the group, 57 percent of the staff, 17 percent of the IPA and 14 percent of the network model HMOs had therapeutic substitution. Key personnel routinely determining product equivalency were physicians on the P&T committee (72% citing), pharmacists (65% citing) and other physicians (28% citing).

Nearly 39 percent of the HMOs used generics in all instances except where prohibited by the prescriber. Almost half (48%) of the HMOs had a formulary in place. Slightly more than 89 percent of the staff model, 61 percent of the group, 35 percent of the IPA and 28 percent of the network models used a formulary. HMOs that used therapeutic substitution were more likely to have

a formulary than those not engaged in this practice. Of those HMOs that had therapeutic substitution, 73.7 percent used a formulary.

American Medical Census Corporation

A study of 571 managed care organizations, including HMOs and PPOs, conducted by the American Medical Census Corporation examined five cost-containment strategies including formularies, generic substitution, therapeutic interchange, drug utilization review and step therapy. The results showed that 36 percent of HMOs/PPOs used a formulary. A majority of staff HMOs (85%) used drug formularies. Fifty-one percent of the group models, 33 percent of the network and 23 percent of the IPA model HMOs also used a drug formulary. Over half of the managed care organizations with formularies (57%) had strict implementation policies. Their affiliated physicians had to prescribe from the formulary unless the need for a non-formulary drug was documented. About one-third (35%) of these organizations were less stringent about formulary implementation; they encouraged their physicians to prescribe from a formulary. The remaining health care plans (8%) allowed their physicians to prescribe whatever they wished.

A majority (71%) of managed care organizations had an active generic

substitution policy. Twenty-eight percent practiced therapeutic interchange. A total of 58 percent of staff, 34 percent group, 28 percent network and 19 percent IPA model HMOs used therapeutic interchange.

Among the surveyed plans, 73 percent of the managed care plans had some type of drug utilization review (DUR) program. DUR programs were established in 77 percent of the staff, 72 percent of the group, 76 percent of the IPA and 65 percent of the network model HMOs. Regarding step therapy, 12 percent of the HMOs/PPOs used this drug-prescribing protocol which begins treatment with the most cost-effective therapy for selected diagnoses. Step therapy was used by 40 percent of the staff, 22 percent of the group, 9 percent of the IPA and 8 percent of the network model HMOs.

Gold et al.

Gold et al. examined how HMOs structured their pharmacy benefits, as well as other areas including cost containment practices. A survey was sent to a proportionately stratified random sample of 39 Group Health Association of America member plans. Sixty-four percent of the plans were IPA or network model HMOs, and 36 percent were group or staff model HMOs.

In structuring pharmacy benefits, HMOs typically excluded drug coverage

for experimental drugs (76%), over-the-counter drugs (73%), birth control devices (63%) and Retrovir (42%). Many cost containment strategies were standard practice in a majority of HMOs including DUR programs (76%), mandatory generics (61%) and formularies (55%). Higher cost for brand names or non-formulary drugs (43%), preauthorization (38%) and therapeutic substitution (36%) also were used. Of the 21 HMOs that used a formulary, 24 percent were non-restrictive (open), 67 percent had semi-restrictive types where exceptions were allowed, and only 9 percent had a restrictive (closed) formulary in place.

American Medical Care and Review Association

The American Medical Care and Review Association (AMCRA), 1989 Pharmacy Survey of 128 HMOs found that most HMOs used DUR programs (74%) and generic substitution (70%) to control costs. MAC programs for maintenance drugs (53%), bid contracting (51%), formularies (51%) and therapeutic substitution (12%) also were used. Only 13 percent of HMOs contracted with pharmaceutical manufacturers for drug sales and 46 percent for rebate or charge-back arrangements on pharmacy items.

Of 61 HMOs that had a formulary, 12 percent were open (generally all

FDA approved drugs were covered) and 88 percent were closed (only selected drug entities were covered) formularies. Additions and deletions to the formulary were made on a monthly basis (13%), a quarterly basis (68%), an annual basis (2%), an as needed basis (14%), and on an other basis (3%).

Respondents were asked to rank several cost containment strategies. The top six strategies ranked by popularity were copayments and deductibles, formularies, MAC pricing programs for maintenance drugs, generic substitution, bid contracting, and drug utilization review. This study was the only one identified that quantified the use of MAC programs by HMOs. Only the studies by Gold, et. al., and AMCRA attempted to identify the types of formularies used by HMOs.

Marion Managed Care Digest - HMO Pharmacy Edition, 1990

This is the second annual statistical profile of how HMOs purchase, distribute and manage the cost of pharmaceuticals. The data resulted from surveying a sample of the nation's 643 operating HMOs in 1989. The survey drew responses from 393 HMO plans including 51 group, 248 IPA, 59 network and 35 staff model HMOs.

With regard to the benefit structure, the results showed few HMOs

covered over-the-counter (OTC) drugs. A small number (14%) of HMO plans provided benefit coverage for OTC medication. This was slightly lower than the number of plans (15%) that offered this coverage in 1988.

Drugs excluded from the HMO pharmacy benefit included fertility drugs (45%), oral contraceptives (22%), injectables (49%), experimental drugs (92%), anorexiants (48%) and cosmetic aids (88%). More HMOs excluded fertility drugs in 1989 than in 1988 (45% vs. 25%). However, fewer HMOs excluded oral contraceptives in 1989 than in 1988 (22% vs. 31%).

Nearly half (46%) of all the HMOs imposed mandatory drug utilization review (DUR) on physicians and enrollees in 1989, up from only 37 percent of HMOs in 1988. Most HMOs reviewed drug use and prescribing patterns retrospectively, using medical records after one year or part of a year to evaluate physician practices.

With regard to the HMO pharmacy structure, one in five HMOs had in-house pharmacies established in 1989, up slightly from 16 percent in 1988. Staff models most often had in-house pharmacies in 1989, 76 percent, up from 62 percent from the previous year. More group models and networks had in-house pharmacies in 1989, than in 1988. However, few IPAs operated in-house pharmacies, 3 percent, and this did not change from 1988.

The results also showed many HMOs curtailed mail-order programs in 1989. Only 8% of HMOs were using mail-order programs, down by half from the 16 percent that used them in 1988. Network and staff HMOs, especially, cut back on such programs.

The number of HMOs that used drug formularies remained about the same in 1989 (39%) as in 1988 (40%). Three of four staff models had drug formularies in 1989, up from 69 percent in 1988. IPAs were least likely to have formularies, with only 28 percent of plans using them in 1989 and 29 percent in 1988. HMOs with enrollment of greater than 15,000 members were more likely than smaller HMOs to have formularies. Formulary use increased with increasing enrollment size.

About one-third of HMO plans reviewed and changed their formularies monthly (31%) in 1989. Quarterly reviews were the next most popular used by 28 percent of the HMOs.

Physicians were the most common members of formulary committees, with 96 percent of all plans having such members. Pharmacists (94% citing), the medical director (50% citing), nurses (48% citing), the HMO administrator (36% citing) and others (16% citing) also were members of formulary committees.

Information about substitution practices also was reported. Almost two-thirds (64%) of all HMO plans in 1989 required that generic drugs be substituted whenever possible, about the same number (65%) had this policy in 1988. Group models were more likely in 1989 to have such policies, as compared to other model HMOs.

In 1989, only 16 percent of HMO plans allowed pharmacists to make therapeutic drug interchanges, substituting one chemically different but therapeutically equivalent drug for another. Twenty-seven percent of the HMOs allowed therapeutic interchange in 1988.

The results for drug purchasing practices showed that more HMOs purchased pharmaceuticals in 1989 by means of the contract process than by joining purchasing groups or using prime vendors. Eighty-four percent of plans used contract bids for drug purchasing, versus 81 percent that used prime vendors and 56 percent that bought through purchasing groups. Fewer (62%) HMOs participated in rebate programs in 1989 compared to 1988 (66%). IPAs, followed by staff models, were the most frequent users of rebate programs. Networks received rebates least often.

Studies Summary

These studies showed that formularies, generic and therapeutic substitution, and drug utilization review appear to be common and well documented cost-containment measures used in managing drug products in HMOs. Within such approaches, some specific methods of drug product management related to controlling product costs are less well documented, including maximum allowable costs (MACs) for maintenance drugs and prior authorization. The use of MAC lists as an approach to foster generic substitution has not been documented well for HMOs, nor has the development of these lists been studied within HMOs. It is not known whether state Medicaid MAC lists are used to help develop HMO MAC lists and if so, how these MAC lists for HMOs compare to the state's Medicaid MAC list. Also, the use of prior authorization and the number of products within HMOs that require this authorization has not been documented well.

The Marion Managed Care Digest - HMO Pharmacy Edition, 1990, and the AMCRA 1989 Pharmacy Survey were the only studies that reported any information about contracting for drug products. None of the studies examined innovative contracting practices as a tool to manage drug product costs, or the use of techniques that foster or require specific brand drugs be prescribed and

dispensed.

Innovative Contracting for Pharmaceuticals

Many managed care plans have offset the rise in their pharmacy costs through strategic contracting with pharmaceutical manufacturers. The contracting mechanism both reduces drug costs and increases predictability of future expenses (Bonhaus 1990).

One approach to the bidding process has been to separate pharmacy products into three distinct categories: multi-source drugs (generics), dual-source drugs (licensed co-marketed drug entities) and single-source drugs. Single-source and dual-source drugs are areas where the greatest strides in contracting can be made. Because these drugs account for the largest share of many pharmacy budgets, they provide the opportunity for the greatest cost savings. In almost every instance, competitive bidding can be obtained with dual-source drugs. Single-source drugs also can be contracted, usually at discounted or guaranteed current market prices (Bonhaus 1990).

Contract incentive arrangements can vary considerably. A variety of contracting options, including bundling, performance clauses and multiple-year agreements can be used to produce win-win situations for both the HMO and

the manufacturer. Bundled contracts contain pricing for a number of drugs with an "all-or-none" clause. In other words, by accepting the contract, the HMO accepts all the listed drugs. When combined with multi-year options, which guarantee current prices or set limits on price increases, these contracts provide excellent hedges against price inflation of branded products (Bonhaus 1990). Many pharmaceutical manufacturers include "value-added services" in their proposals. Manufacturer value-added services include such incentives as funding medical education, developing pharmaceutical software, even using the drug companies' marketing muscle to recruit physicians and increase HMO enrollment (McCarthy 1990).

A bundled contract might contain one or more of the following advantages (Herrick 1989): (1) price reductions below the current market; (2) flexible pricing that keeps the price moving down as the price generally available in the marketplace goes down; (3) special discounts or rebates or both for volume purchases; (4) concessions on single-source products, such as price protection or discounts off the list price; (5) special advantages in the areas of purchasing and distribution (such as special terms, preferential shipment during shortages, elimination of minimum order quantities or the efficiencies of more line items on each purchase order).

A performance clause that provides for rebates based on an absolute volume or increase from a baseline can be an important method of cost reduction. This is especially true for dual-source drugs, which present an opportunity to switch between similar drugs in a product class (Bonhaus 1990). These performance clauses offer very significant savings, but only if the sales goals can be attained. The HMO pharmacy director must assess accurately the ability of the organization to shift physicians' behaviors to give preference to drugs with the most beneficial contract (Bonhaus 1990). An approach taken by some HMOs in Wisconsin, to help shift physician's behavior toward specific brands under contract and to help ensure specific brands be dispensed by the pharmacist, is to create "exclusive" and "preferred" drug lists (DeanCare HMO Provider News 1989. See Appendix A).

An "exclusive" drug list refers to actions restricting reimbursement for (or dispensing of) certain drug entities to one particular brand name drug. A "preferred" drug list refers to actions that do not restrict reimbursement to (or dispensing of) a certain brand name entity, this action does foster the use of "preferred" (by the HMO) brand name products. The "exclusive" and "preferred" drug list concepts can be applied to both dual-source (licensed co-marketed drug entities) and single-source drug entities as a means to achieve

performance levels stipulated in such manufacturer contracts.

Based on informal discussions with HMO and PPO clients and with drug manufacturer executives, Elan Rubinstein, an employee benefits consultant, "guesstimates" that HMO drug product discounts range anywhere from 10 percent off average wholesale price (AWP) to 50 percent off for high-volume drugs. Not all HMOs get the same discounts. Some of the larger staff model HMOs, like Kaiser Permanete, are probably able to buy drugs at prices comparable to those available to hospital buying groups. But even HMOs that contract for pharmacy services with outside provider networks are still able to get some discounts, even though they don't take delivery of the drugs (McCarthy 1990).

The way it works, Rubinstein explains, is that the HMO would reimburse its pharmacy networks for a particular drug at, say, AWP minus 10 percent. However, the HMO would have negotiated a price of, say, AWP minus 20 percent with the manufacturer. The lower price is based on projected volume of sales, or perhaps some sort of therapeutic exclusivity. The HMO would then complete something called a 'rebate report,' showing the differences between the amount reimbursed to the pharmacies based on the 10 percent discount and the amount owed to the HMO based on the lower contract price. The HMO

would send the report to the manufacturer and the manufacturer would then write the HMO a check (McCarthy 1990).

Greg Amato at Blue Cross and Blue Shield Association is "hesitant to use the word 'rebate'," but is exploring volume growth incentives for both its managed care and indemnity plans. Under such agreements, manufacturers will decrease a drug's price after a certain percentage or number of products have been prescribed to the plan's members. Mr. Amato said "a degree of coordination is necessary to encourage physicians to prescribe particular brands." As a result, plans encourage two to three products for a certain condition and inform physicians of their effort to control prices, then ask them to prescribe one of their "preferred" brands (Landes 1990).

The extent to which HMOs contract with manufacturers for dual-source (licensed co-marketed drug entities) and single-source drug entities has not been studied. Similarly, limited information is available which describes these agreements or contracts, what incentives are received from manufacturers, and which contract incentives are most preferred.

The extent to which "exclusive" and "preferred" drug lists concepts are used to manage dual-source (licensed co-marketed drug entities) and single-source drug entities is not known. It is unclear whether contractual

arrangements with manufacturers are involved or are important in selecting products for "exclusive" or "preferred" status. The relative number of dual-source and single-source drug entities that have "exclusive" or "preferred" status assigned to them also is not known.

Based on the literature reviewed formularies, generic and therapeutic substitution and drug utilization review are well documented methods used to control costs. However, the specific type of formulary used by HMOs is less well established. Also, it is not understood which HMOs use Pharmacy and Therapeutics committees. The use of MAC lists to control reimbursement and prior authorization to control drug use also is not well established.

The literature revealed no information about which HMOs specifically contracted with manufacturers for co-marketed and single-source drug entities. This information would provide insight into which HMOs are realizing significant cost savings for drug products. Also, a description of these contracts in terms of incentives offered by manufactures and the typical length of such contracts is not found in the literature. It is important to understand what types of incentives are available from manufacturers and which incentives are most preferred by HMO pharmacy directors to gain insight into the negotiation process.

This study attempts to expand the studies reviewed in the literature to gain a better understanding of the use of restrictive formularies, MAC lists, prior authorization, drug exclusions, contracts for co-marketed and single-source drug entities, and "exclusive" and "preferred" product lists. It is important to know whether HMOs implement these strategies to manage their drug benefit because such strategies impact on the organizations ability to control drug costs.

CHAPTER 3

OBJECTIVES AND HYPOTHESES

The goal of this study was to examine drug product management methods used in HMOs, particularly those methods related to controlling drug product costs and product selection. The specific objectives of the study were to:

1. Determine the proportion of HMOs that have drug formularies, identify the type of formulary used, how often additions and deletions are made to the formulary, and describe the composition of HMO Pharmacy and Therapeutics Committees.

2. Determine the proportion of HMOs that use Maximum Allowable Cost (MAC) lists as an effort to manage drug products, describe the extent to which State Medicaid MAC lists are used to help develop HMO MAC lists, and compare the relative size of those lists to their State Medicaid MAC list.

3. Determine whether prior authorization for dispensing is used as a tool to manage drug products and quantify how many products require such authorization.

4. Determine the proportion of HMOs that have agreements or contracts with manufacturers for licensed co-marketed (dual-source) drug entities and describe those agreements or contracts relating to the number of contracts held, the typical length of a contract, and the types of incentives received and preferred.

5. Determine the proportion of HMOs that have agreements or contracts with manufacturers for products within pharmacologic or therapeutic drug classes that have primarily single-source drug entities available and

describe those agreements or contracts relating to the number of contracts held, the typical length of a contract, and the types of incentives received and preferred.

6. Determine whether co-marketed (dual-source) drug entities are managed by designating one product with "exclusive" or "preferred" status for reimbursement (or dispensing) and quantify the number of products with such status.

7. Determine whether single-source drug entities within pharmacologic or therapeutic classes are managed by designating one or several products with "exclusive" or "preferred" status for reimbursement (or dispensing) and quantify the number of products with such status.

8. Determine whether specific products, therapeutic classes and devices are excluded from HMO pharmacy benefits coverage.

The following hypotheses were derived from the study objectives and were based upon previous literature.

Several studies (Doering et al., American Medical Census Corporation, and Marion Managed Care Digest - HMO Pharmacy Edition 1990) have found an association between HMO model type and formulary use. An extension of this association also is to find whether there is a relationship between HMO model type and the formulary type (restrictive versus non-restrictive) used by the HMO.

H1: There is no relationship between HMO model type and formulary use.

H2: There is no relationship between HMO model type and formulary type used.

The Marion Managed Care Digest - HMO Pharmacy Edition, 1990, reported that formulary use increased with increasing HMO enrollment size. An extension of this association also is to find whether enrollment size

influences what type of formulary is used by the HMO.

H3: There is no relationship between HMO enrollment size and formulary use.

H4: There is no relationship between HMO enrollment size and formulary type used.

Bonhaus (1990) raised the issue that dual-source products (licensed co-marketed drug entities) and single-source products can be contracted. An extension of this issue is whether associations exist between HMO model type, HMO enrollment size, and HMO ownership type and contract participation.

H5: There is no relationship between HMO model type and participation in manufacturer contracts for a) licensed co-marketed drug entities; or b) single-source drug entities.

H6: There is no relationship between HMO enrollment size and participation in manufacturer contracts for a) licensed co-marketed drug entities; or b) single-source drug entities.

H7: There is no relationship between HMO ownership type (national multi-state versus independent) and participation in manufacturer contracts for a) licensed co-marketed drug entities; or b) single-source drug entities.

Several authors (Keith 1989 and Curtiss 1989b) suggest that a formulary may foster price-bidding among brand-name manufacturers to get their product on the approved list. An extension of this association also is to find whether the type of formulary used by the HMO influences such contracts.

H8: There is no relationship between formulary use and participation in manufacturer contracts for a) licensed co-marketed drug entities; or b) single-source drug entities.

H9: There is no relationship between formulary type used and participation in manufacturer contracts for a) licensed co-marketed drug entities; or b) single-source drug entities.

Bonhaus (1990) stated that the HMO pharmacy director must assess the ability of the organization to shift physicians' behaviors to give preference to drugs with the most beneficial contract. Landes (1990) reported that some managed care plans ask their physicians to prescribe "preferred" brands and HMOs in Wisconsin (eg. DeanCare HMO) use "exclusive" and "preferred" product lists to encourage prescribing and dispensing of contracted drugs. Thus, whether an association exists between "exclusive" and "preferred" status for drug products and contracts for such products was tested.

H10: There is no relationship between participation in manufacturer contracts for licensed co-marketed drug entities and a) "exclusive" status for licensed co-marketed drug entities; or b) "preferred" status for licensed co-marketed drug entities.

H11: There is no relationship between participation in manufacturer contracts for single-source drug entities and a) "exclusive" status for single-source drug entities; or b) "preferred" status for single-source drug entities.

CHAPTER 4

METHODS

The general framework for the study was to develop a survey instrument, intended for national distribution and pretest in Wisconsin. This chapter describes operational definitions, survey development, the pretest, main survey, data collection, data analysis and limitations.

Operational Definitions

For the purpose of this study, the following operational definitions were chosen. A "restrictive" formulary was defined as closed or negative, coverage restricted to formulary drugs except for emergencies. A "restrictive with exceptions" formulary was defined as drug coverage restricted to the formulary but exceptions routinely were allowed (by the HMO). A "non-restrictive" formulary was defined as an open formulary, with no limits/constraints on products available/prescribed.

"Licensed co-marketed drug entities" were defined as legend drug entities that are co-marketed by different manufacturers, for example: Calan-SR & Isoptin-SR, Micronase & Diabeta, Ventolin & Proventil, etc.. These drugs also

are known as dual-source drugs as referred to in the literature review.

"Single-source drug entities" were defined as drug entities in pharmacologic or therapeutic classes that have primarily single-source drug entities available, for example: histamine H-2 antagonists, nonsteroidal anti-inflammatory drugs (NSAIDs), etc..

"Exclusive" or "preferred" status was assigned to characterize the reimbursement for (or dispensing of) licensed co-marketed or single-source drug entities. "Exclusive" status was defined as reimbursement (or dispensing) that is restricted to one co-marketed entity or to one single-source entity within a therapeutic class. "Preferred" status was defined as reimbursement (or dispensing) that is not restricted but encourages one co-marketed or one or several single-source drug entities within a therapeutic class to be dispensed.

The types of contract incentives offered by manufacturers were not specifically defined in the survey instrument, however some are clarified here. "Manufacturer's value added services" include such incentives as funding medical education, developing pharmaceutical software, and helping HMOs recruit physicians (McCarthy 1990). "Price protection" means the price will not increase during the time covered by the contract. "Rebates based on bundling" generally stipulates that rebates for both product A and B will be received only

if product B also is placed on the formulary. " Rebates based on market share" are rebates based on an absolute volume of the drug product (prescribed and dispensed). "Rebates based on utilization" are rebates based on an increase from a predetermined baseline of the amount of drug product used (prescribed and dispensed).

Survey Development

The primary discussion that follows is focused on the development of the pretest instrument used in Wisconsin. The pretest survey instrument (see Appendix B) was developed based on the format recommended by Dillman (Dillman 1978). The survey requested information regarding the use of specific drug product management strategies and was divided into five parts. Each part had several questions.

Part I included questions about formularies, maximum allowable cost (MAC) lists and P&T Committees. Question 1 explored the restrictive nature of drug formularies used by HMOs and the timeliness with which additions and deletions were made. Question 2 addressed the use of maximum allowable cost (MAC) limits and whether HMOs used the Wisconsin Medicaid MAC list as a template to help develop their lists. Knowing how many HMOs used MAC lists

as a drug product management strategy and the extensiveness with which Medicaid MAC lists were adopted by HMOs was desired. Question 3 sought information on the use of a P&T committee and the composition of its members. Also, the association of committee members with the HMO was explored. There was interest in knowing how extensively consultants were used on these committees.

Part II covered information on licensed co-marketed drug entities and began with Question 4, asking whether contracts existed between the HMO and manufacturers for licensed co-marketed drug entities. We wanted to quantify the popularity of such contracts as a method of drug product management and to understand the characteristics of participating HMOs. A question about the typical length of a contract for a licensed co-marketed drug entity also was asked.

Information on incentives received from manufacturer contracts for licensed co-marketed drug entities was requested to help characterize such contracts. Preferences for these incentives were explored by asking the respondent to list their most, second most and third most preferred incentive. Information about preferred incentives currently is not published and would increase our understanding of what is important to managers who are engaged

in such contracts.

Questions 5 and 6 examined the application of "exclusive" and "preferred" status, respectively, to licensed co-marketed drug entities. These questions enabled us to estimate how many HMOs used these strategies in managing licensed co-marketed products and to quantify the number of products that had either status. Furthermore, the relationship between contracts for co-marketed products and the use of "exclusive" and/or "preferred" status could be evaluated.

Part III replicated the questions in Part II but focused on single-source drug entities. Question 7 explored whether contracts existed between the HMO and manufacturers for single-source drug entities, information on contract length, the types of incentives received and respondent's preferences for these incentives. This format enabled comparisons between co-marketed and single-source contracts.

Questions 8 and 9 examined the use of "exclusive" and "preferred" status, respectively, and single-source drug entities. The goals of these questions, as in the case of co-marketed entities, were to determine how many HMOs used these strategies in managing single-source products, to quantify the number of products that had either status, and to determine whether contracts were an important determinant in using "exclusive" or "preferred" strategies.

Part IV investigated other methods of drug product management. Question 10 asked whether prior authorization was used to manage the use of legend drug products and how many products required such authorization. Question 11 asked whether the HMO denied reimbursement for drug products because they were promoted directly-to-the-consumer. Question 12 investigated whether specific drug products, therapeutic classes or devices were excluded from the pharmacy benefits. Examples of the items for this part of the study were obtained from the Marion Managed Care Digest - HMO Pharmacy Edition (and the literature) and were used so that comparisons could be made.

Part V examined HMO characteristics, so results could be categorized and compared. Questions were included about the HMO model type (Question 13), the number of members enrolled in the HMO plan (Question 14) and the type of pharmacy outlets where enrollees primarily obtained their drug benefits (Question 15). Finally, a comment section was included at the end of the survey to capture other thoughts or remarks respondents might have.

The Pretest

The survey instrument was pretested on the pharmacy director or the executive director (or other key contact person) at 28 of the 30 HMOs licensed

to solicit insurance in Wisconsin. A list of HMOs licensed in Wisconsin was obtained from the Office of the Commissioner of Insurance (OCI). One HMO was excluded because it solicited insurance for Illinois residents of Wisconsin employers only. Another HMO was excluded because it had a policy that prohibited participating in all surveys.

Using the telephone numbers that appeared on the OCI list, each HMO was phoned to identify the name of the pharmacy director, or a person who approximated that position and their address (if different from the address appearing on the OCI list). If there was no such person or if no pharmacy service department was established, the name of the executive director and the address appearing on the OCI list was used.

A pre-notification postcard was mailed on March 17, 1990, informing the respondents of the survey and encouraging participation. The survey was mailed on March 21, 1990, to the executives at the 28 HMOs and included a personalized cover letter explaining the study, a postage paid return envelope and a postage paid postcard for the respondent to request the results of the survey. A follow-up postcard was sent one week later. The survey instruments used in the pretest are shown in Appendix B. By April 16, 1990, 22 completed surveys were received, for an overall response rate of 78.6 percent. A summary

of the pretest results are presented in Appendix C.

After the pretest, changes were desired in the survey. In Part I, a question (Question 2b on the final instrument, see Appendix D) was added about the relative size of the HMO MAC list compared to their state Medicaid MAC list. We were curious whether HMOs merely adopted the same drug entities as on the State Medicaid MAC list or whether their lists were more or less extensive.

In Parts II and III, an item was added asking about the number of contracts for licensed co-marketed drug entities and about the number of contracts for single-source drug entities, respectively (Questions 4a and 7a on the final instrument). These were included to gain an understanding of the typical number of contracts held by an HMO for such products.

From the pretest responses it was noted that clarification was needed in the questions referring to "exclusive" and "preferred" status. Thus, "exclusive" and "preferred" status were amended to include not only "reimbursement for" but also "dispensing of" co-marketed or single-source drug entities. This was done to include staff model HMOs because comments received from respondents of staff model HMOs stated these questions did not apply, since they referred strictly to reimbursements. According to these respondents, their

staff HMOs were not involved with reimbursements because they typically had in-house pharmacies.

Question 11, in Part IV of the pretest instrument, which asked whether the HMO denied reimbursement for drug products because they were promoted directly-to-the-consumer was removed because no variation in responses occurred. After the pretest, the wording about the exclusion of Retin-A from pharmacy benefits was changed to refer to cosmetic use or for ages greater than 25 years old or both, based on comments received. Appetite suppressants also were added to the list of exclusions (Question 11 on the final instrument), since many respondents reported this exclusion.

Several questions in Part V of the pretest instrument were revised. The choice of "other" was removed from the HMO model type question (Question 12 on the final instrument) because it made comparisons with other data sets difficult. Respondents then were asked specifically to choose the one model type that best described their HMO. If the HMO structure included more than one model type, respondents were asked to select the one that represented the greatest proportion of enrollees. This revision enabled the data to be compared with InterStudy's HMO characteristics. The categories in the HMO enrollment question (Question 13 on the final instrument) were expanded to match the

classification scheme used by InterStudy, so that comparisons could be made.

Many of the return envelopes received during the pretest had no postmarks. This presented a potential problem in identifying the respondent's state when the survey was distributed nationally. Thus, a question which requested the respondent to identify the state in which their HMO plan is located was added (Question 14 on the final instrument). When surveys were returned, they were grouped into one of four geographic regions as used by the United States Census Bureau (See Appendix E). This enabled a comparison of geographic representation of HMO plans on a national level. Also, a question that asked the respondent's employment status with the HMO was added (Question 16 on the final instrument) to help identify non-pharmacist respondents. A copy of the final instrument used for the national study is in appendix D.

Main Survey

The study population for the main survey included all HMO plans operating in the United States, including Guam. A list of such HMO plans was obtained from InterStudy, Excelsior, Minnesota. The list included a total of 575 HMOs, updated as of January 1, 1990. For each HMO, the name, address, city,

state, zip code, telephone number and the name of the chief executive officer was provided.

The list was organized into two separate sections. The first section listed all the independent HMOs. The second section listed all the units of regional or nationally managed HMOs, companies that own or manage HMOs in two or more states and hereafter are referred to as multi-state HMOs. Of the 575 HMOs, 230 were independent HMOs and 345 were multi-state HMOs.

Before the main sampling, Wisconsin HMOs (the pretest sample) needed to be removed. The number of HMOs operating in Wisconsin and reported on the OCI list (30) in the pretest did not match InterStudy's list (29). InterStudy's list included the same HMOs, but one HMO organization was identified as four separate HMO plans. Also, the OCI list included four HMOs with headquarters outside Wisconsin, which InterStudy's directory had listed under their respective states. Therefore, 33 HMOs on InterStudy's list were covered by the pretest. However, only 32 of the 33 were excluded from the main sampling. The one HMO that was excluded in the pretest because it solicited insurance for Illinois residents of Wisconsin employers only was included in the main sampling. Therefore, the study population was reduced to 543 HMOs after removing the pretest HMOs. Furthermore, it was learned that

one multi-state HMO plan merged with one of its other plans. Thus, a total of 542 HMOs remained in the study population (207 independent and 335 multi-state HMOs) for the main survey.

In order to identify drug product management techniques used in these HMOs, it was decided to direct the questionnaire to the HMO pharmacy director, manager or coordinator (or someone who approximated that position). This person was considered the most appropriate person to ask about drug product management. Personalized contacts were attempted to help increase the response rate because the high response rate obtained in the pretest showed personalization was effective. However, a complete listing of HMO pharmacy directors did not exist. Therefore, an initial goal was to develop a complete list of such directors using various mailing lists. These lists were not adequate, thus phone calls were made in an attempt to improve the completeness of the list.

The names of HMO pharmacy directors were compiled using three different lists. Two lists were obtained from the directors of Managed Health Care Departments of pharmaceutical firms. These lists included the names and addresses of HMO pharmacy directors and other managed care executives. A third list was obtained from the Academy of Managed Care Pharmacy (AMCP). The AMCP list was comprised of organization members, of which many were

HMO pharmacy directors. Only those names explicitly identified by title (ie. pharmacy director or manager or the like) and HMO affiliation were used. These names were merged with InterStudy's directory and addresses were changed when necessary to reflect the most current information. A total of 132 pharmacy directors were identified, 54 from independent HMOs and 78 from multi-state HMOs.

Telephone calls were made to try and identify more HMO pharmacy directors. Since it was cost prohibitive to call all remaining HMOs, a decision was made to focus on the multi-state HMOs because each of these companies managed numerous HMOs. Calls were placed to all 31 multi-state HMO headquarters (as identified by InterStudy) to identify the names of pharmacy directors. A total of 72 additional names were identified within the multi-state HMOs and 16 additional names were identified within the independent HMOs. Consequently, the name of the pharmacy director or other key contact person was identified at 150 multi-state HMOs and at 70 independent HMOs.

During the course of those telephone calls, six multi-state HMO executives that were identified (five pharmacy directors and one medical director), representing a total of 68 multi-state HMO plans, verbally agreed to participate but would respond for their HMOs in aggregate. Therefore, a total

of 474 HMO plans (542 total less 68 represented by 6 aggregate responses) were included in the study population as individual sampling units. The 474 HMO plans included 207 independent and 267 multi-state HMOs.

The names of 70 pharmacy directors or other key contact people were identified within the 207 independent HMOs, leaving 137 unidentified. Of the 267 individual multi-state HMO plans, 144 names of pharmacy directors or other key contact people were identified, leaving 123 unidentified. For those HMO plans where it was not possible to identify an individual specific to the pharmacy benefit, the survey materials were addressed to the "Pharmacy Director" and the cover letter salutation read "Dear Pharmacy Director."

Data Collection

A mail survey method was selected over the telephone interview method because it was a more timely and cost effective means of gathering the same information (Dillman 1978). Also, through discussions with several HMO pharmacy directors, it was learned that many would not participate in telephone surveys.

On September 21, 1990, a pre-notification postcard was mailed, informing the respondents of the survey and encouraging participation. A total of 480

surveys were mailed on September 26, 1990, 474 to individual HMO plan contacts and six to the contacts agreeing to provide aggregate responses. Survey packets included a cover letter, return postage paid envelope and a postage paid postcard for the respondent to request the results of the survey (see Appendix D). Respondents were offered a summary of the results as an incentive to participate and were instructed to mail the request postcard separate from the survey to ensure anonymity.

The surveys were color coded to be able to monitor response rates. The two items monitored were whether the contact was personalized or not personalized ("Pharmacy Director"), and whether the HMO was independent or multi-state (national). Four groups within the main sampling resulted from this scheme. A total of 70 personalized independent surveys, 137 non-personalized independent surveys, 144 personalized multi-state surveys and 123 non-personalized multi-state surveys were mailed. The six surveys representing aggregate plan data from multi-state HMOs were personalized and further coded to flag those responses, by underlining each word in the phrase "THANK YOU FOR YOUR HELP!" that appeared on the last page of the survey. Table 4.1 summarizes the survey scheme.

TABLE 4.1 SURVEY SCHEME

	Type of contact		
HMO OWNERSHIP	PERSONAL	Non-PERSONAL	TOTAL
Independent	70	137	207
Multi-state (national)	144	123	267
Multi-state (national) but reporting aggregate data	6	-	6
TOTAL	220	260	480

On October 8, 1990, a follow-up postcard was mailed to non-responders (see Appendix D), reminding them of the survey and requesting their response. Responses were accepted through November 6, 1990, six weeks after the date of initial mailing.

Data Analysis

The responses were checked for completeness and coded for computer analysis. A copy of the coding format is in Appendix F. Data were entered into the computer using dBase III. All statistical tests were conducted using the

Statistical Package for the Social Sciences-PC (SPSS-PC).

Descriptive statistics were calculated, including frequencies, percentages, ranges and weighted scores where appropriate. Weighted scores were calculated to determine overall preferences for manufacturer's contract incentives. For each incentive, most preferred was weighted by three, second most preferred weighted by two, and third most preferred weighted by one to arrive at a total score. For ease of data presentation, all percentages reported are rounded to the nearest whole number. The multi-state aggregate responses received were analyzed separately from the individual HMO plan responses. Chi-square analyses were used to test the null hypotheses and included data only from the individual HMO plan responses. All Chi-square tests were conducted at an alpha of 0.05 level of significance.

Limitations

This study had some limitations. First, the survey was directed to the pharmacy director, or someone who approximated that position, at each of the HMO plans. Ideally, all would have been personalized but financial constraints and time constraints limited our ability to identify all of these executives. Those HMO plans where the pharmacy director was not personally identified may

have been different. These HMOs may not have established pharmacy directors, or equivalent positions or pharmacy service departments. Therefore, nonresponse bias may exist.

Second, the subject of research also may have increased nonresponse. Based on some study responses, some respondents thought the information requested about co-marketed and single-source contracts was proprietary and did not answer those questions. Other subjects may have held this opinion and chose not to respond.

Third, the number of HMO plans that represent the universe varied among sources. For example, InterStudy reported the universe as 575 HMO plans (as of January 1, 1990), whereas American Managed Care and Review Association listed 691 HMO plans (1989, exact date unknown). Furthermore, Marion Managed Care Digest, HMO Pharmacy Edition 1990, reported 643 HMO plans in operation (as of June 30, 1989). Thus, non-coverage error may exist.

Fourth, the preference for contract incentives reported by a respondent may not be correlated well with actual behavior. While respondents reported certain contract incentives to be preferred, if they were faced with a real contact negotiation with a manufacturer, their preferences may change.

Fifth, the survey was not designed to assess the effectiveness of drug product management strategies that were applied to the prescription drug benefit. No estimate of savings on cost control were solicited or derived.

Sixth, the exact number of members enrolled in each HMO plan was not requested. Therefore, the percentage of HMO enrollees represented by these data, in comparison to the total population enrolled in HMOs, can not be estimated adequately.

Seventh, the response rate for the main survey was 34.3 percent. Thus, two-thirds of the respondent HMOs were not represented by these data. Also, IPA model HMOs were under represented among respondents as compared to the universe and the study population. Thus, the results may not adequately describe methods of drug product management in IPA model HMOs.

CHAPTER 5

RESULTS

This chapter describes the survey findings and is organized into sections of a) respondent characteristics and b) each of the drug product management methods.

Respondent Characteristics

Of the 480 surveys mailed, five were returned as undeliverable and 163 surveys were returned by the end of the sixth week, for an overall response rate of 34.3 percent. One survey was not usable because most of the questions were not answered. Of the 162 surveys remaining, 158 responses represented individual plan data and four responses represented aggregate plan data from multi-state HMOs. Each aggregate response represented between five and 18 HMO plans. Aggregate responses are described as a "post script" in each area of analysis.

Response rates were calculated for each of the four survey groups and for the group representing the aggregate respondents and are presented in Table 5.1. Clearly, personalization increased the response rate. Overall, the

TABLE 5.1: RESPONSE RATES BY SURVEY GROUP

Survey Group	Surveys Mailed (N)	Surveys Undeliverable (N)	Surveys Returned (N)	Response Rate %
Personalized Independent	70	2	31	46%
Non-Personalized Independent	137	-	32	23
Personalized Multi-State	144	2	74	52
Non-Personalized Multi-State	123	1	22[b]	18
Aggregate Personalized Multi-State[a]	6	-	4	67
TOTAL	480	5	163	34%

[a] These respondents provided aggregate plan data on their multi-state HMOs. Each represents between 5 and 18 HMO plans.

[b] One survey was not usable.

158 respondents representing individual plan data included six (4%) executive directors, 19 (12%) medical directors, 93 (60%) pharmacy directors or pharmacists, four (2%) utilization review coordinators and 36 (23%) "others". The 36 "other" respondents had titles that included Vice President or Director of: Health Services (6), Operations (6), Provider Contracting (4), Product Management (2), Quality Assurance (5), Professional Services (1), Medical Services (1) and Special Programs (1); Associate Vice President (AVP) of: Pharmacy (1), and Associated Provider Services (2); Pharmacist Consultant (2); Administrative Analyst (4); and Claims Manager (1). The four aggregate respondents included one medical director, two corporate pharmacy directors and one managed care specialist (who also was a pharmacist).

Respondents' titles were crosstabulated with HMO model type to gain an understanding of who was responding. Table 5.2 shows respondents' titles by HMO model type. For staff and group models, pharmacists primarily responded, in contrast to network and IPA models where less than half were pharmacists.

The characteristics of responding HMOs were compared with the HMO universe and the study population and are summarized in Table 5.3. The study population was representative of the universe based on model type, enrollment,

TABLE 5.2: RESPONDENTS' TITLES BY HMO MODEL TYPE

	% of Respondents with the Title of				
HMO Model Type	Executive Director	Medical Director	Pharmacy Director or Pharmacist	Utilization Review Coordinator	Other
Staff (n=32)	3%	3%	94%	-	-
Group (n=25)	-	-	96	-	4%
Network (n=22)	5	32	41	-	23
IPA (n=79)	5	14	38	5%	38
TOTAL (n=158)	4%	12%	60%	2%	23%

NOTE: Totals across may not sum to 100% due to rounding.

TABLE 5.3: CHARACTERISTICS OF RESPONDING HMOs COMPARED TO THE UNIVERSE AND THE STUDY POPULATION

Characteristic	Universe[a]		Study Population[b]		Respondents[c]	
Model Type	N	%	N	%	N	%
Staff	59	10%	56	12%	32	20%
Group	65	11	59	12	25	16
Network	89	16	71	15	22	14
IPA	362	63	288	61	79	50
TOTAL	575	100%	474	100%	158	100%
Enrollment						
< 5,000	69	12%	49	10%	7	4%
5,000-14,999	125	22	105	22	18	11
15,000-24,999	99	17	85	18	18	11
25,000-49,999	122	21	102	22	53	34
50,000-99,999	75	13	62	13	26	16
100,000+	82	14	71	15	36	23
TOTAL	572[d]	100%	474	100%	158	100%
Geographic Region						
Northeast	115	20%	106	22%	35	22%
South[e]	163	28	142	30	46	29
West	121	21	98	21	30	19
Midwest	176	31	128[f]	27	47	30
TOTAL	575	100%	474	100%	158	100%
Ownership						
Independent	230	40%	207	44%	63	40%
National[g]	345	60	267	56	95	60
TOTAL	575	100%	474	100%	158	100%

a InterStudy's Directory.
b Excludes the six surveys that represented aggregate responses for 68 HMOs.
c Excludes the four respondents providing aggregate information.
d According to InterStudy, three HMOs contained only open-ended enrollees and as a result were excluded from the size of plan.
e Includes Guam.
f Excludes 32 HMOs covered by the pretest.
g Multi-State HMOs.

geographic region and ownership. However, the responding HMOs were comprised of more group and staff model HMOs and fewer IPA model HMOs as compared to the universe and the study population. Respondents were slightly skewed toward higher enrollment plans with 25,000 or more members. Respondents were geographically representative of the universe, however they did not include HMOs used in the pretest operating in Wisconsin. Furthermore, the ownership of responding HMOs was representative of the universe based on the classification of independent or national (multi-state) firm. All four aggregate respondents were from IPA model HMOs with 100,000 or more enrolled members.

A summary of enrollment size and model type for respondent HMOs is displayed in Table 5.4. A higher percentage of staff models had enrollments between 25,000 and 49,999 members and a higher percentage of group models enrolled more than 100,000 members. The network model HMOs had more plans enrolling less than 25,000 members.

Table 5.5 shows the primary pharmacy outlet used by responding HMOs by model type. A majority of both the staff and group model HMOs used in-house pharmacies. Network and IPA models almost exclusively used local community pharmacies. All four aggregate respondents used local community

TABLE 5.4: SUMMARY OF ENROLLMENT AND MODEL TYPE FOR RESPONDENT HMOs

	% of HMOs with an Approximate Enrollment of			
Model Type	<25,000	25,000 to 49,999	50,000 to 99,999	100,000+
Staff (n=32)	12%	44%	31%	12%
Group (n=25)	20	36	8	36
Network (n=22)	45	23	9	23
IPA (n=79)	30	32	15	23
TOTAL (n=158)	27%	34%	16%	23%

NOTE: Totals across may not sum to 100% due to rounding.

TABLE 5.5: PRIMARY PHARMACY OUTLET USED BY HMO MODEL TYPE

	% of HMOs Primarily Using	
Model Type	In-House Pharmacies	Local Community Pharmacies
Staff (n=32)	81%	19%
Group (n=25)	64	36
Network (n=22)	4	96
IPA (n=79)	1	99
TOTAL (n=158)	28%	72%

pharmacies (independent and/or chain).

A cursory comparison of early and late responses was performed. Early respondents were classified as those who responded within the first two weeks (n=104) and those responding after that period were classified as late respondents. Medical directors and "other" HMO executives tended to respond late. The only other difference was that group models tended to respond early and network models tended to respond late.

Drug Product Management Methods

The responses to questions about drug product management are presented by subject and follow the order of the stated objectives listed in chapter three. The null hypotheses are tested under the specific objective that applies to the hypothesis. Responses from the 158 respondents providing individual plan data and the four respondents providing aggregate plan data were segregated. Aggregate responses are presented as a post script in each section or after the individual response results are described. Excepted when noted, most of the tables presented pertain to the 158 respondents providing individual HMO plan data.

Formularies

Of the 158 HMOs providing individual plan data, 102 (65%) used a formulary. Formulary use by HMO model type is shown in Table 5.6. The null hypothesis that there is no relationship between HMO model type and formulary use was rejected. The Chi-square test showed a significant difference between HMO model type and formulary use. All staff model and nearly every group model HMO used some type of formulary, in contrast to network and IPA models where less than half used a formulary.

Of the 102 HMOs with formularies, 39 (38%) had a non-restrictive formulary and 63 (62%) had some type of restrictive formulary. Three of the four aggregate respondents used a formulary and each had a non-restrictive type. Table 5.7 summarizes the formulary types used by the different HMO models. The null hypothesis that there is no relationship between HMO model type and formulary type used was rejected. The Chi-square test revealed a significant difference between HMO model type and formulary type used. A majority of the staff and group model HMOs used a restrictive type of formulary, whereas a majority of network and half of IPA model HMOs used a non-restrictive formulary. For this Chi-square test, the restrictive formulary categories (restrictive and restrictive with exceptions) were grouped together to

TABLE 5.6: FORMULARY USE BY HMO MODEL TYPE[a]

Model Type	% (N) of HMOs Using Formulary	No Formulary
Staff (n=32)	100% (32)	-
Group (n=25)	96 (24)	4% (1)
Network (n=22)	45 (10)	55 (12)
IPA (n=79)	46 (36)	54 (43)
TOTAL (n=158)	65% (102)	35% (56)

[a] Chi-square = 44.33 (df = 3, $p < 0.001$, Cramer's V = 0.53)

TABLE 5.7: FORMULARY TYPE USED BY HMO MODEL TYPE[a]

Model Type	% (N) of HMOs Using Restrictive Type[b]	Non-Restrictive
Staff (n=32)	84% (27)	16% (5)
Group (n=24)	62 (15)	38 (9)
Network (n=10)	30 (3)	70 (7)
IPA (n=36)	50 (18)	50 (18)
TOTAL (n=102)	62% (63)	38% (39)

[a] Chi-square = 13.32 (df = 3, p = 0.004, Cramer's V = 0.36)
[b] Includes those that used either a restrictive formulary or a restrictive formulary that allows exceptions.

avoid cells with expected frequencies of less than five.

Formulary use by HMO enrollment size is shown in Table 5.8. Based on the Chi-square test, the null hypothesis that there is no relationship between HMO enrollment size and formulary use was rejected. An association exists between formulary use and size of plan. HMOs with 25,000 or more members were likely to use a formulary and HMOs with less than 25,000 members were likely not to use a formulary.

Formulary types used by HMO enrollment size are presented in Table 5.9. The Chi-square test failed to reject the null hypothesis that there is no relationship between HMO enrollment size and formulary type used. Approximately the same proportion of the HMOs used a restrictive type formulary and about the same proportion used a non-restrictive formulary within each enrollment size category. For this Chi-square test, the restrictive formulary categories again were grouped together to avoid cells with expected frequencies of less than five.

A crosstabulation between formulary type and ownership showed that 54 percent of the independent HMOs had some type of formulary compared to 72 percent of the multi-state HMOs.

Information about the type of primary pharmacy outlet and the type of

TABLE 5.8: FORMULARY USE BY HMO ENROLLMENT SIZE[a]

Enrollment	% (N) of HMOs Using Formulary	No Formulary
< 25,000 (n=43)	47% (20)	53% (23)
25,000 to 49,999 (n=53)	72 (38)	28 (15)
50,000 to 99,999 (n=26)	73 (19)	27 (7)
100,000+ (n=36)	69 (25)	31 (11)
TOTAL (n=158)	65% (102)	35% (56)

[a] Chi-square = 8.50 (df = 3, p = 0.037, Cramer's V = 0.23)

TABLE 5.9: FORMULARY TYPE USED BY HMO ENROLLMENT SIZE[a]

Enrollment	% (N) of HMOs Using Restrictive Types[b]	Non-Restrictive
< 25,000 (n=20)	65% (13)	35% (7)
25,000 to 49,999 (n=38)	61 (23)	39 (15)
50,000 to 99,999 (n=19)	58 (11)	42 (8)
100,000+ (n=25)	64 (16)	36 (9)
TOTAL (n=102)	62% (63)	38% (39)

[a] Chi-square = 0.29 (df = 3, p = 0.962)
[b] Includes those that used either a restrictive formulary or a restrictive formulary that allows exceptions.

formulary used by an HMO is displayed in Table 5.10. All HMOs that used in-house pharmacies as a primary outlet had some type of formulary and over three-fourths used either a restrictive formulary or a restrictive formulary that routinely allowed exceptions. Almost half (49%) of the HMOs that used local community pharmacies as a primary outlet had no established formulary.

The timeliness with which formularies were updated was examined. Table 5.11 shows the frequency of formulary revisions by HMO model type. Of the 102 HMOs that used a formulary, 94 HMOs provided information. Overall, 43 percent of the HMOs made quarterly revisions and 32 percent of the HMOs made monthly revisions. Of those HMOs that made "other" revisions (n=9), five made revisions on an as needed basis, and four made revisions every other month. More staff model HMOs made monthly revisions. Network and IPA model HMOs most often made quarterly revisions. Of the three aggregate respondents that used formularies, one made semi-annual revisions and another made annual revisions. The other aggregate respondent did not provide information.

P&T Committees

Of the 158 respondents reporting individual plan data, 157 provided

TABLE 5.10: FORMULARY USE BY PRIMARY PHARMACY OUTLET

Primary Pharmacy Outlet	% of HMOs Using			
	Restrictive	Restrictive with Exceptions	Non-Restrictive	None
In-House (n=44)	25%	61%	14%	-
Local Community Pharmacies (n=114)	7%	15%	29%	49%
TOTAL (n=158)	**12%**	**28%**	**25%**	**35%**

TABLE 5.11: FORMULARY REVISION BY HMO MODEL TYPE

Model Type	% of HMOs Revising				
	Monthly	Quarterly	Semi-annually	Annually	Other
Staff (n=32)	44%	31%	9%	6%	9%
Group (n=23)[a]	35	39	9	-	17
Network (n=8)[b]	12	50	25	-	12
IPA (n=31)[c]	23	55	16	3	3
TOTAL (n=94)	**32%**	**43%**	**13%**	**3%**	**10%**

[a] Of 24 group models, 23 provided information.
[b] Of 10 network models, 8 provided information.
[c] Of 36 IPA models, 31 provided information.

information on their use of a P&T Committee. A total of 108 (69%) HMOs used a P&T Committee. The comparison of use of a P&T Committee by HMO model type showed that 97 percent (31 of 32) of the staff model HMOs and 88 percent (22 of 25) of the group model HMOs had such a committee. Only 54 percent (12 of 22) of the network model and 55 percent (43 of 78) of the IPA model HMOs used a P&T Committee. Two of the four aggregate respondents used a P&T Committee. A crosstabulation between P&T Committee and HMO ownership showed that 64 percent of the independent and 72 percent of the multi-state HMOs used a P&T committee.

Table 5.12 summarizes the P&T Committee composition (by member title) based on the 108 HMOs that used this committee and had such members. The mode and range of members per title also are presented. A typical HMO P&T Committee had eight members which included one medical director, four other physicians, one pharmacy director and two other pharmacists. Other health professionals and HMO administrators were less often reported as committee members. One aggregate respondent reported that committees generally had six other physicians, one pharmacy director and one other pharmacist as members. The other aggregate respondent reported one medical director, three other physicians and one pharmacy director on their P&T

TABLE 5.12: PHARMACY AND THERAPEUTICS COMMITTEE COMPOSITION IN HMOs[a]

P & T Committee Member Title	Number of HMOs With Such Members	% of HMOs With Such Members	Mode Per Title	Range Per Title[b]
HMO Administrator	37	34%	1	1-2
Medical Director	80	74	1	1-3
Other Physicians[c]	103	95	4	1-12
Nurses	51	47	1	1-3
Pharmacy Director	91	84	1	1-3
Other Pharmacists[d]	85	79	2	1-5
Physician Assistants	10	9	1	1-5
Others	26	24	1	1-3

[a] Based on 108 HMOs that used a P&T Committee.
[b] When present.
[c] Physicians other than the Medical Director.
[d] Pharmacists other than the Pharmacy Director.

Committees.

Almost one-quarter of all committees had "other" members. These "other" committee members included the quality assurance coordinator (7 respondents citing) and the marketing director (5 respondents citing). The benefits manager, planning and research personnel, a clinical pharmacologist and risk manager also were "other" members, each cited by two respondents. The pharmacy processor, a finance manager, a medical (non-physician) professional, a utilization review coordinator, a clinic supervisor and a hospital administrator each were reported by one respondent as "other" members present on their committee.

P&T Committee members by HMO model type are shown in Table 5.13. More network and IPA model HMOs had a medical director as a P&T Committee member. Other physicians were members of every committee within the staff model HMOs. Nurses were members of a majority of the network model HMO P&T Committees. More staff and group model HMOs had pharmacy directors present on their committees. Physician assistants almost exclusively were members on staff model HMO committees. Also, more staff models had "other" committee members present.

The crosstabulation between P&T Committee use and HMO plan size

TABLE 5.13: PHARMACY AND THERAPEUTICS COMMITTEE COMPOSITION BY HMO MODEL TYPE

	% HMOs With Such Members							
Model Type	HMO Adm.	Med. Dir.	Other MDs	RNs	Pharm. Dir.	Other RPhs	Phys. Assist.	Other
Staff (n=31)	32%	55%	100%	48%	97%	77%	29%	39%
Group (n=22)	18	64	95	50	95	91	4	32
Network (n=12)	33	83	83	67	67	75	-	25
IPA (n=43)	44	91	95	40	74	74	-	9
TOTAL (n=108)	34%	74%	95%	47%	84%	79%	9%	24%

revealed that 51 percent (22 of 43) of plans with less than 25,000 members used a P&T Committee, as did 77 percent (41 of 53) of plans with 25,000 to 49,999 members, 81 percent (21 of 26) of plans with 50,000 to 99,999, and 69 percent (24 of 35) of plans with 100,000 or more members.

The P&T Committee member's association to the HMO was analyzed for each model type and summarized in Table 5.14. P&T committee members in staff model HMOs were primarily in-house employees or staff members. Committee members within group model HMOs largely were in-house, but some committee members were actual providers. In 26 of 31 staff model HMOs, all members were in-house employees or staff members. In 11 of 18 group model HMOs, all members were in-house employees or staff members.

P&T Committee member association in network model HMOs typically was about 40 percent in-house employees or staff members and about 60 percent actual providers who were not in-house employees or staff members. In IPA model HMOs, about 30 percent of members were in-house employees or staff members and about 70 percent were actual providers. Five network and six IPA model HMOs used consultants on their committees, ranging between 10 and 100 percent and between 10 and 80 percent respectively.

In the HMOs represented by the two aggregate respondents using P&T

TABLE 5.14: PHARMACY AND THERAPEUTICS COMMITTEE MEMBER ASSOCIATION IN THE FOUR HMO MODEL TYPES

Model Type and Member Association With the HMO	Mean (%)	Mode (%)	Number @ Mode	Range(%)
Staff Model				
In-House (n=31)[a]	94%	100%	26	40-100%
Actual Provider (n=4)	30	-	-	10-50
Consultants (n=3)	17	10	2	10-30
Group Model				
In-House (n=18)	84%	100%	11	30-100%
Actual Provider (n=8)	65	100/50	3/3	10-100
Consultants (n=3)	17	20	2	10-20
Network Model				
In-House (n=11)	43%	50%	4	20-100%
Actual Provider (n=8)	63	50	3	50-80
Consultants (n=5)	37	50	2	10-100
IPA Model				
In-House (n=35)	32%	30%	7	10-60%
Actual Provider (n=40)	71	70	7	40-100
Consultants (n=6)	30	10/20	2/2	10-80
Other[b] (n=2)	14	-	-	12-15

[a] Number of HMOs reporting P&T Committee Members having this association with the HMO.

[b] Members of the pharmacy network.

Committees, one respondent reported 25 percent of members were in-house employees or staff members and 75 percent were actual providers who were not in-house employees or staff members. The other respondent reported 60 percent of P&T Committee members were in-house employees or staff members and 40 percent were actual providers who were not in-house employees or staff members.

Maximum Allowable Costs (MACs)

Of the 158 respondents reporting individual plan data, 157 provided information on their use of maximum allowable costs (MACs). Eighty-four (54%) HMOs set MACs for some drug entities. About two-thirds (51 of 78) of the IPA model HMOs and more than half (12 of 22) of the network model HMOs set MACs for some drug entities. Less than half (11 of 25) of the group model HMOs and about one-third (10 of 32) of the staff model HMOs set MACs for some drug entities. Two of the four aggregate respondents set MACs for some drug entities.

Larger HMO plans tended to set MACs more often. Forty-nine percent (21 of 43) and 44 percent (23 of 52) of the plans with less than 25,000 members and with 25,000 to 49,999 members respectively, set MACs. In contrast, 69

percent (18 of 26) of the plans with 50,000 to 99,999 members and 61 percent (22 of 36) of those plans with 100,000 or more members had MACs for some drug entities.

The crosstabulation between ownership and the use of MACs showed that 48 percent (30 of 63) of the independent HMOs set MACs compared to 57 percent (54 of 94) of the national, multi-state HMOs.

Of the 84 HMOs that set MACs for some drug entities, 83 provided information on whether they used their State Medicaid MAC list to help develop their lists. The State Medicaid MAC list was used as a template by 35 (42%) of these HMOs and included six of 10 staff models, four of 11 group models, six of 12 network models and 19 of 50 IPA model HMOs. Neither of the two aggregate respondents that set MACs used State Medicaid MAC lists as templates in developing their lists.

The crosstabulation between the use of State Medicaid MAC lists and HMO ownership revealed that 53 percent (16 of 30) of the independent HMOs used their State Medicaid MAC list to help develop their own list. Only 36 percent (19 of 53) of the national, multi-state HMOs used a State Medicaid MAC list as a template for developing their own list.

Thirty-three of the 35 HMOs that used their State Medicaid MAC list as

a template provided information about the relative number of drug entities adopted. Thirteen (39%) HMOs reported that the number of drug entities on their MAC list was about the same (covered about the same number of entities) as their State Medicaid MAC list. Another 13 (39%) HMOs reported their lists were more extensive (covered more entities) than their State Medicaid MAC list. The remaining seven (21%) HMO MAC lists were less extensive (covered fewer entities).

Prior Authorization

Of the 158 HMOs providing individual plan data, 65 (41%) used prior authorization as a drug product management tool. Half (16 of 32) of the staff model HMOs and nearly half (12 of 25) of the group model HMOs used prior authorization to manage the use of legend drug products. In contrast, 27 percent (6 of 22) of the network models used prior authorization. Thirty-nine percent (31 of 79) of the IPA model HMOs also used this management tool. One of the four aggregate respondents used prior authorization.

The crosstabulation between size of plan and prior authorization revealed that only 23 percent (10 of 43) of the plans with less than 25,000 members used this tool. Use of prior authorization peaked at 57 percent (30 of 53) for plans

that enrolled 25,000 to 49,999 members. Prior authorization use declined to 42 percent (11 of 26) in plans that enrolled 50,000 to 99,999 and to 39 percent (14 of 36) in plans that enrolled 100,000 or more members.

HMO ownership was crosstabulated with prior authorization and showed that almost the same percentage of independent and national, multi-state HMOs used this strategy. Forty percent (25 of 63) of the independent HMOs and 42 percent (40 of 95) of the national, multi-state HMOs reportedly applied prior authorization to manage the use of specific legend drug products.

Of the 65 HMOs that used prior authorization, 61 HMOs provided information on the number of legend drug products that required such authorization. Thirty (49%) HMOs applied it to less than five drug products, 21 (34%) HMOs applied it to between five and 10 drug products, five (8%) applied it to between 11 and 15 drug products and another five (8%) applied it to more than 15 products. The one aggregate respondent that used prior authorization applied it to between five and 10 products.

Contracts for Licensed Co-marketed Drug Entities

Participation in contracts for licensed co-marketed drug entities by HMO model type is shown in Table 5.15. Of 156 HMOs reporting individual plan

TABLE 5.15: PARTICIPATION IN CONTRACTS FOR LICENSED CO-MARKETED DRUG ENTITIES BY HMO MODEL TYPE AND BY HMO ENROLLMENT SIZE

	% (N) of HMOs with Co-marketed Contracts	
Model Type[a]	Yes	No
Staff (n=32)	84% (27)	16% (5)
Group (n=24)	75 (18)	25 (6)
Network (n=22)	27 (6)	73 (16)
IPA (n=78)	24 (19)	76 (59)
TOTAL (n=156)	45% (70)	55% (86)
Enrollment[b]		
< 25,000 (n=43)	19% (8)	81% (35)
25,000 to 49,999 (n=53)	51 (27)	49 (26)
50,000 to 99,999 (n=26)	58 (15)	42 (11)
100,000+ (n=34)	59 (20)	41 (14)
TOTAL (n=156)	45% (70)	55% (86)

[a] Chi-square = 45.02 (df = 3, $p < 0.001$, Cramer's V = 0.54)
[b] Chi-square = 17.19 (df = 3, $p < 0.001$, Cramer's V = 0.33)

data, 70 (45%) HMOs had contracts with manufacturers for licensed co-marketed drug entities. Two respondents did not report this information and one of these stated it was proprietary. More than three-fourths of the staff model HMOs and three-fourths of the group model HMOs participated in such contracts. Only about one-fourth of network model and IPA model HMOs engaged in such contracting. The null hypothesis that there is no relationship between HMO model type and participation in manufacturer contracts for licensed co-marketed drug entities was rejected. The Chi-square test showed a significant difference between HMO model type and participation in co-marketed contracts. Staff and group model HMOs participated more often and network and IPA model HMOs participated less often in co-marketed contracts. Two of the four aggregate respondents had contracts for licensed co-marketed drug entities.

Participation in contracts for licensed co-marketed drug entities by HMO enrollment size also is displayed in Table 5.15. The null hypothesis that there is no relationship between HMO enrollment size and participation in manufacturer contracts for licensed co-marketed drug entities was rejected. The Chi-square test revealed significant differences between HMO enrollment size and participation in co-marketed contracts. HMOs with 25,000 or more

members were likely to participate and HMOs with less than 25,000 members were likely not to participate in contracts for licensed co-marketed drug entities.

The crosstabulation between HMO ownership and contracts for licensed co-marketed drug entities revealed that slightly more than one-third (35% 22 of 63) of the independents contracted for such products. More than half (52%, 48 of 93) of the national, multi-state HMOs had contracts for licensed co-marketed drug entities. However, the Chi-square test showed no significant difference between HMO ownership and co-marketed contract participation (Chi-square=3.58, df=1, p=.0584). The null hypothesis that there is no relationship between HMO ownership type and participation in manufacturer contracts for co-marketed drug entities was not rejected. Approximately the same proportion of independent and multi-state HMOs had contracts for licensed co-marketed drug entities.

Participation in co-marketed contracts and formulary use is shown in Table 5.16. The Chi-square test revealed a significant difference between formulary use and participation in such contracts. The null hypothesis that there is no relationship between formulary use and participation in manufacturer contracts for licensed co-marketed drug entities was rejected. HMOs with formularies were likely to have co-marketed contracts, and HMOs

TABLE 5.16: PARTICIPATION IN CONTRACTS FOR LICENSED CO-MARKETED DRUG ENTITIES BY FORMULARY USE AND BY FORMULARY TYPE USED

	% (N) of HMOs with Co-Marketed Contracts	
Formulary Use[a]	Yes	No
Yes (n=100)	69% (69)	31% (31)
No (n=56)	2 (1)	98 (55)
TOTAL (n=156)	**45% (70)**	**55% (86)**
Formulary Type Used[b]		
Restrictive Type[c] (n=62)	68% (42)	32% (20)
Non-Restrictive (n=38)	71 (27)	29 (11)
TOTAL (n=100)	**69% (69)**	**31% (31)**

[a] Chi-square = 65.57 (df = 1, $p < 0.001$, Phi Coefficient = 0.65)
[b] Chi-square = 0.11 (df = 1, $p < 0.700$)
[c] Includes those that used either a restrictive formulary or a restrictive formulary that allows exceptions.

without formularies were less likely to have such contracts.

Table 5.16 also shows participation in contracts for licensed co-marketed drug entities by formulary type used. The null hypothesis that there is no relationship between formulary type used and participation in manufacturer contracts for licensed co-marketed drug entities was not rejected. The Chi-square test revealed no significant difference between formulary type used and participation in such contracts. Approximately the same proportion of HMOs with restrictive and non-restrictive formularies had contracts.

Of those 70 HMOs that had contracts for licensed co-marketed drug entities, 69 provided information on the number of contracts held and the typical length. One respondent could not answer these questions because such matters were handled at a higher level in the organization. Of the 69 HMOs, 21 (30%) had one to five contracts, 19 (28%) had six to 10 contracts, 11 (16%) had 11 to 15 contracts and 18 (26%) had more than 15 contracts for licensed co-marketed drug entities. The typical length of a contract for a licensed co-marketed product reported by 41 (59%) HMOs was one year. The remaining 28 (41%) HMOs reported contract lengths greater than one year. Both aggregate respondents had between six and 10 co-marketed contracts, and each reported contract lengths greater than one year.

Contracts for Single-source Drug Entities

Participation in contracts for single-source drug entities by HMO model type is displayed in Table 5.17. Of 157 HMOs providing individual plan data, 71 (45%) HMOs had contracts that applied to specific products within therapeutic drug classes where primarily single-source drug entities are available. One respondent choose not to report this information and stated it was proprietary. More than three-fourths of both staff and group model HMOs had contracts with manufacturers for single-source drug entities. There was one additional staff model and one additional group model HMO that contracted for single-source drug entities as compared to the number contracting for licensed co-marketed drug entities. The same number (6 of 22) of network models contracted for single-source drug entities as did for licensed co-marketed drug entities. Twenty-three percent (18 of 79) of the IPA model HMOs also contracted for single-source drug entities, one less than the number engaged in contracts for licensed co-marketed drug entities. Of the 71 HMOs that had single-source contracts, 64 (90%) also had contracts with manufacturers for licensed co-marketed drug entities. The same two aggregate respondents that had contracts for licensed co-marketed drug entities also had contracts for single-source drug entities.

TABLE 5.17: PARTICIPATION IN CONTRACTS FOR SINGLE-SOURCE DRUG ENTITIES BY HMO MODEL TYPE AND BY HMO ENROLLMENT SIZE

	% (N) of HMOs with Single-Source Contracts	
Model Type[a]	Yes	No
Staff (n=32)	88% (28)	12% (4)
Group (n=24)	79 (19)	21 (5)
Network (n=22)	27 (6)	73 (16)
IPA (n=79)	23 (18)	77 (61)
TOTAL (n=157)	45% (71)	55% (86)
Enrollment[b]		
< 25,000 (n=43)	12% (5)	88% (38)
25,000 to 49,999 (n=53)	53 (28)	47 (25)
50,000 to 99,999 (n=26)	62 (16)	38 (10)
100,000+ (n=35)	63 (22)	37 (13)
TOTAL (n=157)	45% (71)	55% (86)

[a] Chi-square = 53.17 (df = 3, $p < 0.001$, Cramer's V = 0.58)
[b] Chi-square = 28.02 (df = 3, $p < 0.001$, Cramer's V = 0.42)

The null hypothesis that there is no relationship between HMO model type and participation in manufacturer contracts for single-source drug entities was rejected. The Chi-square test showed a significant difference between HMO model type and participation in single-source contracts. Consistent with results about contract participation for licensed co-marketed drug entities, staff and group model HMOs participated more often and network and IPA model HMOs participated less often in contracts with manufacturers for single-source drug entities.

HMO enrollment size and participation in contracts for single-source drug entities also is shown in Table 5.17. The Chi-square test showed significant differences between HMO enrollment size and participation in single-source contracts. The null hypothesis that no relationship between HMO enrollment size and participation in manufacturer contracts for single-source drug entities was rejected. HMOs with more than 25,000 members were likely to participate and HMOs with less than 25,000 members were likely not to participate in contracts for single-source drug entities.

The crosstabulation between HMO ownership and contracts for single-source drug entities showed that 38 percent (24 of 63) of the independents had such contracts and half (47 of 94) the national, multi-state HMOs participated

in single-source contracts. The Chi-square test found no significant differences between HMO ownership and participation in single-source contracts (Chi-square=1.70, df=1, p=0.192). Thus, the null hypothesis that there is no relationship between HMO ownership type and participation in manufacturer contracts for single-source drug entities was not rejected.

Participation in single-source contracts and formulary use is shown in Table 5.18. The Chi-square test showed a significant difference between formulary use and participation in such contracts. The null hypothesis that there is no relationship between formulary use and participation in manufacturer contracts for single-source drug entities was rejected. HMOs with formularies were likely to have single-source contracts and HMOs without formularies were not likely to have such contracts.

Table 5.18 also shows participation in contracts for single-source drug entities by formulary type used. The null hypothesis that there is no relationship between formulary type used and participation in manufacturer contracts for single-source drug entities was not rejected. The Chi-square test revealed no significant differences between formulary type used and participation in such contracts. Approximately the same proportion of HMOs with restrictive and non-restrictive formularies had contracts for single-source

TABLE 5.18: PARTICIPATION IN CONTRACTS FOR SINGLE-SOURCE DRUG ENTITIES BY FORMULARY USE AND BY FORMULARY TYPE USED

	% (N) of HMOs with Single-Source Contracts	
Formulary Use[a]	Yes	No
Yes (n=101)	68% (69)	32% (32)
No (n=56)	4 (2)	96 (54)
TOTAL (n=157)	45% (71)	55% (86)
Formulary Type Used[b]		
Restrictive Type[c] (n=63)	71% (45)	29% (18)
Non-Restrictive (n=38)	63 (24)	37 (14)
TOTAL (n=101)	68% (69)	32% (32)

[a] Chi-square = 60.93 (df = 1, $p < 0.001$, Phi Coefficient = 0.62)
[b] Chi-square = 0.75 (df = 1, $p < 0.500$)
[c] Includes those that used either a restrictive formulary or a restrictive formulary that allows exceptions.

drug entities.

Of the 71 HMOs that had contracts for single-source drug entities, 70 provided information on the number of contracts held and 69 provided information about the typical length. Those that choose not to respond stated the information was proprietary. Sixteen (23%) HMOs had one to five contracts, another 16 (23%) had six to 10 contracts, 11 (16%) had 11 to 15 contracts and 27 (39%) had more than 15 contracts for single-source drug entities. The typical length of a contract for a single-source drug entity reported by 40 (58%) HMOs was one year. The other 29 (42%) reported the contract length was greater than one year. One aggregate respondent had six to 10 contracts for single-source drug entities and the other had 11 to 15 contracts. Both reported contract lengths of greater than one year for single-source drug entities.

Manufacturer Contract Incentives

The types of incentives reportedly received from manufacturer contracts for licensed co-marketed and single-source drug entities are shown in Table 5.19. These data are based on 68 of 70 HMOs with contracts for licensed co-marketed drug entities and 69 of 71 HMOs with contracts for single-source drug

TABLE 5.19: INCENTIVES RECEIVED FROM MANUFACTURER CONTRACTS BY HMOs

Incentive	Co-Marketed Contracts % of HMOs that Received[a]	Single-Source Contracts % of HMOs that Received[b]
Price protection[c]	87%	81%
Rebates based on utilization	72	67
Discounts	66	65
Manufacturer's value added services	57	55
Rebates based on market share	53	58
Discounts based on market share	46	45
Grant money[d]	40	45
Rebates based on bundling[e]	38	43
"Other"[f]	3	4

[a] Based on 68 of the 70 HMOs that participated in such contracts.
[b] Based on 69 of the 71 HMOs that participated in such contracts.
[c] Price will not increase during the time covering the contract.
[d] Money received without stipulation.
[e] Generally stipulates that rebates for both product A and B will be received only if product B is also placed on the formulary.
[f] Rebates without performance requirements, and funding a staff pharmacist position.

entities. Although the other two respondents participated in such contracts, one reported a pharmacy buying group negotiated the contracts for the HMO and the other reported that negotiations were conducted by higher level management. Thus, neither was able to provide this information.

Incentives received from single-source contracts paralleled what was received from co-marketed contracts. A majority of HMOs received discounts, manufacturer's value added services, price protection, rebates based on market share and rebates based on utilization, from both contract types. Price protection was the most frequently received incentive from contracts for both co-marketed and single-source drug entities, followed by rebates based on utilization and discounts. Rebates based on bundling were the least likely incentive received from either contract (excluding the "other" category). One of the two aggregate respondents reportedly received discounts, grant money and rebates based on utilization for both licensed co-marketed and single-source contracts. The other aggregate respondent received every incentive except rebates based on utilization and "other", for both contract types.

In contrast to what was received, respondents' preferences for contract incentives were tabulated and are summarized in Table 5.20. The results showed that for both co-marketed and single-source contracts, the "most"

TABLE 5.20: PREFERENCE FOR MANUFACTURER'S CONTRACT INCENTIVES BY RESPONDENTS IN HMOs

	NUMBER OF RESPONDENTS PREFERRING							
	For Co-Marketed Contracts[a]				For Single-Source Contracts[b]			
Incentive	Most[c]	2nd Most[d]	3rd Most[e]	Weighted Score[g]	Most[c]	2nd Most[d]	3rd Most[f]	Weighted Score[g]
Discounts	30	3	3	99	32	6	2	110
Rebates based on utilization	19	15	10	97	16	17	9	91
Price protection	5	18	10	61	6	16	17	67
Rebates based on market share	6	12	6	48	4	9	10	40
Discounts based on market share	4	10	3	35	6	9	1	37
Grant money	-	2	9	13	-	1	12	14
Rebates based on bundling	-	2	8	12	-	2	4	8
Manufacturer's value added services	-	2	7	11	-	4	3	11
Other	2	-	-	6	2	-	-	6

[a] Based on 68 of the 70 HMOs that participated in such contracts.
[b] Based on 69 of the 71 HMOs that participated in such contracts.
[c] 66 respondents reported a most preferred incentive.
[d] 64 respondents reported a 2nd most preferred incentive.
[e] 56 respondents reported a 3rd most preferred incentive.
[f] 58 respondents reported a 3rd most preferred incentive.
[g] Scores based on weight. For each incentive, most preferred was weighted by 3, 2nd most preferred weighted by 2, and 3rd most preferred weighted by 1 to arrive at a total score.

preferred incentive was discounts by 45 percent (30/66) of the HMOs and 48 percent (32/66) of the HMOs, respectively. For co-marketed contracts, the "second most" preferred incentive was price protection by 28 percent (18/64) of the HMOs. Rebates based on utilization was "second most" preferred for single-source contracts, by 27 percent (17/64) of the HMOs. Price protection and rebates based on utilization were "third most" preferred each by 18 percent (10/56) of the HMOs, for co-marketed contracts. Price protection was clearly the "third most" preferred for single-source contracts by 29 percent (17/58) of the HMOs. Grant money, manufacturer's value added service, and rebates based on bundling were only "second most" and "third most" choice preferences for both contract types.

A weighted score was calculated for each incentive to determine overall preferences. For each incentive, "most" preferred was weighted by three, "second most" preferred weighted by two, and "third most" preferred weighted by one to arrive at a total score. Overall, by weighted scores, discounts were preferred first, followed by rebates based on utilization and price protection for both contract types. For co-marketed contracts, manufacturer's value added services were preferred least (excluding the "other" category). For single-source contracts, rebates based on bundling were preferred least (excluding the "other"

category).

The preference for manufacturer contract incentives of the two aggregate respondents also were reviewed. One respondent's "most" preferred incentive was discounts, followed by price protection and grant money, for both contract types. The other respondent's "most" preferred incentive was rebates based on utilization, followed by grant money and discounts, for both contract types. These responses were similar to those for individual HMO respondents.

"Exclusive" and "Preferred" Status

"Exclusive" or "preferred" status was assigned to characterize the reimbursement for (or dispensing of) licensed co-marketed or single-source drug entities. "Exclusive" status was characterized as reimbursement (or dispensing) that is restricted to one co-marketed entity or to one single-source entity within a therapeutic class. "Preferred" status was characterized as reimbursement (or dispensing) that is not restricted but encourages one co-marketed or one or several single-source drug entities within a therapeutic class to be dispensed.

"Exclusive" and "Preferred" Status for Licensed Co-marketed Drug Entities

The use of "exclusive" status by responding HMOs based on participation in licensed co-marketed contracts is shown in Table 5.21. Of the 158 usable responses from individual plans, seven respondents did not provide information and one of these stated it was proprietary. Among these remaining 151 HMOs, 52 (34%) applied "exclusive" status to licensed co-marketed drug entities. Of these 52 HMOs, 47 (90%) had contracts for such drug entities. Sixty-seven percent of those contracting for co-marketed drug entities used "exclusive" status to manage these products. The null hypothesis that there is no relationship between participation in manufacturer contracts for licensed co-marketed drug entities and "exclusive" status for licensed co-marketed drug entities was rejected. The Chi-square test showed a significant difference between contract participation and the use of "exclusive" status. HMOs with contracts for licensed co-marketed drug entities were likely to apply "exclusive" status to such products, and HMOs without these contracts were not likely to use this status in managing these products. Contracts for co-marketed drug entities and the application of "exclusive" status to these products go together.

The use of "preferred" status based on participation in licensed co-

TABLE 5.21: USE OF "EXCLUSIVE" AND "PREFERRED" STATUS BY CO-MARKETED CONTRACT PARTICIPATION

Co-Marketed Contracts	% (N) of HMOs Using "Exclusive" Status[a]	
	Yes	No
Yes (n=70)	67% (47)	33% (23)
No (n=81)	6 (5)	94 (76)
TOTAL (n=151)	34% (52)	66% (99)

Co-Marketed Contracts	% (N) of HMOs Using "Preferred" Status[b]	
	Yes	No
Yes (n=70)	66% (46)	34% (24)
No (n=79)	6 (5)	94 (74)
TOTAL (n=149)	34% (51)	66% (98)

[a] Chi-square = 61.79 (df = 1, $p < 0.001$, Phi Coefficient = 0.64)
[b] Chi-square = 58.13 (df = 1, $p < 0.001$, Phi Coefficient = 0.62)

marketed contracts also is displayed in Table 5.21. Nine respondents did not provide information and two of these stated it was proprietary. Fifty-one of 149 (34%) HMOs designated "preferred" status to licensed co-marketed drug entities. Of these 51 HMOs, 46 (90%) had contracts for such drug entities. Sixty-six percent of those contracting for co-marketed drug entities used "preferred" status to manage these products. The Chi-square test revealed a significant difference between contract participation and the use of "preferred" status. The null hypothesis that there is no relationship between participation in manufacturer contracts for licensed co-marketed drug entities and "preferred" status for licensed co-marketed drug entities was rejected. HMOs with contracts for licensed co-marketed drug entities were likely to apply "preferred" status to such products and HMOs without these contracts were not likely to use this status in managing these products. Co-marketed contracts and the application of "preferred" status to these products also go together.

Twenty-nine HMOs, of which 27 had co-marketed contracts, used both "exclusive" and "preferred" status but applied them separately to different co-marketed products. "Exclusive" and "preferred" status were about equally popular, when only one status was used to manage contracted licensed co-marketed drug entities. Of the 47 HMOs that contracted for co-marketed drug

entities and reportedly applied "exclusive" status, 20 used "exclusive" status alone. Of the 46 HMOs that contracted with co-marketed drug entities and reportedly applied "preferred" status, 19 used "preferred" status alone.

The use of "exclusive" and "preferred" status by the aggregate respondents also was analyzed. Two respondents neither used "exclusive" or "preferred" status and had no contracts for such products. The other two respondents had contracts for co-marketed products. Of these, one respondent applied "exclusive" status to co-marketed drug entities and both applied "preferred" status to such products. Thus, one aggregate respondent used both "exclusive" and "preferred" status but applied them separately to different co-marketed products.

The number of co-marketed drug entities with "exclusive" status (based on 52 HMOs using) and those with "preferred" status (based on 51 HMOs using) were quantified. Fourteen (27%) HMOs reportedly had between one and five "exclusive" co-marketed drug entities, 16 (31%) reported six to 10 such products, seven (13%) reported 11 to 15 products and the other 15 (29%) HMOs reported more than 15. Whereas, 29 (57%) HMOs reportedly had one to five "preferred" co-marketed drug entities, 11 (22%) reported six to 10, two (4%) reported 11 to 15 and nine (18%) reported more than 15. The aggregate

respondent that used "exclusive" status applied it to between one and five products. Of the two aggregate respondents that used "preferred" status, one applied it to between one and five products and the other to between six and 10 products.

"Exclusive" and "Preferred" Status for Single-source Drug Entities

Table 5.22 summarizes the use of "exclusive" status by responding HMOs based on participation in single-source contracts. Of the 158 usable responses from individual plans, eight respondents did not provide information and two of these stated it was proprietary. Among these remaining 150 HMOs, 38 (25%) applied "exclusive" status to single-source drug entities. Of the 38 HMOs that designated "exclusive" status, 35 (92%) had contracts for single-source drug entities. Only 51 percent of those contracting for single-source drug entities used "exclusive" status to manage these products. The null hypothesis that there is no relationship between participation in manufacturer contracts for single-source drug entities and the use of "exclusive" status for single-source drug entities was rejected. The Chi-square test showed a significant difference between contract participation and the use of "exclusive" status. HMOs participating in contracts for single-source drug entities were likely to apply

TABLE 5.22: USE OF "EXCLUSIVE" AND "PREFERRED" STATUS BY SINGLE-SOURCE CONTRACT PARTICIPATION

Single-Source Contracts	% (N) of HMOs Using "Exclusive" Status[a] Yes	No
Yes (n=69)	51% (35)	49% (34)
No (n=81)	4 (3)	96 (78)
TOTAL (n=150)	25% (38)	75% (112)

Single-Source Contracts	% (N) of HMOs Using "Preferred" Status[b] Yes	No
Yes (n=68)	76% (52)	24% (16)
No (n=81)	10 (8)	90 (73)
TOTAL (n=149)	40% (60)	60% (89)

[a] Chi-square = 43.55 (df = 1, $p < 0.001$, Phi Coefficient = 0.54)
[b] Chi-square = 68.17 (df = 1, $p < 0.001$, Phi Coefficient = 0.68)

"exclusive" status to such products and HMOs without these contracts were likely not to use this status in managing these products. The application of "exclusive" status to single-source drug entities and contracts for such products go together.

Table 5.22 also shows the use of "preferred" status by single-source contract participation. Nine respondents did not provide information and two of these stated it was proprietary. Sixty of 149 (40%) HMOs applied "preferred" status to single-source drug entities. Of the 60 HMOs that applied "preferred" status, 52 (87%) had contracts for such products. Over three-fourths (76%) of those contracting for single-source drug entities used "preferred" status to manage these products. The Chi-square test found a significant difference between single-source contract participation and the application of "preferred" status. The null hypothesis that no relationship exists between participation in manufacturer contracts for single-source drug entities and the use of "preferred" status for single-source drug entities was rejected. HMOs participating in contracts for single-source drug entities were likely to apply "preferred" status to such products and HMOs without these contracts were likely not to use this status in managing these products. The application of "preferred" status to single-source drug entities and contracts for such products go together.

Twenty-nine HMOs, of which 27 had single-source contracts, used both "exclusive" and "preferred" status but applied them separately to different single-source drug entities. "Preferred" status was more than three times as popular as "exclusive" status, when only one status was used to manage contracted single-source drug entities. Of the 35 HMOs that had single-source contracts and reportedly used "exclusive" status, 8 HMOs applied "exclusive" status alone. Of the 52 HMOs that had single-source contracts and reportedly applied "preferred" status, 25 designated "preferred" status alone.

The application of "exclusive" and "preferred" status to single-source drug entities by the aggregate respondents also was analyzed. None of the four aggregate respondents applied "exclusive" status to single-source drug entities. However, two aggregate respondents, both with contracts for single-source drug entities, applied "preferred" status to such products.

The number of single-source drug entities with "exclusive" status (based on 38 HMOs using) and those with "preferred" status (based on 60 HMOs using) also were quantified. Twenty (53%) HMOs reportedly had one to five "exclusive" single-source drug entities, six (16%) had six to 10, two (5%) had 11 to 15 and 10 (26%) HMOs had more than 15. Whereas, 21 (35%) HMOs reportedly had between one and five "preferred" single-source drug entities, 12

(20%) had six to 10, six (10%) had 11 to 15 and 21 (35%) had more than 15. Of the two aggregate respondents that used "preferred" status, one applied it to between 11 and 15 products and the other applied it to more than 15 single-source drug entities.

Exclusions in Pharmacy Benefits

Exclusions in pharmacy benefits by HMO model type are summarized in Table 5.23. Overall, most of the HMOs excluded experimental drugs, over-the-counter (OTC) medication other than insulin, Retin-A (topical tretinoin) for cosmetic use, or over age 25 or both, and Rogaine (topical minoxidil). One respondent that did not exclude experimental drugs, Retin-A for adult acne, or Rogaine stated these required prior authorization. Another respondent that excluded birth control devices stated these will be covered as of January 1, 1991. Fertility drugs were not excluded according to another respondent, but a four month quantity limit was imposed. Nicorette (nicotine gum) also had quantity limitations of one and two month supplies imposed by two respondents. Another respondent excluded Nicorette unless the member was enrolled in a smoking cessation program.

Group model HMOs were more likely to cover appetite suppressants.

TABLE 5.23: EXCLUSIONS IN PHARMACY BENEFITS BY HMO MODEL TYPE

	% of HMOs Excluding									
Model Type	Appetite Suppressants	Birth Control Devices	Experi-mental Drugs	Fertility Drugs	Nicorette Gum	Oral Contra-ceptives	OTCs[a]	Retin-A[b]	Retrovir	Rogaine
Staff (n=32)	72%	12%	78%	25%	53%	9%	72%	69%	-	94%
Group (n=25)	36	32	84	12	36	16	92	76	4%	96
Network (n=22)	59	27	95	23	36	9	86	68	18	82
IPA (n=79)	75	49	92	34	54	29	89	84	8	80
TOTAL (n=158)	**66%**	**36%**	**89%**	**27%**	**49%**	**20%**	**85%**	**77%**	**7%**	**85%**
Aggregate Respondents[c] (n=4)	75%	-	100%	25%	50%	-	100%	100%	-	75%

[a] Over-the-counter medication (other than insulin).
[b] For cosmetic use or over age 25, or both.
[c] These were respondents who provided aggregate plan data.

Staff model HMOs were least likely and IPA models were most likely to exclude birth control devices from pharmacy benefits. Fertility drugs were most often covered as a pharmacy benefit by group models. Nicorette was excluded by a majority of staff and IPA model HMOs. IPA models also were most likely to exclude oral contraceptives. OTC medication was a covered benefit in more staff model HMOs and also Retrovir (zidovudine) was not excluded.

The most common "other" exclusions were injectables excluded by seven HMOs, Yocon (yohimbine) excluded by six HMOs, DESI (Drug Efficacy Study Implementation) drugs excluded by five HMOs, injectables other than insulin, and immunizations each excluded by four HMOs, and Hydergine (ergoloid mesylates) was excluded by three HMOs. A list of "other" exclusions each reported by less than three HMOs is presented in Appendix G.

Exclusions in pharmacy benefits in the HMOs represented by the four aggregate respondents are included at the bottom of Table 5.23. All aggregate respondents reportedly excluded experimental, over-the-counter medication (other than insulin) and Retin-A (for cosmetic use, or over the age of 25, or both). None of the aggregate respondents excluded birth control devices, oral contraceptives or Retrovir.

Comments

A number of written comments were received from respondents and are listed verbatim in Appendix H. Several respondents stated that they were implementing strategies or were making changes to their existing drug benefit controls. Another respondent stated that the survey results would be used to initiate more comprehensive controls. Generally, comments revealed that drug product management is a topic of interest and importance to HMO pharmacy directors and administrators.

CHAPTER 6

DISCUSSION

This chapter is presented in two sections. First, the survey method and the study respondents are discussed. Second, results pertaining to drug product management strategies are discussed.

The Survey Method and the Study Respondents

The response rate obtained in the pretest was 78.6 percent compared to 34.3 percent in the main survey. A reason for the difference is that the pretest was "local" and the main survey was national. Also, all the HMOs in the pretest were personalized contacts and in almost every case there was direct phone contact with each respondent. Though the response rate for the main survey was lower than the pretest, it compares to the response rate of 40 percent achieved in the national survey conducted by Doering et al.. However, Doering et al. conducted a follow-up mailing of the entire survey packet four weeks after the initial mailing, which helped increase their response rate.

It was obvious that personalization increased the response rate for this study. The personalized contacts achieved response rates of 46, 52 and 67

percent for the independent, the multi-state and the aggregate multi-state survey groups, respectively. The response rate for the aggregate multi-state group is highest probably because in every case there was direct phone contact with each respondent. In contrast, the non-personalized contacts only achieved response rates of 23 and 18 percent for the independent and the multi-state survey groups, respectively.

In the two groups that had non-personalized contacts, the survey packets could have been personalized by addressing it to the executive director. The executive director's help could have been requested in directing the survey to the pharmacy director or the like, and thus, may have increased the response rate for these two groups. However, based on the initial response rate (22.2% response 4 weeks after the initial mailing) obtained by Doering et al. using the executive director to channel the survey to the pharmacy manager (if one existed) or to the person considered most able to provide the requested information, it was decided that addressing the packet directly to the "pharmacy director" might expedite and might increase response. We reasoned that if a "pharmacy director" was present the survey packet would be directed to that person. We also reasoned that if no "pharmacy director" was present the packet would be directed to the next most appropriate person. Furthermore, it was

thought that the channeling process (through the executive director) would not be successful with one mailing.

The survey results offered to respondents as an incentive to participate was successful. Of those responding, 87 percent requested a summary of the results. This shows that most of the respondents were interested in the findings. The information on innovative contracting may have prompted respondents to request the results because of the lack of published data in this area.

The study respondents represented more staff and group model and fewer IPA model HMOs as compared to the study population and the universe. Responses provide good description of drug product management in staff models because these HMOs are well represented. However, responses may not provide a full description of drug product management in IPA models because these HMOs are not adequately represented in this study.

Drug Product Management Strategies

Formularies. A relationship was found between HMO model type, HMO enrollment size and formulary use. All staff and most group model HMOs had established formularies and a majority of network and IPA model HMOs had no established formulary. HMOs with 25,000 or more members were likely to

have an established formulary and HMOs with less than 25,000 members were likely not to have a formulary. These findings are consistent with the literature (Doering et al., American Medical Census Corporation, and Marion Managed Care Digest - HMO Pharmacy Edition, 1990).

A possible reason that few network and few IPA model HMOs had formularies is because almost half of the network and a third of the IPA models had less than 25,000 members enrolled. In these small HMOs, there may be a lack of perceived need or simply no need for a formulary. Another reason for a lack of formulary development could be due to the age of the HMO plan. HMOs in business 10 years or more are the biggest users of formularies and those in operation less than five years are least likely to have formularies, according to the Marion Managed Care Digest - HMO Pharmacy Edition, 1990. Since much of the growth in HMOs during the 1980s occurred in IPA models, these HMOs have not been in operation as long and thus may be less well organized or less able to develop a formulary or are in the process of developing such lists.

A relationship was found between HMO model type and formulary type used. Staff and group model HMOs tended to use restrictive type formularies (either a restrictive formulary or a restrictive formulary that allows exceptions).

A majority of the network and half the IPA model HMOs used non-restrictive formularies. A likely explanation is that most staff and group model HMOs have in-house pharmacies and are better able to enforce the prescribing restrictions that result from restrictive formularies. Non-restrictive formularies were popular with network and IPA model HMOs probably because they almost exclusively contracted with local community pharmacies for services. This type of distribution system makes enforcement difficult and thus non-restrictive formularies are more likely to predominate.

More multi-state HMOs had established formularies versus the independent HMOs. One reason might be because a multi-state HMO organization develops one formulary which is adopted by all its HMO plans. Thus, the formulary is managed centrally and disseminated to the HMO plans. Other reasons might be because multi-state HMOs are larger and possibly in existence longer.

P&T Committees. The primary responsibility of the P&T Committee is to maintain the formulary and to establish policies and procedures for the use of drugs, thus it fosters cost-containment. HMOs that use P&T Committees are more likely to adopt policies that address the challenges presented by the prescription drug benefit. Most group and staff model HMOs, probably because

of their centralized structure, have P&T Committees and therefore, have the ability to implement formularies and other drug policies.

Only about half the network and IPA model HMOs had such committees. The lack of a P&T Committee would explain why fewer than half the network and IPA model HMOs had a formulary. The complexity of network and IPA model HMO structures make the task of forming a P&T Committee more difficult, since network model HMOs contract with two or more group practices and IPA model HMOs contract with possibly several hundred independent physicians and/or with one or more associations of physicians in independent practice. Even if these HMOs have P&T Committees, their tasks of educating providers and enforcing drug policies are complicated by the large number of providers (both physicians and pharmacists) that must be reached. Thus, it is not surprising that most network and half the IPA model HMOs that had formularies typically used a non-restrictive type.

The key decision makers on HMO P&T Committees were the medical director, other physicians, the pharmacy director and other pharmacists. This is consistent with what Zuvekas et al. and the Marion Managed Care Digest - HMO Pharmacy Edition, 1990, reported. The HMO structure best reflected how P&T Committee members were associated with the HMO. In staff and

group model HMOs, committee members were primarily in-house employees or staff members, which is what might be expected. In network and IPA model HMOs, committee members primarily were actual providers and some were in-house employees or staff members. This is logical given the structure of network and IPA model HMOs.

Few HMOs used consultants on their P&T Committees. Network and IPA model HMOs appeared to have a higher percentage of consultants on their committees. This might suggest that these HMOs are more willing to seek outside help or have a greater need to seek help in developing programs to manage the drug benefit.

Maximum Allowable Costs (MACs). Slightly more than half (54%) of the HMOs set MACs for some drug entities. This is consistent with the findings of the American Medical Care and Review Association, 1989 Pharmacy Survey. More group, network and IPA model HMOs set MACs, probably because they contract with local community pharmacies and reimbursements are made. In contrast, staff model HMOs were least likely to set MACs, probably because they used in-house pharmacies and reimbursements generally are not made.

State Medicaid MAC lists were instrumental in helping some (42%) HMOs develop their own lists. These HMOs reap the benefits of efforts

expended by state officials in developing a MAC list as a drug program cost measure. The effectiveness of state Medicaid MAC lists provide a spill-over benefit to HMOs that might otherwise be forced to develop their own list. Typically HMOs adopted the same drug entities as on their state Medicaid MAC list or included additional drug entities.

Approximately the same percentage of independent and multi-state HMOs set MACs. However, more independent HMOs used their state Medicaid MAC list as a template. Fewer multi-state HMOs used state Medicaid MAC lists as templates probably because their HMO plans in different states have different state Medicaid MAC lists. If multi-state HMOs want to manage their MAC list at a central location (their headquarters), this process would become complicated if the Medicaid MAC list from each plan's state was considered. Thus, multi-state HMOs may develop their own list centrally and disseminate it to all their HMO plans or may use a MAC list that has been purchased through a third party administrator.

Prior Authorization. Prior authorization was used by less than half (41%) the HMOs, which is similar to what Gold et al. found. More staff and group model HMOs used prior authorization, probably because these HMOs tended to have P&T Committees and used in-house pharmacies. The use of

prior authorization as a management tool was highest in plans with enrollment between 25,000 and 49,999 members. This might suggest that the use of prior authorization in larger HMOs is difficult to implement and in smaller HMOs may not be justified.

Almost half (49%) the HMOs that used prior authorization applied it to less than five drug products. Perhaps the number of products that justify this effort is small or the increased administrative effort it places on the member, the physician, and the pharmacist discourages its application to more products.

Contracts. Relationships were found between HMO model type, HMO enrollment size and formulary use and participation in contracts for licensed co-marketed and single-source drug entities. Group and staff model HMOs, HMOs with 25,000 or more members and HMOs that used formularies all were likely to have contracts for both co-marketed and single-source drug entities. Group and staff model HMOs may have been more likely to have such contracts because they tended to be large HMOs with 25,000 or more members and most had formularies. Also, manufacturers might prefer to contract with group and staff model HMOs because a majority of these have in-house pharmacies. Thus, group and staff model HMOs are better able to control what product is dispensed, especially if it is a contracted product. Furthermore,

physicians' prescribing behaviors can be influenced more easily (or controlled) in these HMOs. In staff models, physicians are employees of the HMO and will usually follow prescribing guidelines. In both staff and group model HMOs, physicians also may share in the financial success (or failure) of the HMO and may be more willing to change their prescribing behaviors if the organization can benefit and patient care is not compromised.

The relationship between formulary use and contract participation is important probably because these HMOs have P&T Committees. HMOs with such committees are able to initiate policies that could influence physicians to prescribe a contracted product. Thus, the probability of a win-win situation between the manufacturer and the HMO is enhanced. The type of formulary (restrictive versus non-restrictive) had no effect on whether the HMO had contracts. This may reinforce the notion that what is important is the presence of the P&T Committee within the HMO. One might have expected that HMOs with restrictive formularies would participate more often in contracts. A restrictive formulary would create more competition among manufacturers to get their products on the approved lists and thus, an increase in the willingness to negotiate contracts. However, this relationship was not found, probably due to the under-representation of IPA model HMOs that use non-restrictive

formularies.

The relationship between HMO enrollment size and contract participation shows that manufacturers are willing to negotiate with large HMOs probably because of their potent market shares. However, no relationship was found between independent and multi-state HMOs and participation in contracts for co-marketed and single-source drug entities. Manufacturers might be expected to participate more frequently in contract negotiations with multi-state HMOs because of their combined market share power. More multi-state HMOs had contracts for both co-marketed and single-source entities but this difference was not significant. It is possible that a significant difference would have resulted if a higher response rate had been achieved.

It was apparent that HMOs that managed licensed co-marketed drug entities through contract negotiations, similarly managed single-source drug entities. Innovative contracting for pharmaceuticals seems to be an all or none type of drug product management tool. Most HMOs that were involved in these contract negotiations were likely to participate in both co-marketed and single-source contracts, or did not participate in any.

Contract Incentives. Incentives received from manufacturer contracts did not vary much between co-marketed and single-source contracts. One reason

might be because the same types of incentives are offered to HMOs through these contracts. Another reason is that respondents could have parroted their answers to be consistent or to complete the survey faster and thus, no variation was found.

Price protection was the incentive received most often from manufacturer contracts for both licensed co-marketed and single-source drug entities. Price protection is probably offered more because it poses the least risk to the manufacturer and is easy to administer. Also, this incentive might appeal to manufacturers because they are not competing based on price, rather on the notion of price stability. Thus, the manufacturer maintains their profit margins, assuming their costs do not increase.

Preference for manufacturer contract incentives did not vary much between co-marketed and single-source contracts based on weighted scores. One reason might be because respondents prefer the same types of incentives without regard to the type of contract (co-marketed versus single-source contract). Another reason is respondents also could have parroted their answers to be consistent in their preferences for co-marketed and single-source contract incentives or to hasten survey completion and thus, no difference was reported between the contracts.

Discounts received the highest weighted score preference for both licensed co-marketed and single-source contracts, suggesting that respondents favored this incentive because savings are not linked to a performance requirement. Rebates based on utilization received the second highest weighted score preference for both licensed co-marketed and single-source contracts. Respondents favored this incentive probably because they can influence utilization directly. Utilization can be influenced through "exclusive" and "preferred" drug product lists.

Rebates based on bundling and manufacturer's value added services had the lowest preference. Respondents may not like all or none arrangements like those set forth in bundled contracts. Also, respondents may not know how to evaluate bundled contracts and thus avoid them. The lack of preference for manufacturer's value added services suggests that respondents do not find these services useful or that manufacturers do not properly communicate their value to respondents.

It is apparent that respondents primarily want uncomplicated price concessions from manufacturers for both co-marketed and single-source drug entities. It is equally apparent that manufacturers prefer not to compete based on price, which is supported by the fact that price protection was offered by

many.

"Exclusive" and "Preferred" Status. Relationships were found between participation in manufacturer contracts for both licensed co-marketed and single-source drug entities and "exclusive" and "preferred" status for such products. HMOs that participated in manufacturer contracts were likely to apply "exclusive" or "preferred" status to these products probably in response to performance clauses within these contracts. These performance clauses offer significant savings to HMOs, but only if the sales goals can be attained. "Exclusive" and "preferred" product lists are specialized formularies which attempt to increase utilization of specific contracted products and thus help ensure the sales goals and the product savings are achieved.

Manufacturers might like incentives that are tied to a performance clause because these agreements shift some of the promotional efforts for the drug product to the HMO. The HMO endorses the use of the specific brand name product because of the beneficial contract and helps the manufacturer in its promotional efforts in the process. This is probably one result of the win-win situation created by these contracts.

Manufacturer contract incentives which are tied to performance clauses may be a means of circumventing policies that restrict detailing products to

physicians within HMOs. The manufacturer sets their sales goal for their product for a particular HMO using a contract and the HMO sets out to achieve the contract goal to obtain the savings.

Many HMOs used both "exclusive" and "preferred" status but applied them separately to manage different co-marketed and single-source entities. This suggests that some products or therapeutic categories may be more appropriately managed using "exclusive" status and others using "preferred" status. In managing co-marketed entities, "exclusive" and "preferred" status were equally popular when only one status was used by the HMO. This is probably because the management of co-marketed entities amounts to generic substitution, since co-marketed entities are chemically equivalent to one another (eg. Proventil and Ventolin are brands of the same chemical entity, albuterol). Generic substitution is an accepted practice and designating a particular co-marketed entity with either "exclusive" or "preferred" status is merely a matter of degree to which the HMO wants substitution to occur for a given drug entity.

However, in managing single-source drug entities, "preferred" status was three times as popular when only one status was used by the HMO. This is probably because managing single-source entities within therapeutic classes amounts to therapeutic substitution, since single-source drug entities are

chemically different. Since therapeutic substitution is controversial, and raises concerns about therapeutic outcomes and liability, designating a particular single-source entity with "preferred" status allows flexibility in product selection while making a product recommendation. "Exclusive" status for single-source entities essentially mandates therapeutic substitution and possibly increases liability exposure, thus HMOs may not want to use this status for such products.

Pharmacy Benefit Exclusions. Experimental drugs and over-the-counter medication (other than insulin) were excluded by most HMOs. These findings are consistent with the literature (Zuvekas et al., Gold et al. and Marion Managed Care Digest - HMO Pharmacy Edition, 1990). Retin-A, for cosmetic use, and Rogaine also were excluded by most HMOs. The Marion Managed Care Digest - HMO Pharmacy Edition, 1990, also reported that cosmetic aids were excluded by most HMOs, but did not cite specific products. Retrovir was not excluded by many HMOs, contradicting what Gold et al. found. Since the study by Gold et al. was conducted at the time Retrovir was introduced, many HMOs may have excluded it because of its cost.

Oral contraceptives and birth control devices were covered benefits in most HMOs probably because of the high cost associated with child birth. Also, the coverage of oral contraceptives and birth control devices may serve as an

incentive for young females to select an HMO. These women are probably healthy and use fewer prescription drugs than the elderly and thus this may help to reduce overall drug use and related costs if enough of them enroll in the HMO.

CHAPTER 7

CONCLUSION

This study was conducted to explore new methods of drug product management used by HMOs to control product costs and product selection. Several methods of drug product management were described with emphasis on examining innovative contracting for pharmaceuticals. Several hypotheses were developed to determine whether some methods of drug product management were influenced by factors including HMO model type, enrollment size and ownership type.

Many drug product management methods were standard practice in most group and staff model HMOs including formularies, P&T Committees and contracts for co-marketed and single-source drug entities. Only P&T Committees and MAC lists were used in more than half the network model HMOs. Staff and group model HMOs were primary users of formularies, P&T Committees, prior authorization and contracts. Network and IPA model HMOs were primary users of MAC lists.

The use of drug product management methods increased with HMO enrollment size for formularies, MAC lists and contracts. However, the use of

prior authorization did not increase with enrollment size. Prior authorization plateaued in HMOs with 25,000 to 49,999 members.

Multi-state HMOs typically outpaced independent HMOs in the use of formularies, P&T Committees, MACs and contracts for both co-marketed and single-source drug entities. However, about the same percent of multi-state and independent HMOs used prior authorization.

The survey results have several implications. Overall, these results represent a situation analysis of drug product management in HMOs. The results showed that staff and group model HMOs, HMOs with more than 25,000 members and multi-state HMOs typically implemented more control strategies in their drug benefits. The implication being that these HMOs are the innovators in managing the drug benefit and that these plans may have lower average ingredient costs per prescription. Understanding how competing HMOs manage their drug benefits may help other administrators implement similar strategies to control drug product costs.

Another implication of the results is that co-marketed and single-source drug entities can be contracted usually at discounted or guaranteed current market prices. These arrangements are relatively recent developments derived from the notion that HMOs and their enrolled populations are potent market

shares that deserve consideration.

Manufacturers are willing to negotiate with HMOs, particularly with staff and group model HMOs, HMOs with more than 25,000 members and HMOs that have an established formulary. Furthermore, HMOs that contract for pharmacy services with outside provider networks (primarily the network and IPA model HMOs) are still able to negotiate with manufacturers, even though they don't take delivery of the drug product.

Discounts followed by rebates based on utilization and price protection were most preferred by respondents based on weighted scores. HMOs that are planning to enter into contract negotiations with manufacturers might want to consider these incentives. Such incentives may offer the most significant savings to HMOs. However, further research is needed to determine which incentives typically produce the most cost savings.

Manufacturer contracts for co-marketed and single-source drug entities may require the HMO to implement "exclusive" and "preferred" product lists (specialized formularies) or similar types of strategies to achieve cost savings. "Exclusive" and "preferred" status are equally popular in managing co-marketed products. However, single-source products typically are managed using "preferred" status. Thus, this suggests that few HMOs are willing to use

"exclusive" status to manage single-source products possibly due to increased liability concerns (associated with this type of therapeutic substitution strategy).

HMOs that have policies that exclude certain therapeutic categories (eg. oral contraceptives) from their drug benefits in an attempt to control costs may inadvertently increase costs. One reason is that such exclusions may cause HMOs to lose an important market segment(s) (ie. young healthy females) from their enrollment population, putting an HMO at risk for adverse selection. Thus, HMOs need to assess the consequence of product exclusions on their enrollment mix.

Another implication of these results is whether or not enrollees are informed of drug product management methods used by their HMO. Though this issue was not addressed by this study, it is not known whether providing information about the use of drug product management methods is important to consumers and whether knowing this information would influence their selection of an HMO plan. Thus, further research is needed in this area.

The extent to which methods of drug product management are most effective in controlling product costs for HMOs also is an area for future research. It would be useful to know what effect a specific method has on lowering the ingredient cost per prescription for an HMO. A better

understanding of how these control strategies affect the ingredient costs of prescriptions would lead to overall better management of the drug benefit. Additionally, further research is needed to examine whether the extensive use of methods of drug product management leads to lower premiums.

What implications do these results have for provider pharmacists? Pharmacists that contract with staff and group model HMOs will more likely to be challenged to comply with restrictive formularies and prior authorization. Pharmacists that contract with network and IPA model HMOs likely will have limits set on reimbursement for drug products through the use of MAC lists. Also, as more HMOs negotiate with manufacturers for licensed co-marketed and single-source drug entities and manage such products using "exclusive" and "preferred" drug lists, pharmacists' dispensing roles will become increasingly complicated as the number of lists they are expected to be familiar with grows.

What are some implications for manufacturers? Manufacturers that are planning to negotiate with HMOs, may want to offer price protection, rebates based on utilization or discounts, since these incentives are offered by other firms. However, discounts are most preferred by HMOs and should be considered as an important incentive for such negotiations. Manufacturer's value added services and rebates based on bundling do not appeal to HMO

pharmacy directors. Manufacturers may want to reconsider offering such incentives or further examine why these incentives are not popular.

Manufacturers that refuse to consider contracting with HMOs may be loosing significant market shares to competing firms that negotiate. Thus, it might be beneficial for manufacturers to examine the impact of such contracting on their overall sales. Finally, an implication not addressed by this study that requires further research, is to examine the long-term affect that co-marketed and single-source contracts have on pharmaceutical firms and purchasing decisions made by HMOs.

BIBLIOGRAPHY

"American Medical Care and Review Association 1989 Pharmacy Survey." American Medical Care and Review Association. Washington, DC.

American Medical Census Corporation. "An Overview of Pharmaceutical Cost-Containment Practices in the Managed Care Sector." Drug Benefit Trends. February/March 1989. 1(1):16-22.

American Society of Hospital Pharmacists. "ASHP Statement on the Formulary System." American Journal of Hospital Pharmacy. August 1983. 40(8):1384-5.

American Society of Hospital Pharmacists. "ASHP Statement of the Pharmacy and Therapeutics Committee." American Journal of Hospital Pharmacy. August 1984. 41(8):1621.

Amparono, Julie. "SmithKline Tries to Buy Product-Development Time: Drug Maker Targets Hospital Contracts While Sustaining Research." The Wall Street Journal. November 18, 1987. pg. 6.

Anonymous. "Cost cut may be on the way for HIP HMO." Drug Topics. November 21, 1988. 132(22):43.

Anonymous. "Most HMOs Found to be Going Outside for Rx Drug Services." Drug Topics. August 3, 1987a. 131(15):48.

Anonymous. Project T.I.M.E.. The UpJohn Company. Kalamazoo, MI. 1987b. pp:87-102.

Black, Jimmy, Teresa Griffin, N. Wayne Beisel and Michael D. Bartels. "Implementation of an Outpatient Prescription Drug Formulary in a Managed-Care System." American Journal of Hospital Pharmacy. March 1988. 45(3):561-5.

Bonhaus, Dale F. "Innovative Contracting." Drug Benefit Trends. July/August 1990. 2(4):5-7.

Christine, Ray, Andy Stergachis and Peter Penna. "Coverage of Over-the-Counter Drugs: Early Experience of the Group Health Cooperative of Puget Sound." Drug Benefit Trends. April/May 1989. 1(2):12-18.

Churchill, Gilbert A. Marketing Research - Methodological Foundations, Fourth Edition. The Dryden Press. New York, NY. 1987. pp:719-22.

Curtiss, Frederic R. "Managed Health Care." American Journal of Hospital Pharmacy." April 1989a. 46(4):742-763.

Curtiss, Frederic R. "Methods of Providing Prescription Drug Benefits in Health Plans." American Journal of Hospital Pharmacy. October 1986. 43(10):2428-35.

Curtiss, Frederic R. "Perspectives on Selling Prescription Drug Benefits to HMOs." Drug Benefit Trends. September/October 1989b. 1(4):5-12.

Curtiss, Frederic R. "Prescription Drug Benefits and Developments in Managed Care." Drug Benefit Trends. April/May 1989. 1(2):5-11.

Curtiss, Frederic R. and Michael J. Tichon. "Cost and Use Management in Prescription Drug Benefits." Group Health Association of America Journal. Fall 1988. 9(1):97-104.

DeanCare HMO Provider News - Pharmacy Edition. November 1989. Volume II. Number 6.

Dillman, Don A. Mail and Telephone Surveys: The Total Design Method. John Wiley & Sons. New York, NY. 1978.

Doering, Paul L., Wayne L. Russell, William McCormick and Deborah L. Klapp. "Therapeutic Substitution in the Health Maintenance Organization Outpatient Environment." Drug Intelligence and Clinical Pharmacy. February 1988. 22(2):125-130.

Glaser, David M. "Focus on Cost-Effectiveness: Managed Care Gets Ready for the 1990s." Pharmaceutical Executive. April 1989. 9(4):26-32.

Glaser, Martha. "Pharmacy Program Plans Major Revamp Under New Director." Drug Topics. October 3, 1988. 132(19):63, 65.

Gold, Marsha, Mark Joffe, Timothy L. Kennedy and Anthony M. Tucker. "Pharmacy Benefits in Health Maintenance Organizations." Health Affairs. Fall 1989. 8(3):182-190.

Herrick, James D. "Group Purchasing: Evaluating Bundled Contracts." American Journal of Hospital Pharmacy. February 1989. 46(2):246.

Keith, Bill. "HMOs Find Formularies Keep Drug Costs Under Control." Drug Topics. November 20, 1989. 133(22):56, 59.

Kenkel, Paul J. "Managed Care Will Dominate Within A Decade - Experts." Modern HealthCare. July 29, 1988. 18(31):31.

Landes, Jennifer. "The War On Runaway Drug Prices - Managed Programs: Next Generation In Cost Control Effort." National Underwriter - Life/Health/Financial Services Edition. January 15, 1990. 94(3):3, 17.

Loether, Herman J. and Donald G. McTavish. Descriptive and Inferential Statistics - An Introduction, Third Edition. Allyn and Bacon, Inc. Boston, MA. 1988. pg. 205.

Lyon, Ronald A. "Formulary-Control Procedures in a Staff-Model Health Maintenance Organization." American Journal of Hospital Pharmacy. February 1990. 47(2):340-2.

MacKeigan, Linda D. and Lon N. Larson. "Strategies for Providing Pharmacy Services in Managed Health Care Plans." American Pharmacy. April 1988. NS28(4):49-56.

Marion Managed Care Digest - HMO Edition 1990. Marion Merrell Dow, Inc.. Kansas City, MO.

Marion Managed Care Digest - HMO Edition 1989. Marion Merrell Dow, Inc.. Kansas City, MO.

Marion Managed Care Digest - HMO Pharmacy Edition 1990. Marion Merrell Dow, Inc.. Kansas City, MO.

Marion Managed Care Digest - HMO Pharmacy Edition 1989. Marion Merrell Dow, Inc.. Kansas City, MO.

Marion Managed Care Digest - Update 1989. Marion Merrell Dow, Inc.. Kansas City, MO.

Martens, Gerald E. "How Managed Care Organizations are Tackling Rising Drug Costs." Medical Interface. September 1990. 3:65-67.

Mayer, Thomas R. and Gloria Gilbert-Mayer. "HMOs: Origins and Development." The New England Journal of Medicine. February 28, 1985. 312(9):590-594.

McCarthy, Robert, ed. "Drug Product Discounts and HMOs." Third-Party Rx. March 1990. 1(7):8.

McCarthy, Robert, ed. "HMO Industry Profile." Third-Party Rx. September 1989. 1(1):5.

Miller, David G. "Third-Party Directory." The Maryland Pharmacist. April 1990. 66(4):9,10,20-27.

Penna, Peter M. "Editorial." Drug Benefit Trends. February/March 1989. 1(1):5.

Penna, Peter M. "Managing the Drug Benefit." Drug Benefit Trends. February/March 1989. 1(1):7.

Perrin, Forest V. "Formularies and Pharmacy: The Uneasy Bond." Drug Topics. July 3, 1989. 133(13):32-35.

Petty, C. and M. Cartier. "Financial Impact of Pharmacy Benefit Design Strategies in a Managed Care System." American Society of Hospital Pharmacists Midyear Clinical Meeting 24 HMO. December 13, 1989.

"Pharmaceutical Benefits Under State Medical Assistance Programs." National Pharmaceutical Council. Restòn, VA. September 1989.

Roberts, Michael J. and Marc R. Summerfield. "Formulary Management to Reduce Cost: P & T Committee Strategies." Hospital Formulary. April 1986. 21(4):481-492.

Rucker, DT. and JA Visconti. "How Effective Are Drug Formularies? A Descriptive and Normative Study." Washington: American Society of Hospital Pharmacists. 1978.

SPSS Inc. SPSS/PC+ V2.0 Base Manual. SPSS Inc. Chicago, IL. 1988.

The InterStudy Edge 1990 Volume 2. InterStudy. Excelsior, MN.

Wetrich, James G. "Group Purchasing: An Overview." American Journal of Hospital Pharmacy. July 1987. 44(7):1581-92.

Zuvekas, Ann, Peter D. Fox, LuAnn Heinen and Michael R. Pollard. "Cost Containment in HMO Pharmacies." Group Health Association of America Journal. Winter 1986. 7(2):22-34.

APPENDIX A

An Example of an "Exclusive" and "Preferred" Products List

(Source: DeanCare HMO Provider News - Pharmacy Edition
Volume II, Number 6. November 1989)

EXCLUSIVE PRODUCTS

(Write for specific Brand on Left as N.S.)

Calan SR	over	Isoptin SR
Cycrin 10mg	over	Provera 10mg
Diabeta	over	Micronase
Fioricet	over	Esgic
Gyne-lotrimin	over	Mycelex
Metaprel	over	Alupent
Nordette	over	Levlen
Norinyl	over	Ortho-Novum, (generic equivalents)
Normodyne	over	Trandate
Pamelor	over	Aventyl
Proventil	over	Ventolin
Tegretol	over	Generic Equivalents
Tri-Norinyl	over	Ortho-Novum 7/7/7
Triphasil	over	TriLevlen
Vancenase	over	Beconase
Vanceril	over	Beclovent

PREFERRED PRODUCTS*

Product	Therapeutic Class
Anaprox, Anaprox D.S.....	Non-narcotic Analgesics
Azmacort.....	Steroid Inhaler
Brevicon.....	Low Estrogen O.C.
Cardene, Cardizem.....	Calcium Channel Blocker
Diprolene, Cyclocort, Diprosone, Elocon & Lidex	Topical Steroid
Diprolene, Psorcon Oint....	Group I Topical Steroid
Florone Oint., Lidex, Cyclocort.....	Group II Topical Steroid
Florone Cr., Florone E Cr. Diprosone, Elocon.....	Group III Topical Steroid
Estraderm.....	Estrogen Replacement
Femstat.....	Vaginal Antifungal
Fulvicin.....	Oral Antifungal
Hytone.....	Group VII Topical Steroid
K-Dur, Slow-K, Ten-K, Micro-K.....	Potassium Supplement
Levothroid.....	Thyroid Preparation
Lotrimin.....	Topical Antifungal
Lopressor.....	Beta Blocker
Lozol.....	Diuretic
Maxair, Brethaire.....	B-agonist inhaler
Maxzide-25, Maxzide.....	K+ Sparing Diuretic
Naprosyn, Disalcid, Tolectin, Voltaren.....	Nonsteroidal Anti-inflammatory
Nasalide.....	Intranasal Steroid
Nitro-Dur, Transderm-Nitro, Deponit, Nitrobid.....	Vasodilator/NTG Patch
Norlac-Rx, Materna.....	Pre-Natal Vitamin
Quinidex, Quinaglute.....	Antiarrhythmic
Seldane.....	Non-sedating Antihistamine
Sulfacet-R, Benzagel, Benzamycin.....	AntiAcne Preparations
Tagamet, Carafate.....	Antiulcer Agents
Tavist, Trinalin.....	Antihistamines
Tegretol.....	Anticonvulsant
Tenex.....	Antihypertensive
Theo-Dur, Slo-bid, Slo-Phyllin.....	Bronchodilator-Theophyllines
Trinorinyl, Triphasil.....	Triphasic Oral Contraceptive

*Please note that this is a preferred list of Branded drugs by cost only. If there is another product which may be more cost effective and/or another product that may be more therapeutically beneficial, it should be prescribed.

APPENDIX B

The Pretest Instruments:
The Pre-notification Postcard
The Cover Letter
The Request for Results Postcard
The Survey Instrument
The Follow-up Postcard

The Pre-notification Postcard

In a few days you will receive a survey about drug product management in HMOs. Your name was obtained by contacting executives listed in the Wisconsin HMO directory.

When you receive the survey, please complete and return it. Thank you for your help.

Sincerely,

Pharmacist Joseph B. Wiederholt, Ph.D.

Pharmacist Robert E. Mucha

The Cover Letter

University of Wisconsin Madison

CENTER FOR HEALTH SCIENCES
School of Pharmacy
425 North Charter Street
Madison, Wisconsin 53706
Telephone: 608/262-1416

March 19, 1990

NO ITEM TO INSERT

Dear
NO ITEM TO INSERT
:

Increasing drug product costs are a challenge for HMO executives, such as yourself. We are attempting to quantify methods used in drug product management to help control increasing costs at both generic and brand levels. Your experiences are important and will reflect current information on methods used for drug product management.

Your colleagues in HMOs serving patients in Wisconsin are being asked for information on their experiences. This is a small group and your response is important. Please complete the enclosed form. Your responses are confidential. It takes about ten minutes to complete. You can obtain a summary of the results by returning the enclosed postcard.

If you have any questions about the study, please call (608) 262-0452. Your time and help are greatly valued and appreciated. Thank you.

Sincerely,

Pharmacist Joseph B. Wiederholt, Ph.D.
Associate Professor
of Pharmacy Administration

Pharmacist Robert E. Mucha
Research Associate
in Pharmacy Administration

JBW/rem
enclosures

The Request for Results Postcard

I have responded to the survey and would like a summary of the results. Please send to:

_____

_____

_____

_____

_____

*Mail this postcard separately.
THANK YOU!

The Survey Instrument

WISCONSIN-HMO DRUG PRODUCT MANAGEMENT SURVEY

Please check the appropriate space or write your response where appropriate. Thank you.

PART I. FORMULARY, MAC LIST AND P & T COMMITTEE

This part reviews the use of a formulary, MAC list and/or P & T committee.

1. What type of drug formulary does your HMO use? (Please check one.)

   _____ Non-restrictive (open)

   _____ Restrictive (closed or negative, coverage restricted to formulary except for emergencies)

   _____ Restrictive with Exceptions (coverage restricted to formulary but exceptions routinely are allowed)

   _____ None (if None, please go to question 2)

   a) About how often are additions and deletions made? (Please check one.)

      _____ monthly

      _____ quarterly

      _____ semi-annually

      _____ annually

      _____ other (please specify) _____

2. Are Maximum Allowable Costs (MACs) set for some drug entities? (Please check one.)

   _____ YES

   _____ NO (if NO, please go to question 3)

   a) Do you use the Wisconsin State Medicaid MAC list to help develop your MAC list? (Please check one.)

      _____ YES

      _____ NO

3. In your HMO, do you use a Pharmacy & Therapeutics (P & T) Committee? (Please check one.)

   _____ YES

   _____ NO (if NO, please go to PART II, question 4 on page 2)

a) What is the composition of your P & T Committee? (In Column A please check the members with those titles. In Column B please put the number of members that represent each title checked in Column A.)

Column A (composition)	Column B (# per title)	
____	____	HMO Administrator
____	____	Medical Director
____	____	other Physicians
____	____	Nurses
____	____	Pharmacy Director/Manager
____	____	other Pharmacists
____	____	Physician Assistants
____	____	other (please specify)

_____

b) How are these P & T Committee members associated with your HMO? (In Column A please check all that apply. In Column B please estimate the percentage represented in Column A.)

Column A	Column B (%)	
____	____	in-house staff members
____	____	actual providers who are not in-house staff members
____	____	part of an advisory P & T Committee (consultants)
____	____	other (please specify)
	Total 100%	_____

PART II. LICENSED CO-MARKETED DRUG ENTITIES

This part covers licensed legend drug entities that are co-marketed by different manufacturers, for example: Calan-SR & Isoptin-SR, Pamelor & Aventyl, Micronase & Diabeta, Zestril & Prinivil, Ventolin & Proventil, Procardia & Adalat, Tri-Levlen & Triphasil, etc.

4. In your HMO, are there specific agreements (contracts) with manufacturers that apply to licensed co-marketed drug entities? (Please check one.)

____ YES

____ NO (if NO, please go to question 5 on page 3)

a) What is the typical length of a contract for a licensed co-marketed drug entity? (Please check one.)

_____ less than 1 year

_____ 1 year

_____ greater than 1 year

b) Which of the following have you received from manufacturer contracts for licensed co-marketed drug entities? (Please check all that apply.)

1. _____ discounts
2. _____ discounts based on market share
3. _____ grant money
4. _____ manufacturer's value added services
5. _____ price protection
6. _____ rebates based on bundling
7. _____ rebates based on market share
8. _____ rebates based on utilization
9. _____ other (please specify)_____

c) Which of the above do you most prefer receiving from manufacturer contracts for licensed co-marketed drug entities? (Please put item number in appropriate blank.)

_____ most preferred

_____ second most preferred

_____ third most preferred

5. One way to characterize the reimbursement for licensed co-marketed drug entities is to assign "exclusive" status, when reimbursement is restricted to one co-marketed entity.

In your HMO, about how many licensed co-marketed drug entities have "exclusive" status (as defined above)? (Please check one.)

_____ none

_____ 1 - 5

_____ 6 - 10

_____ 11 - 15

_____ more than 15

6. Another way to characterize the reimbursement for licensed co-marketed drug entities is to assign "preferred" status, when reimbursement is not restricted, however one co-marketed entity is preferred or encouraged to be dispensed.

   In your HMO, about how many licensed co-marketed drug entities have "preferred" status (as defined above)? (Please check one.)

   _____ none
   _____ 1 - 5
   _____ 6 - 10
   _____ 11 - 15
   _____ more than 15

PART III. SINGLE-SOURCE DRUG ENTITIES

This part covers pharmacologic or therapeutic drug classes that have primarily single-source drug entities available, for example, histamine H-2 antagonists, nonsteroidal anti-inflammatory drugs (NSAIDs), etc.

7. In your HMO, are there specific agreements (contracts) with manufacturers that apply to specific products within such classes? (Please check one.)

   _____ YES
   _____ NO (if NO, please go to question 8 on page 5)

   a) What is the typical length of a contract? (Please check one.)

      _____ less than 1 year
      _____ 1 year
      _____ greater than 1 year

   b) Which of the following have you received from manufacturer contracts for drug products within such classes? (Please check all that apply.)

      1. _____ discounts
      2. _____ discounts based on market share
      3. _____ grant money
      4. _____ manufacturer's value added services
      5. _____ price protection
      6. _____ rebates based on bundling
      7. _____ rebates based on market share
      8. _____ rebates based on utilization
      9. _____ other (please specify)_____

c) Which of the above do you most prefer receiving from manufacturer contracts for drug products within such classes? (Please put item number in appropriate blank.)

_____ most preferred

_____ second most preferred

_____ third most preferred

8. One way to characterize the reimbursement for drug products in some pharmacologic or therapeutic classes that have primarily single-source drug entities available is to assign "exclusive" status, when reimbursement is restricted to one product only within a class.

In your HMO, about how many pharmacologic or therapeutic drug classes have "exclusive" status (as defined above)? (Please check one.)

_____ none

_____ 1-5

_____ 6-10

_____ 11-15

_____ more than 15

9. Another way to characterize the reimbursement for drug products in some pharmacologic or therapeutic classes that have primarily single-source drug entities available is to assign "preferred" status, when reimbursement is not restricted, however, some products are preferred or encouraged to be dispensed within a class.

In your HMO, about how many pharmacologic or therapeutic drug classes have "preferred" status (as defined above)? (Please check one.)

_____ none

_____ 1-5

_____ 6-10

_____ 11-15

_____ more than 15

PART IV. OTHER METHODS OF DRUG PRODUCT MANAGEMENT

10. In your HMO, do you use prior authorization to manage the use of legend drug products? (Please check one.)

_____ YES

_____ NO (if NO, please go to question 11)

a) Approximately how many legend drug products require prior authorization? (Please check one.)

_____ less than 5

_____ 5 - 10

_____ 11 - 15

_____ more than 15

11. Does your HMO deny reimbursement for some drug products because they are promoted directly-to-the-consumer? (Please check one.)

_____ YES

_____ NO

12. Which of the following are excluded from your HMO pharmacy benefits? (Please check all that are excluded.)

_____ birth control devices

_____ experimental drugs

_____ fertility drugs

_____ Nicorette gum

_____ oral contraceptives

_____ over-the-counter medication (other than insulin)

_____ Retin-A

_____ Retrovir

_____ Rogaine

_____ Other (please specify)

1. _____

2. _____

3. _____

4. _____

5. _____

PART V. Finally, a few questions about your HMO to help categorize the results.

13. What model type is your HMO? (Please check one.)

_____ Group
_____ IPA
_____ Network
_____ Staff
_____ Other (please specify) _____

14. About how many members are enrolled in your HMO? (Please check one.)

_____ under 25,000
_____ 25,000 - 49,999
_____ 50,000 - 74,999
_____ 75,000 - 99,999
_____ 100,000 +

15. From which type of pharmacy outlets do your enrollees PRIMARILY obtain drug benefits? (Please check one.)

_____ in-house pharmacies
_____ local community pharmacies (independent & chain)
_____ mail-order pharmacies

16. Your suggestions and comments are welcome.

_____
_____
_____
_____

DIRECTIONS FOR RETURNING THE BOOKLET

Please return the survey using the enclosed postage free envelope and drop it in the mail.

THANK YOU FOR YOUR HELP!

*****To Receive a Summary of the Results, Please use the Enclosed Postcard. Mail it Separate From the Survey.*****

The Follow-up Postcard

March 1990

A survey sent to you last week covered drug product management in HMOs.

If you already have responded, THANK YOU VERY MUCH FOR YOUR HELP. If not, please do so today. Because the survey covers a small group of executives, it is extremely important that your response be included if the results are to be representative.

If you did not receive the survey or it was misplaced, please call (608) 262-0452.

Sincerely,

Pharmacist Joseph B. Wiederholt, Ph.D.

Pharmacist Robert E. Mucha

APPENDIX C

A Summary of the Pretest Results

Drug Product Management in HMOs in Wisconsin

Robert E. Mucha, R.Ph., M.S. candidate
Pharmacy Administration

David H. Kreling, Ph.D.
Associate Professor Pharmacy Administration

Joseph B. Wiederholt, R.Ph., Ph.D.
Associate Professor Pharmacy Administration

Sonderegger Research Center
University of Wisconsin-Madison, School of Pharmacy
425 North Charter Street
Madison, Wisconsin 53706
(608) 262-3454

INTRODUCTION AND STUDY METHODS

Prescription drug cost increases are a concern of health-care insurance administrators, including those in Health Maintenance Organizations (HMOs). Since 1982, prescription drug costs have increased about 91 percent [1]. In response to these cost increases and the competitive nature of the HMO market, HMO pharmacy directors have applied various drug product management strategies to their prescription drug benefits [2-7].

The purpose of this study was to identify drug product management strategies used in HMOs in Wisconsin, particularly those that are related to or driven by prescription ingredient cost reimbursement. A survey was developed to quantify the use of specific drug product management methods for controlling costs including formularies, Maximum Allowable Cost (MAC) lists, prior authorization, contracts for licensed co-marketed and single source drug entities, and drug exclusions. The survey was mailed on March 21, 1990, to the pharmacy director or the executive director at 28 of the 30 HMOs licensed in Wisconsin[a]. Twenty-two completed surveys were returned by April 16, 1990, for an overall response rate of 78.6 percent.

[a] One HMO was excluded because it solicited insurance for Illinois residents of Wisconsin employers only. Another HMO was excluded because it had a policy that prohibited participating in all surveys.

THE HMOs

A description of the HMOs from which responses were received is presented in Table 1. For the survey, HMO model types were defined as follows: 1) group models - HMOs that contract with one independent group practice to provide health services; 2) staff models - HMOs that deliver health services through a physician group controlled by the HMO unit; 3) independent practice association (IPA) models - HMOs that (a) contract directly with physicians or one or more associations of physicians in independent practice, and/or (b) contract with one or more multi-specialty group practices; 4) network models - HMOs that contract with two or more independent group practices, possibly including a staff group, to provide health services; and 5) Hybrid models - HMOs that comprise a combination of any of these four model types [8]. Our results showed that staff models used in-house pharmacies, but all other HMOs used local community pharmacies as their primary pharmacy providers.

Enrollments of over 100,000 members were reported for seven of the HMOs. According to records from the Office of the Commissioner of Insurance, one HMO in the state had more than 100,000 members and four HMOs had slightly less than 100,000 members. At present, five HMOs

TABLE 1 - Characteristics of Study HMOs in Wisconsin

	APPROXIMATE NUMBER OF MEMBERS ENROLLED			
MODEL TYPE	< 25,000	25,000 - 99,999	100,000+	Sample Size (N=22)
Group/Staff[a]	2	1	-	3 (14%)
IPA	4	2	4	10 (45%)
Network	2	2	2	6 (27%)
Hybrid[b]	1	1	1	3 (14%)
TOTAL	**9**	**6**	**7**	**22**
% of TOTAL	**(41%)**	**(27%)**	**(32%)**	

[a] One group and two staff model HMOs provided data.

[b] Two of the three were identified, one is a Group/IPA model and the other is a Group/IPA/Network model HMO.

potentially could have enrollments in Wisconsin of greater than 100,000 members. One respondent reporting enrollment over 100,000 members also explicitly stated that the survey answers were based on managing a multi-state HMO, that included Wisconsin. Thus, some other respondents could have based enrollment figures on national totals.

FINDINGS

Most of the drug product management strategies were being used by more than half the respondents. A summary of the selected drug product management strategies used in HMOs in Wisconsin is shown in Table 2. Leading the list of popular drug product management techniques were formularies and MAC lists, perhaps because of their comparative longevity and familiar concepts.

Formularies and Pharmacy & Therapeutics (P&T) Committees - Sixteen (73%) HMOs used some type of formulary (Table 2). Eight HMOs, six with enrollment over 100,000 members, used non-restrictive (open) formularies. One HMO used a restrictive formulary (closed or negative, coverage restricted to formulary except for emergencies). A restrictive formulary that routinely allows exceptions was used by seven HMOs, four of which had enrollments below

TABLE 2 - Summary of Selected Drug Product Management Strategies Used in HMOs in Wisconsin

Drug Product Management Strategy	NUMBER OF HMOs USING				
	All HMOs (N=22)	Group/Staff (N=3)	IPA (N=10)	Network (N=6)	Hybrid (N=3)
Formulary	16 (73%)	3	7	4	2
P&T Committee	15 (68%)	2	7	4	2
MAC List	14 (64%)	-	8	3	3
Prior Authorization	14 (64%)	2	8	2	2
CONTRACTS[a]	12 (55%)	2	5	3	2
"Exclusive" Status for:					
1. licensed co-marketed drug entities	6	1	2	2	1
2. single-source drug entities	2	1	-	-	1
"Preferred" Status for:					
1. licensed co-marketed drug entities	9	1	5	2	1
2. single-source drug entities	11	1	5	3	2

[a] Participated in both manufacturer contracts for licensed co-marketed and single-source drug entities.

25,000 members. No formulary was used by the remaining six HMOs. Of the 16 HMOs that had formularies, six made revisions quarterly, three monthly, three semi-annually, three annually, and one made revisions two to three times a year.

These formularies typically were established by a P&T Committee. P&T Committees were used in more than two-thirds (15) of the HMOs that responded (Table 2). The medical director and the pharmacy director were reported as members of two-thirds (10 of 15) of all P&T Committees. "Other pharmacists" were members of nearly three-fourths (11 of 15) and "other physicians" were members of every P&T committee. HMO administrators and nurses were members of one-third (5 of 15) of such committees. Physician assistants were least likely to be committee members, reportedly included on only two of the committees.

MAC Lists - In 14 (64%) of the HMOs, Maximum Allowable Costs (MACs) were set for some drug entities. Most (8 of 10) of the IPA model HMOs and all of the hybrid model HMOs set MACs for some drug entities. Of the 14 HMOs that set MACs, 10 (71%) used the Wisconsin Medicaid MAC list to help develop their lists. Group and staff model HMOs did not set MACs, for the staff model HMOs probably because they have in-house pharmacies and reimbursements generally are not made.

Prior Authorization - Fourteen (64%) HMOs used prior authorization as a drug product management strategy. Of these HMOs, eight applied it to fewer than five drug products, four applied it to between five and 10 products and only two applied it to 11 or more drug products. Information about the types of products requiring such authorization was not collected. Perhaps the number of products that justify this effort is small or the increased administrative burden it places on the beneficiary (as well as on the pharmacist and the HMO) discourages its application to more products.

Contracts - The popularity of contracts was measured by asking whether specific agreements (contracts) with manufacturers applied to licensed co-marketed drug entities (e.g., Pamelor & Aventyl, brands of nortriptyline) or to drugs within therapeutic classes with primarily single-source drug entities (e.g., histamine H2 antagonists, nonsteroidal anti-inflammatory drugs [NSAIDs], etc.) Information on contract lengths, incentives received and incentives preferred also was collected.

Twelve (55%) HMOs had contracts with manufacturers for licensed co-marketed drug entities and for specific products within therapeutic classes where single-source drug entities are primarily available (Table 2). HMOs either participated in both types of contracts or did not participate in either.

Of the 12 HMOs that participated in such contracts, two were group/staff, five were IPA, three were network, and two were hybrid models. Three of the 12 HMOs had less than 25,000 members, three had between 25,000 and 99,999 members and six had more than 100,000 members. Inspecting the results related to formulary use and contract participation revealed that, six of the 12 contracting HMOs had restrictive formularies with exceptions. The length of a contract for a licensed co-marketed drug entity was reported as one year by half the HMOs and greater than one year by the other half. The most common length of a contract for a single-source drug entity was one year, reported by six of 11 respondents.

The types of incentives reportedly received from manufacturer contracts for licensed co-marketed and single-source drug entities are shown in Table 3. All HMOs participating in such contracts received price protection from both contract types. A higher percentage received grant money and manufacturer's value added services from single-source contracts compared to co-marketed contracts. Rebates based on market share were received by all HMOs from single-source contracts, but only about 82 percent received such rebates from co-marketed contracts. Both discounts and discounts based on market share were the least likely incentives (excluding the "other" incentive) received from either

TABLE 3 - Incentives Received from Manufacturer Contracts by HMOs in Wisconsin[a]

	PERCENT OF HMOs THAT RECEIVE	
	Co-Marketed Contracts (N=11)	Single-Source Contracts (N=11)
Discounts	18%	18%
Discounts based on market share	18%	27%
Grant money[b]	46%	64%
Manufacturer's value added services[c]	55%	82%
Price protection[d]	100%	100%
Rebates based on bundling[e]	36%	46%
Rebates based on market share	82%	100%
Rebates based on utilization	82%	91%
"Other"[f]	9%	-

---

a Based on 11 of the 12 HMOs that participate in such contracts.

b Money received without stipulation.

c Services which include funding medical education, developing software programs, helping HMOs recruit doctors or increase membership, etc.

d Price will not increase during the time covered by the contract.

e Generally stipulates that rebates for both products A and B will be received only if product B is also placed on the formulary.

f Volume usage credits.

co-marketed or single-source contracts. In contrast to what was received, respondents' preferences for contract incentives were tabulated and are summarized in Table 4. For co-marketed contracts, the overwhelming "most" preferred incentive was rebates based on utilization. The "second most" and "third most" preferred incentive was price protection. Overall, for co-marketed contracts, rebates based on utilization ranked first, followed by price protection and rebates based on market share.

A similar distribution of preferred incentives resulted for single-source contracts. The weighted scores calculated to obtain overall rankings for single-source contract incentives essentially mimicked those scores for co-marketed contracts. The only exception was that rebates based on market share edged price protection for the second highest weighted score, the converse of weighted scores for co-marketed contracts.

"Exclusive" and "Preferred" Status - "Exclusive" status was defined as whether the HMO restricted reimbursement to one specified product (for either co-marketed drug entities or for products in therapeutic classes with primarily single-source drug entities). "Preferred" status was defined as whether the HMO did not restrict reimbursement, but preferred or encouraged a specific product be dispensed.

TABLE 4 - Preference for Manufacturer's Contract Incentives by Respondents in HMOs in Wisconsin

	NUMBER OF RESPONDENTS PREFERRING							
	For Co-Marketed Contracts[a]				For Single-source Contracts[a]			
Incentive	Most	2nd Most	3rd Most[b]	Weighted Score[c]	Most	2nd Most	3rd Most	Weighted Score[c]
Discounts	1	-	-	3	1	-	-	3
Discounts based on market share	-	1	-	2	-	1	-	2
Grant money	-	-	1	1	-	-	2	2
Manufacturer's value added services	-	1	1	3	-	1	-	2
Price protection	-	5	4	14	-	5	4	14
Rebates based on bundling	-	-	2	2	-	-	1	1
Rebates based on market share	1	3	2	11	2	3	4	16
Rebates based on utilization	9	1	-	29	8	1	-	26
Other	-	-	-	-	-	-	-	-

[a] Based on 11 of the 12 HMOs that participate in such contracts.
[b] One respondent did not report a 3rd most preferred incentive.
[c] Scores based on weight. For each incentive, most preferred was weighted by 3; 2nd most preferred weighted by 2; and 3rd most preferred weighted by 1 to arrive at an overall score.

Of the 12 HMOs participating in contracts for co-marketed drug entities, six had "exclusive" status and nine had "preferred" status assigned to some licensed co-marketed drug entities (Table 2). Four HMOs reportedly used both "exclusive" and "preferred" status but applied them separately to different co-marketed products.

We quantified the number of co-marketed drug entities with "exclusive" status and those with "preferred" status. Three HMOs reportedly had between six and 10 "exclusive" co-marketed drug entities, two reported 11 to 15 such products and only one HMO reported more than 15. Whereas, three HMOs reportedly had one to five "preferred" co-marketed drug entities, four reported six to 10 such products and two reported more than 15.

Of the 12 HMOs participating in contracts for single-source drug products, two had "exclusive" status and 11 had "preferred" status assigned to some single-source products (Table 2). Two HMOs used both "exclusive" and "preferred" status but applied them separately to different single-source products.

We similarly quantified the number of single-source products with "exclusive" status and those with "preferred" status. Only two HMOs reportedly had one to five "exclusive" single-source drug products. Whereas, two HMOs

reportedly had between one to five "preferred" single-source products, one HMO had six to 10, two had 11 to 15, and six HMOs had more than 15.

Drug Exclusions - All HMOs excluded experimental drugs from coverage and all but one excluded over-the-counter medications (other than insulin). That exceptional HMO excluded all but a list of four approved OTC drug entities. Twenty (91%) HMOs excluded Rogaine (topical minoxidil). Retin-A (topical tretinoin) was excluded by 13 (59%) HMOs particularly if: **(a)** prescribed for cosmetic use, and **(b)** for patients with ages over 25 years, or a combination of these. A total of 11 (50%) HMOs excluded Nicorette (nicotine gum) and another placed a three-month limit on its use. Fertility drugs were excluded by nine (41%) HMOs, birth control devices by eight (36%) and oral contraceptives by three (14%) HMOs. One HMO excluded Retrovir (zidovudine).

The most common "other" exclusion was appetite suppressants, excluded by three HMOs. Oral progesterone was excluded by two HMOs, one of these specifically excluded it for PMS. "Other" exclusions included Procardia XL (extended release nifedipine), disulfiram, growth hormone, anabolic steroids and allergy serum, each excluded by one HMO.

DISCUSSION

It is clear that HMO pharmacy directors use various strategies to control their prescription drug benefits. The high response rate also helps assure the results reflect the situation for HMOs in Wisconsin; however, readers are cautioned about making generalizations to HMOs in other states.

Most HMOs had an established formulary. Smaller HMOs typically did not have a formulary, whereas large HMOs had a formulary, but primarily a non-restrictive (open) one. Although use of a P&T Committee might not be thought of as a cost-containment strategy, this committee has the responsibility to maintain the formulary and to establish policies and procedures for drug use. Thus, it fosters cost-containment. HMOs that used P&T Committees are more likely to adopt policies that address the cost and utilization challenges presented by the drug benefit.

A majority (55%) of HMOs in Wisconsin participated in manufacturer contracts for licensed co-marketed and single-source drug entities, as a means to control costs. These arrangements are relatively recent developments derived from the notion that HMOs and their enrolled populations are potent market shares that deserve consideration. Such contracts result in specialized forms of generic and therapeutic substitution strategies, where the HMO controls (or

influences) which products are to be dispensed[b]. These drug entities increasingly are being managed through "exclusive" and "preferred" drug product lists (specialized formularies). As further evidence of this trend, one respondent stated they soon will implement a "preferred" drug product list. Several others whom did not participate in such contracts stated they will participate soon and adopt similar strategies to manage their prescription benefit.

The preference for rebates based on utilization for both licensed co-marketed and single-source contracts suggests that respondents favor this incentive because they can influence it directly. Utilization can be influenced through "exclusive" and "preferred" drug product lists, thus their popularity for maximizing cost savings to HMOs may increase.

Other cost-containment measures used by a majority of HMOs in Wisconsin were MAC lists and prior authorization. The Wisconsin Medicaid MAC list was instrumental in helping most HMOs develop their own lists. These HMOs are reaping the benefits of efforts expended by state officials in developing a MAC list as a drug program cost measure. The extensiveness of the state MAC list provides a spillover benefit to HMO pharmacy directors who might otherwise be forced to develop their own list.

[b] Wisconsin statute Chapter 450.01(16)(h) expressly permits therapeutic substitution in hospitals. However, therapeutic substitution is not expressly authorized in other health care settings such as HMOs.

Other techniques can influence drug costs or serve as product management approaches. This study did not collect data on the use of deductibles, dual copayments, and dual dispensing fees to encourage product use and cost-containment. Further research is needed to quantify such information.

REFERENCES

1. "Producer Price Indexes." Data for December 1989. U.S. Department of Labor, Bureau of Labor Statistics, pg 6.

2. "Marion Managed Care Digest - HMO Pharmacy Edition 1990." Marion Laboratories, Inc., Kansas City, Missouri.

3. Shah, Robert. "An Overview of Pharmaceutical Cost-Containment Practices in the Managed Care Sector." Drug Benefit Trends (February/March 1989), 1(1):16-22.

4. Zuvekas, Ann; Peter D. Fox, LuAnn Heinen and Michael R. Pollard. "Cost Containment in HMO Pharmacies." GHAA Journal (Winter 1986), 7(2):22-34.

5. Doering, Paul L.; Wayne L. Russell, William C. McCormick and Deborah L. Klapp. "Therapeutic Substitution in the Health Maintenance Organization Outpatient Environment." Drug Intelligence and Clinical Pharmacy (February 1988), 22(2):125-130.

6. Gold, Marsha; Mark Joffe, Timothy L. Kennedy and Anthony M. Tucker. "Pharmacy Benefits in Health Maintenance Organizations." Health Affairs (Fall 1989), 8(3):182-190.

7. "American Medical Care and Review Association 1989 Pharmacy Survey." American Medical Care and Review Association. Washington, DC.

8. "The InterStudy Edge 1990, Volume 2." InterStudy. Excelsior, MN.

APPENDIX D

The Final Instruments:
The Pre-notification Postcard
The Cover Letter
The Request for Results Postcard
The Survey Instrument
The Follow-up Postcard

The Pre-notification Postcard

In a few days you will receive a survey about drug product management in HMOs, as part of a national study.

When you receive the survey, please complete and return it. A copy of the results will be made available to participants. Thank you in advance for your help.

Sincerely,

David H. Kreling

Pharmacist David H. Kreling, Ph.D.

Robert E. Mucha

Pharmacist Robert E. Mucha

The Cover Letter

University of Wisconsin Madison

CENTER FOR HEALTH SCIENCES
School of Pharmacy
425 North Charter Street
Madison, Wisconsin 53706
Telephone: 608/262-1416

September, 1990

1~
2~
3~

4~

Increasing drug product costs are a challenge for HMO executives, such as yourself. We are attempting to identify methods used in drug product management to help control these increasing costs. Your experiences with methods used for drug product management best reflect current practices and thus your input is important.

Your colleagues in HMOs nationwide are being asked for information on their experiences. Your response will help assure the results are representative of all HMOs. Please take a few minutes and complete the enclosed form. Your responses are confidential. You can obtain a summary of the results by returning the enclosed postcard.

Even if your HMO has no pharmacy benefit, your response is still important. Please complete and return the form as indicated. If you have questions about the study, please call (608) 262-3454. Your time and help are greatly valued and appreciated. Thank you.

Sincerely,

David H. Kreling, R.Ph., Ph.D.
Associate Professor
of Pharmacy Administration

Robert E. Mucha, R.Ph.
Research Associate
in Pharmacy Administration

DHK:rem

Enclosures

The Request for Results Postcard

I have responded to the survey and would like a summary of the results. Please send to:

_____

_____

_____

_____

_____

*Mail this postcard separately.
THANK YOU!

The Survey Instrument

NATIONAL HMO DRUG PRODUCT MANAGEMENT SURVEY

Please check the appropriate space or write in your response. If your HMO has no pharmacy benefit, please go to Part V, page 7, answer questions 12 through 14, and write "no Rx benefit" in the comment section. Thank you.

PART I. FORMULARY, MAC LIST AND P & T COMMITTEE

This part reviews the use of a formulary, MAC list and/or P & T committee.

1. What type of drug formulary does your HMO use? (Please check one.)

   _____ Non-restrictive (open)

   _____ Restrictive (closed or negative, coverage restricted to formulary except for emergencies)

   _____ Restrictive with Exceptions (coverage restricted to formulary but exceptions routinely are allowed)

   _____ None (<u>if None</u>, please go to question 2)

   a) About how often are additions and deletions made? (Please check one.)

      _____ monthly

      _____ quarterly

      _____ semi-annually

      _____ annually

      _____ other (please specify) _____

2. Are Maximum Allowable Costs (MACs) set for some drug entities? (Please check one.)

   _____ YES

   _____ NO (<u>if NO</u>, please go to question 3 on page 2)

   a) Do you use your State Medicaid MAC list to help develop your MAC list? (Please check one.)

      _____ YES

      _____ NO (<u>if NO</u>, please go to question 3 on page 2)

      _____ Our state does not have a Medicaid MAC list. (please go to question 3 on page 2)

b) How does the number of drug entities on your HMO MAC list compare with the number of drug entities on your State's Medicaid MAC list? (Please check one.)

_____ Our HMO MAC list is more extensive (covers more entities)

_____ Our HMO MAC list is about the same (covers about the same entities)

_____ Our HMO MAC list is less extensive (covers fewer entities)

3. In your HMO, do you use a Pharmacy & Therapeutics (P & T) Committee? (Please check one.)

_____ YES

_____ NO (<u>if NO</u>, please go to PART II, question 4 on page 3)

a) What is the composition of your P & T Committee? (In <u>Column A</u> please check the members with those titles. In <u>Column B</u> please put the number of members that represent each title checked in Column A. If a member has more than one title use their primary title.)

<u>Column A</u> (composition)	<u>Column B</u> (# per title)	
_____	_____	HMO Administrator
_____	_____	Medical Director
_____	_____	Other Physicians
_____	_____	Nurses
_____	_____	Pharmacy Director/Manager
_____	_____	Other Pharmacists
_____	_____	Physician Assistants
_____	_____	Other (please specify) _____

b) How are these P & T Committee members associated with your HMO? (In <u>Column A</u> please estimate the percentage represented by each category.)

	<u>Column A (%)</u>	
	_____	in-house employees or staff members
	_____	actual providers who are not in-house employees or staff members
	_____	part of an advisory P & T Committee (consultants)
	_____	other (please specify) _____
Total	100%	

PART II. LICENSED CO-MARKETED DRUG ENTITIES

This part covers licensed legend drug entities that are co-marketed by different manufacturers, for example: Calan-SR & Isoptin-SR, Pamelor & Aventyl, Micronase & Diabeta, Zestril & Prinivil, Ventolin & Proventil, Procardia & Adalat, Tri-Levlen & Triphasil, etc.

4. In your HMO, are there specific agreements (contracts) with manufacturers that apply to licensed co-marketed drug entities? (Please check one.)

_____ YES

_____ NO (if NO, please go to question 5 on page 4)

a) About how many contracts do you have for licensed co-marketed drug entities? (Please check one.)

_____ 1-5

_____ 6-10

_____ 11-15

_____ more than 15

b) Which of the following have you received from manufacturer contracts for licensed co-marketed drug entities? (Please check all that apply.)

1. _____ discounts
2. _____ discounts based on market share
3. _____ grant money
4. _____ manufacturer's value added services
5. _____ price protection
6. _____ rebates based on bundling
7. _____ rebates based on market share
8. _____ rebates based on utilization
9. _____ other (please specify)_____

c) Which of the above do you most prefer receiving from manufacturer contracts for licensed co-marketed drug entities? (Please put the item number in appropriate blank.)

_____ most preferred

_____ second most preferred

_____ third most preferred

d) What is the typical length of a contract for a licensed co-marketed drug entity? (Please check one.)

_____ less than 1 year

_____ 1 year

_____ greater than 1 year

5. One way to characterize the reimbursement for (or dispensing of) licensed co-marketed drug entities is to assign "exclusive" status, when reimbursement (or dispensing) is restricted to one co-marketed entity.

In your HMO, about how many licensed co-marketed drug entities have "exclusive" status (as defined above)? (Please check one.)

_____ none

_____ 1 - 5

_____ 6 - 10

_____ 11 - 15

_____ more than 15

6. Another way to characterize the reimbursement for (or dispensing of) licensed co-marketed drug entities is to assign "preferred" status, when reimbursement (or dispensing) is not restricted, however one co-marketed entity is preferred or encouraged to be dispensed.

In your HMO, about how many licensed co-marketed drug entities have "preferred" status (as defined above)? (Please check one.)

_____ none

_____ 1 - 5

_____ 6 - 10

_____ 11 - 15

_____ more than 15

PART III. SINGLE-SOURCE DRUG ENTITIES

This part covers pharmacologic or therapeutic drug classes that have primarily single-source drug entities available, for example, histamine H-2 antagonists, nonsteroidal anti-inflammatory drugs (NSAIDs), etc.

7. In your HMO, are there specific agreements (contracts) with manufacturers that apply to specific products within such classes? (Please check one.)

_____ YES

_____ NO (if NO, please go to question 8 on page 6)

a) About how many contracts do you have for single-source drug entities within such classes? (Please check one.)

_____ 1-5
_____ 6-10
_____ 11-15
_____ more than 15

b) Which of the following have you received from manufacturer contracts for drug products within such classes? (Please check all that apply.)

1. _____ discounts
2. _____ discounts based on market share
3. _____ grant money
4. _____ manufacturer's value added services
5. _____ price protection
6. _____ rebates based on bundling
7. _____ rebates based on market share
8. _____ rebates based on utilization
9. _____ other (please specify)_____

c) Which of the above do you most prefer receiving from manufacturer contracts for drug products within such classes? (Please put the item number in appropriate blank.)

_____ most preferred
_____ second most preferred
_____ third most preferred

d) What is the typical length of a contract for single-source drug entities within such classes? (Please check one.)

_____ less than 1 year
_____ 1 year
_____ greater than 1 year

8. One way to characterize the reimbursement for (or dispensing of) drug products in some pharmacologic or therapeutic classes that have primarily single-source drug entities available is to assign "exclusive" status, when reimbursement (or dispensing) is restricted to one product only within a class.

   In your HMO, about how many products have "exclusive" status (as defined above)? (Please check one.)

   _____ none
   _____ 1-5
   _____ 6-10
   _____ 11-15
   _____ more than 15

9. Another way to characterize the reimbursement for (or dispensing of) drug products in some pharmacologic or therapeutic classes that have primarily single-source drug entities available is to assign "preferred" status, when reimbursement (or dispensing) is not restricted, however, some products are preferred or encouraged to be dispensed within a class.

   In your HMO, about how many products have "preferred" status (as defined above)? (Please check one.)

   _____ none
   _____ 1-5
   _____ 6-10
   _____ 11-15
   _____ more than 15

PART IV. OTHER METHODS OF DRUG PRODUCT MANAGEMENT

10. In your HMO, do you use prior authorization to manage the use of legend drug products? (Please check one.)

    _____ YES
    _____ NO (if NO, please go to question 11 on page 7)

    a) Approximately how many legend drug products require prior authorization? (Please check one.)

       _____ less than 5
       _____ 5 - 10
       _____ 11 - 15
       _____ more than 15

11. In general, which of the following are excluded from your HMO pharmacy benefits? (Please check all that are excluded in most coverage options.)

_____ appetite suppressants
_____ birth control devices
_____ experimental drugs
_____ fertility drugs
_____ Nicorette gum
_____ oral contraceptives
_____ over-the-counter medication (other than insulin)
_____ Retin-A for cosmetic use, or over age 25, or both
_____ Retrovir
_____ Rogaine
_____ Other (please specify)
1. _____
2. _____
3. _____

PART V. HMO CHARACTERISTICS

Finally, a few questions about your HMO to help categorize the results.

12. What model type BEST describes your HMO? (Please check one. If your HMO structure includes more than one model type, please check the one model type that represents the greatest proportion of enrollees.)

_____ Group
_____ IPA
_____ Network
_____ Staff

13. About how many members are enrolled in your HMO? (Please check one.)

_____ under 5,000
_____ 5,000 - 14,999
_____ 15,000 - 24,999
_____ 25,000 - 49,999
_____ 50,000 - 99,999
_____ 100,000 +

14. In what state is your HMO plan located? (Please print the abbreviation for your state below. If your HMO operates as part of a multistate HMO, print the state in which this particular plan is located.)

_____

15. From which type of pharmacy outlets do your enrollees PRIMARILY obtain drug benefits? (Please check one.)

_____ in-house pharmacies
_____ local community pharmacies (independent and/or chain)
_____ mail-order pharmacies

16. Which of the following BEST describes your employment status? (Please check one.)

_____ Executive Director
_____ Medical Director
_____ Pharmacy Director or Pharmacist
_____ Utilization Review Coordinator
_____ Other (please specify)

_____

17. Your suggestions and comments are welcome.

_____
_____
_____
_____

DIRECTIONS FOR RETURNING THE BOOKLET

Please return the survey using the enclosed postage free envelope and drop it in the mail.

THANK YOU FOR YOUR HELP!

*****To Receive a Summary of the Results, Please use the Enclosed Postcard.

The Follow-up Postcard

A survey sent to you last week covered drug product management in HMOs.

If you already have responded, THANK YOU VERY MUCH FOR YOUR HELP. If not, please do so today. Your response will help assure the results are representative of HMOs nationwide.

If you did not receive the survey or it was misplaced, please call and we will send another copy.

Sincerely,

David H. Kreling

Pharmacist David H. Kreling, Ph.D.
(608) 262-3454

Robert E. Mucha

Pharmacist Robert E. Mucha
(608) 262-6534

APPENDIX E

List of States in the Four Geographic Regions
(Northeast, South, West, Midwest)
as Used by the United States Census Bureau

Region 1 (Northeast)
Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

Region 2 (South)
Alabama
Arkansas
Delaware
District of Columbia
Florida
Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia
West Virginia
Guam

Region 3 (West)
Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

Region 4 (Midwest)
Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota

APPENDIX F

The Coding Format

MASTER CODING FOR MASTER'S THESIS PROJECT

Column widths are specified under position and are numeric

Column Position		Variable Code
C1-3	Form Number 000-999 Number written on survey	IDN
C4	Form Color 1 = Yellow 2 = Grey 3 = Ivory 4 = Blue	COLOR
C5	HMO Ownership Category 1 = Independent (yellow & grey forms) 2 = Nationally Owned - Multi-state (ivory & blue forms)	OWN

Questions in numerical order from the survey

C6	Formulary Type 1 = Non-restrictive 2 = Restrictive 3 = Restrictive with Exceptions 4 = None	FORM
C7	Formulary Additions and Deletions 1 = monthly 2 = quarterly 3 = semi-annually 4 = annually 5 = other 8 = don't know 9 = nonresponse	FORMAD
C8	Set Maximum Allowable Costs (MACs)? 1 = Yes 2 = No 9 = nonresponse	MAC
C9	Use Your State's Medicaid MAC List to Develop Your List? 1 = Yes 2 = No 3 = Our state does not have a Medicaid MAC list 9 = nonresponse	MACST

C10 Comparison of HMO's MAC List to State's Medicaid MAC List — MACSIZ

1 = HMO MAC list more extensive
2 = HMO MAC list about same
3 = HMO MAC list less extensive
8 = don't know
9 = nonresponse

C11 Use a P&T Committee? — PTCOM

1 = Yes
2 = No
9 = nonresponse

C12-19 Composition of P&T Committee

HMO Administrator	HMOAD
Medical Director	MDDIR
Other Physicians	OMD
Nurses	RN
Pharmacy Director/Manager	RPHDIR
Other Pharmacists	ORPH
Physician Assistants	PHYAS
Other	OTHER

1 = member present on committee, blank = member not present

C20-28 Number of Members Per Title

All titles are one column wide, except NOMD is two columns wide

HMO Administrator	NHMOAD
Medical Director	NMDDIR
Other Physicians	NOMD
Nurses	NRN
Pharmacy Director/Manager	NRPHDIR
Other Pharmacists	NORPH
Physician Assistants	NPHYAS
Other	NOTHER

1 through 12 = Actual number reported by respondent, blank = don't know

C29-36 P&T Committee Member Association

Each association variable is two columns wide

Percent in-house employees or staff members	PEMPSF
Percent actual providers	PPROV
Percent part of an advisory P&T Committee (consultants)	PCONS
Percent other	POTH

1 through 98 = Actual number (percent) reported by respondent
99 = 100 percent, blank = don't know

C37 Contracts Co-marketed Drug Entities — CCM

1 = Yes
2 = No
7 = proprietary
8 = don't know
9 = nonresponse

C38 Number Contracts Co-marketed Drug Entities — NCCM

1 = 1 - 5
2 = 6 - 10
3 = 11 - 15
4 = more than 15
7 = proprietary
8 = don't know
9 = nonresponse

C39-47 Incentives Received Co-marketed Contracts

Discounts	ICMD
Discounts based on market share	ICMDMS
Grant money	ICMGM
Manufacturer's value added services	ICMMV
Price protection	ICMPP
Rebates based on bundling	ICMRB
Rebates based on market share	ICMRMS
Rebates based on utilization	ICMRU
Other	ICMO

1 = incentive is received
blank = incentive is not received
7 = proprietary
8 = don't know
9 = nonresponse

C48-50 Incentive Preference Co-marketed Contracts

Most preferred	IPCMM
Second most preferred	IPCMS
Third most preferred	IPCMT

1 = Discounts
2 = Discounts based on market share
3 = Grant money
4 = Manufacturer's value added services
5 = Price protection
6 = Rebates based on bundling
7 = Rebates based on market share
8 = Rebates based on utilization
9 = Other
blank = nonresponse

C51 Contract Length for Co-marketed Drug Entities CCMLEN

1 = less than 1 year
2 = 1 year
3 = greater than 1 year
7 = proprietary
8 = don't know
9 = nonresponse

C52 Number of Co-marketed Drug Entities with Exclusive Status CME

1 = none
2 = 1 - 5
3 = 6 - 10
4 = 11 - 15
5 = more than 15
7 = proprietary
8 = don't know
9 = nonresponse

C53 Number of Co-marketed Drug Entities with Preferred Status CMP

For coding see Number of Co-marketed Drug Entities with Exclusive Status

C54 Contracts Single-source Drug Entities CSS

For coding see Contracts Co-marketed Drug Entities

C55 Number Contracts Single-source Drug Entities NCSS

For coding see Number Contracts Co-marketed Drug Entities

C56-64 Incentives Received Single-source Contracts

Discounts	ISSD
Discounts based on market share	ISSDMS
Grant money	ISSGM
Manufacturer's value added services	ISSMV
Price protection	ISSPP
Rebates based on bundling	ISSRB
Rebates based on market share	ISSRMS
Rebates based on utilization	ISSRU
Other	ISSO

For coding see Incentives Received Co-marketed Contracts

C65-67 Incentive Preference Single-source Contracts

Most preferred	IPSSM
Second most preferred	IPSSS
Third most preferred	IPSST

For coding see Incentive Preference Co-marketed Contracts

C68 Contract Length for Single-source Drug Entities CSSLEN
For coding see Contract Length for Co-marketed Drug Entities

C69 Number of Single-source Drug Entities
with Exclusive Status SSE
For coding see Number of Co-marketed Drug Entities with Exclusive Status

C70 Number of Single-source Drug Entities
with Preferred Status SSP
For coding see Number of Co-marketed Drug Entities with Exclusive Status

C71 Use Prior Authorization? PAU
1 = Yes
2 = No
9 = nonresponse

C72 Number Requiring Prior Authorization NRPAU
1 = less than 5
2 = 5 - 10
3 = 11 - 15
4 = more than 15
9 = nonresponse

C73-83 Exclusions From Pharmacy Benefits

Appetite suppressants	EAS
Birth control devices	EBCD
Experimental drugs	EEX
Fertility drugs	EFER
Nicorette gum	ENG
Oral contraceptives	EOC
Over-the-counter medication (other than insulin)	EOTC
Retin-A for cosmetic use, or >25 y.o., or both	ERTINA
Retrovir	ERTROV
Rogaine	EROG
Other	EOTH

1 = drug is excluded
blank = drug is not excluded
9 = nonresponse

C84 Model Type MTYPE
1 = Group
2 = IPA
3 = Network
4 = Staff

C85 Number of Members Enrolled NMEM

1 = under 5,000
2 = 5,000 - 14,999
3 = 15,000 - 24,999
4 = 25,000 - 49,999
5 = 50,000 - 99,999
6 = 100,000 +

C86-87 What State is HMO Plan Located? STATE

States are listed by standard abbreviations, and by four geographic regions (Northeast, South, West, Midwest) as used by the United States Census Bureau The District of Columbia and Guam are included, but Wisconsin was excluded since it was the pretest state

Region 1 (N)	Region 2 (S)	Region 3 (W)	Region 4 (M)
1 = CT	10 = AL	28 = AK	41 = IL
2 = ME	11 = AR	29 = AZ	42 = IN
3 = MA	12 = DE	30 = CA	43 = IA
4 = NH	13 = DC	31 = CO	44 = KS
5 = NJ	14 = FL	32 = HI	45 = MI
6 = NY	15 = GA	33 = ID	46 = MN
7 = PA	16 = KY	34 = MT	47 = MO
8 = RI	17 = LA	35 = NV	48 = NE
9 = VT	18 = MD	36 = NM	49 = ND
	19 = MS	37 = OR	50 = OH
	20 = NC	38 = UT	51 = SD
	21 = OK	39 = WA	
	22 = SC	40 = WY	
	23 = TN		
	24 = TX		
	25 = VA		
	26 = WV		
	27 = GUAM		

C88 Region of the Country REGION

1 = Northeast (N) Region
2 = South (S)
3 = West (W)
4 = Midwest (M)

For the specific states in each region see coding under What State is HMO Plan Located?

C89 Primary Pharmacy Outlet Used by the HMO RXOUT

1 = in-house pharmacies
2 = local community pharmacies (independent and/or chain)
3 = mail-order pharmacies

C90 Respondent's Employment Status with the HMO EMPSTAT

1 = Executive Director
2 = Medical Director
3 = Pharmacy Director or Pharmacist
4 = Utilization Review Coordinator
5 = Other

APPENDIX G

A List of "Other" Exclusions from HMO Pharmacy Benefits

Each of the following exclusions received two mentions:
Accutane (isotretinoin)
antibacterial soaps and shampoos
antihistamine decongestants
compounded medications
cosmetic agents
drug products with convenient dosage forms
drug products with OTC equivalents
insulin
needles and syringes
Oxsoralen (methoxsalen)
Transderm-Scop (transdermal scopolamine)
vitamins

Each of the following exclusions received one mention:
anabolic steroids
anti-hyperlipidemic agents
Catapres-TTS (transdermal clonidine)
Eldopaque (topical hydroquinone) and similar products
growth hormone
injectable chemotherapy
Interferon
long-acting medications
Mevacor (lovastatin)
nutritional supplements
nystatin oral powder
other devices
progesterone
progesterone suppositories for PMS
prophylaxis dosing for malaria
sleeping medication
topical dental fluorides
Tussionex suspension
vaccines
Vancenase AQ (aqueous beclomethasone)
vitamin B-12 (cyanocobalamine)

APPENDIX H

Respondent Comments

Our formulary is mandated and includes 91 generic drugs. We have no formulary for any other drugs.

I look forward to using the results to initiate more comprehensive controls (eg. formulary) for our HMO.

We contract with a network of pharmacies paid on a capitation/risk sharing arrangement.

Definitions of formularies vary widely. We use formulary: covered drug and non-formulary: non-covered drugs. P&T committee guidelines: educational information regarding preferred use of agents.

We do send information to practitioners about costs of comparable medications, primarily for antibiotics, H-2 antagonists, NSAIDs and benzodiazepines.

Presently, no formulary, but it will be open. No P&T committee at this time but it will have an HMO administrator, a medical director, other physicians and the pharmacy director as members. Presently, no contracts for co-marketed drugs but there will be and we will receive discounts, discounts based on market share, manufacturer's value added services, price protection, rebates based on market share, and rebates based on utilization. I prefer price protection most, discounts second most, discounts based on market share third most.

Bid questions are considered proprietary information.

Many plans focus their DUR around formularies. While these work best with staff model HMOs, we believe there are still inherent problems with formularies and have chosen to opt out of the option. For more information, please call me (telephone number withheld).

Our formulary is currently non-restrictive. We are working toward a revised formulary next year.

We are in the process of making many changes in pharmacy: multiple benefit option plans, recruiting a pharmacist, setting up a P&T committee, developing a drug utilization review program, moving to MAC pricing, planning for a closed formulary in the future.