Performance Reporting for Managed Care Prescription Programs

Suzanne E. Graden and Kenneth W. Schafermeyer

ABSTRACT: Careful collection, management, analysis, and reporting of prescription data is essential when assessing the utilization of pharmaceuticals in managed care settings. This continuing education article outlines the requirements and limits of data, reviews typical reporting formats, discusses managed care organizations' roles in analyzing data, and discusses the need for better data integration.

KEY WORDS: Pharmaceutical care, Practice standards, Managed care, Documentation, Reward systems, Barriers, Prescription claims, Prescriber report card

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Reporting performance data has become a vital function of managed care organizations (MCOs). Data derived from prescription claims allow MCOs to determine how resources are being utilized, identify potential areas of over-utilization, and demonstrate an ability to control costs. Performance data allow for comparative analysis among plans, copayment structures, lines of business, and geographical areas. Favorable performance data provide a competitive advantage for MCOs marketing their services to employer groups as well as many employer groups that contract with MCOs.

Plan performance data are required by regulators and review agencies. Performance data also are available at the physician level, in the form of physician report cards or profiling, and can serve as a basis for academic detailing programs that encourage physicians to employ more cost-effective treatment modalities.

GENERAL MANAGEMENT REPORTING

Data Requirements

Useful performance information can be generated only if data are consistent with the following basic requirements:

▲ **Integrity.** To have integrity, data must be accurate. Accuracy of performance information is limited by the accuracy of the prescription claims data entered into the on-line adjudication system. Prescription claims can be inaccurate due to inaccurate information on days supply or to incorrect prescriber information. Databases should only include actual claims paid after adequate screening to remove duplicate claims and claims that fall outside of ranges that the MCO considers reasonable.

▲ **Reliability.** To be reliable, data must be consistent. Diagnoses, for example, should be coded consistently by all providers. Inconsistent coding will result in under- or over-reporting of specific disease states and their associated costs.

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▲ **Validity.** To be valid, data must be accurate. This requires that claims be coded properly—not just consistently. There should be a reasonable assurance that there has been no “up-coding” (i.e., the practice of recording more extensive diagnoses or procedures in an attempt to increase reimbursement). Validity also requires that the same result or measure be obtained from a different source of the same data. An example would be comparing summary utilization information (e.g., total expenditures) to billing information.

▲ **Significance.** To meet the significance requirement, the report must provide answers to the specific questions being asked. Furthermore, the report should provide information regarding some factor over which the MCO has direct or indirect control and that can, therefore, serve as a basis for management decisions. A report that does not provide this information or is not used for management decision making is not significant.

▲ **Adequate time span.** Data must span an adequate period of time, especially if the results are being used for trending or other longitudinal comparisons. Although comparisons of data from a given month to that of the previous month will often show significant differences, these differences are generally only temporary aberrations that do not appear to be significant when a longer time period is reviewed. Observing data over a longer time period is especially important for procedures that have low utilization or that tend to have seasonal variations in utilization. If the data are available, the best mechanism for trending utilization and its resultant cost is comparing data for the same period (usually a quarter) of the previous year. Any changes in benefits, such as formulary changes or changes in deductibles or copayments, must be considered when trending utilization and costs.

▲ **Flexibility.** Performance reporting is enhanced by the ability to create *ad hoc* queries of the database. The ability to query the database or export data to other computer programs allows an MCO to answer questions in a timely manner and provide customized reports for managers. When dealing with a large volume of data, it may first be summarized and then placed in tables to facilitate expedient retrieval.

Data Limitations

Because of the dynamic nature of the managed care industry, changes are constantly occurring in MCO plan design and enrollment. The impact of these changes must be considered when making any longitudinal comparisons of data. (Although statistical procedures can be used to control for these changes, any discussion is beyond the scope of this article.)

Several limitations are inherent in the use of prescription claims databases for performance reporting purposes, primarily because claims adjudication systems were designed to facilitate payment of claims, not to manage data or produce performance reports. Integrity of the data often is suspect because inaccurate diagnoses or prescriber identifications are difficult

or, in many cases, impossible to determine. Prescription claims databases usually are not integrated with claims data for other health care services. Although data integration capabilities are improving for the managed care industry, data still are not available for capitated plans that do not capture medical claims information. Without linking utilization and cost data for prescriptions to other health care services, determining whether prescribers are using the prescription benefit properly is difficult. One could postulate, for example, that a prescriber with utilization and costs that are high for prescriptions but low for other health care services may be using the prescription benefit properly and, therefore, may not have a problem with high prescription expenditures. Without complete information, however, providers could draw inaccurate conclusions.

Managers must be aware of the potential limitations on the information being generated. Unless managers exhibit some caution or skepticism, they may give too much weight to misleading data and, consequently, profile some prescribers inaccurately or misclassify them as outliers.

Reporting Format

There are three basic formats for performance reports: summary, detail, and graphic. The appropriate one depends on its application. Summary reports usually are one or two pages in length and are designed to allow managers to continually monitor various performance indicators such as utilization and cost. Summary reports can be produced for each provider individually or as averages for all participating providers. The reports for a panel of providers allow focused review and possible discovery of areas that may need the attention of management. Reports for individual providers often include one of two types of benchmarks: 1) established targets or standards that are compared with providers' performance, and/or 2) normative data that allow comparison of individuals to group means.

Detail reports often are very lengthy and are better utilized for infrequent reports or *ad hoc* reporting requests. Because of their length, detail reports often generate great volumes of unnecessary data that can obscure relevant information or make utilization problems more difficult to detect. To be effective tools, detail reports should be limited to the question at hand or present the information in order of importance. An “exception report” is a type of detail report that lists items in decreasing order of importance based on selection criteria. Examples of detail reports include the following:

▲ **Drug ranking report** - provides a list of the prescription drugs dispensed and includes relevant prescription statistics (e.g., number of prescriptions, costs associated with each drug product, and pertinent ratios).

▲ **Prescriber ranking report** - lists prescribers and relevant prescription claims data (e.g., number of prescriptions, associated costs, and ratios).

▲ **High utilization report** - lists prescription claims information by member to detect member fraud, excessive use of

controlled substances, or "shopping" behavior (i.e., using several physicians or pharmacies to obtain duplicate or unnecessary services).

▲ **Graphic report** - a short report that conveys large amounts of information very quickly. It is especially useful to illustrate long-term trends and often is incorporated into manuscripts or presentations. Since most mainframe computer systems aren't designed to produce graphics of suitable quality, downloading relevant information to a personal computer for this purpose is usually necessary. Graphic reports, therefore, are time consuming to prepare and, consequently, not suitable for mass production.

Key Performance Indicators

While each managed care organization produces numerous reports that measure various performance indicators, a few reports are common to almost all MCOs in one form or another. These reports focus on key performance indicators that can provide a great deal of information about how the MCO is managing the prescription benefit program. Examples of important performance indicators include the following:

▲ **Per member per month (PMPM) utilization** - the total number of prescriptions filled in a month divided by the total number of eligible members for that same month. This ratio allows the reviewer to examine the extent to which changes in utilization contribute directly to total prescription expenditures. Some MCOs that offer a mail-order option will count a three-month mail-service prescription as three prescriptions, rather than one.¹

▲ **PMPM costs** - the total claim costs (prescription cost less member copayment) for a month, divided by the total number of eligible members for that same month. Costs presented in this manner hold constant any variations in cost directly attributable to increased enrollment in the prescription benefit program. PMPM costs are affected by utilization, member copayment, drug mix, and market share. Higher copayments reduce PMPM costs both directly (by reducing the MCO's portion of prescription costs) and indirectly (by discouraging unnecessary utilization).

▲ **Drug mix** - the ratio of dispensed single-source brand (SSB) drugs to multi-source brand (MSB) drugs to generic drugs. A common drug mix indicator that can be monitored easily is the generic fill rate. Expressed as a percentage, the generic fill rate affects a plan's overall, average, and PMPM costs. A low generic fill rate indicates a high rate of utilization of SSB and MSB drugs that are more expensive per prescription than generic drugs.

▲ **Market share** - the percentage of prescriptions within a therapeutic class that are attributable to a particular drug. An unexpected increase in market share of an expensive drug directly affects costs and may be cause for concern. On the other hand, monitoring the market share of preferred products can indicate whether formulary systems, academic detail-

ing, and disease management programs are having the desired impact. Many MCOs also have discovered that pharmaceutical manufacturers are willing to purchase market share data to determine how the manufacturers' products are being prescribed and dispensed.

▲ **Average prescription cost** - total prescription costs divided by the total number of prescriptions dispensed. Average prescription cost is affected by inflation, prescription utilization (PMPM), drug mix, use of mail service, market share, and any manufacturer discounts included in the calculation.¹

Each of the indicators described above can be affected by plan design features such as maximum and minimum quantities to be dispensed, exclusions of selected drugs, prior authorization systems, and formularies. The effect of changes in plan design can be monitored by observing changes in these indicators. However, since other extraneous factors can cause changes in these indicators (e.g., seasonal utilization, economic conditions, laws, and regulations) it is best to observe the effect of program design changes on a selected group (or groups) while allowing other groups to serve as a control by leaving them unchanged. MCOs often report average prescription cost, PMPM cost, and PMPM utilization by type of business, therapeutic class, or geographic location.

PHYSICIAN PROFILING

Physician profiles are the set of reports produced by an MCO that is specifically designed to provide information about the performance of individual prescribers. The goal of a physician profiling system is to monitor prescribing practices and provide information that can be used to help improve physicians' use of the prescription benefit program. When profiles are generated to compare physicians, medical groups, or health care organizations, they are referred to as physician or prescriber "report cards."

Managed care organizations utilize physician profiling in a number of ways. Profiles often are used to support financial goals (such as reducing costs) or to determine performance-based or risk-based reimbursement. Even more important, profiles should be used as a tool for initiating quality improvement. MCOs can accomplish their objectives of controlling costs and improving quality through either of two approaches:

▲ **Cut off the tail.** This approach consists of identifying outliers and providing feedback to selected prescribers with suggestions that they modify prescribing behavior to meet the plan's goals. Those outliers who fail to improve their performance above an acceptable level may be sanctioned financially or lose their contracts to participate in the MCO's program.

▲ **Move the average.** While the previous strategy improves the group by changing or eliminating poor performers, this strategy is aimed at improving performance of the group as a whole. The MCO provides information regarding the optimal use of selected categories of drugs or explains changes in plan design

or program policies. Profiles are generated to monitor the success of these efforts.

Figure 1 illustrates the effects that each approach would be expected to have on costs and quality.

MCOs enhance the effectiveness of physician profiling by associating data with performance goals and offering guidance to physicians on changing their utilization behavior. Providers may alter behavior in response to profiling data for any number of reasons. These include the influence of natural competitiveness and peer pressure, the opportunity to increase income by increasing market share, and the fear of possible sanctions for outliers.²

The key indicators included in a physician profile are the physician's number of eligible and utilizing members, the number and cost of prescriptions, PMPM utilization and cost, generic fill rate, and degree of formulary compliance. Some MCOs also report utilization of Schedule II drugs, the percentage of prescriptions written for more than a 30-day supply, and the percentage of prescriptions written "dispense as written" (DAW).

The ideal physician profile will contain raw numbers of the key indicators as well as general ranking or percentile ranking within the comparison group. Including raw numbers is important because physicians who are not able to validate their reports are less likely to believe the information being presented.

Profiles should provide benchmarks that help compare physician-specific performance to preestablished standards or to group norms for all physicians. Figure 2 is an example of how group norms may be used in a typical prescriber report card.

Report cards also can summarize prescribing patterns for frequently prescribed drugs or therapeutic classes of drugs for comparison against the plan, network, or peer group. These reports are especially useful for MCOs that want to look specifically at high-cost medications or at specific drugs that are commonly used inappropriately. For example, an MCO may want to determine whether a physician is prescribing H₂ antagonists for a period of time longer than recommended, or the MCO may want to identify which general practitioners are incurring the highest costs for antidepressants. Figure 3 is an

Figure 1. Approaches that Managed Care Organizations Can Use to Control Costs and Improve Quality

Figure 2. Example of a Prescriber Report Card

	This Provider	Average for All Providers
Eligible members	66	30.60
Members receiving Rx's	54 (82%)	60%
Prescriptions	99	38.25
Rx's/eligible member	1.50	1.25
Total cost	\$4,078.35	\$1,034.67
Cost/Rx	\$41.20	\$27.05
Cost/eligible member	\$61.79	\$33.81
Generic Rx's	57 (58%)	54%
DAW Rx's	18 (18%)	11%
Nonformulary drugs	24 (24%)	12%
Days supply > 30	12 (12%)	15%
Schedule II drugs	6 (6%)	4%

Note: Figures are for the quarter ending 12/31/97.

example of a report card for a specific therapeutic class of drugs.

Benchmarks used for profiling may be based on physician networks, peer groups, or budgets. Benchmarks based on a physician network will include all specialties represented in the network. A physician network used as the basis for a network benchmark may not necessarily represent an organized provider group, but may represent a geographic area.

Peer-group or specialty-based benchmarks allow physicians to be compared with other physicians treating patients with similar ailments. For example, psychiatrists are likely to see depression cases that are more severe than those seen by general practitioners and, consequently, psychiatrists' patterns of prescribing antidepressants are likely to differ from those of general practitioners. Comparing individual physicians to others of the same specialty is, therefore, essential to utilization review of many therapeutic categories.

Budget-based benchmarks provide standards for comparing prescribers' actual utilization and costs to budgeted utilization and costs. These benchmarks commonly are used in risk agreements in which MCOs offer financial incentives through withhold or bonus arrangements. They also can be used by MCOs to determine whether a given physician's contract should be renewed or whether the amount of withhold should be adjusted for the next period.

For benchmarks to be useful, they must be clearly defined. For example, reviewers must know if the benchmarks used are national, regional, or local when comparing physicians' data against benchmarks. Erroneous comparison to the wrong benchmark could reflect small-area variations as opposed to identifying a true outlier.

Elderly patients are known to use more health care resources than younger patients; women are known to use more than men. For this reason, profile data must be adjusted to correct for age and gender differences that may occur between individual providers and the peer group with which they are compared. Without an age/sex adjustment of the physician's member panel, the physician may justifiably contend that his/her panel consists of older or sicker patients that require higher utilization of resources.

A study conducted by Salem-Schatz, et al.³ found the misidentification of physician outliers one of the most serious consequences of inadequately adjusting data for patient characteristics. In addition, the use of nonadjusted or inaccurately adjusted measures as a basis for reprimand or reward could have damaging consequences for physicians falsely identified as outliers. A profile program that inaccurately singles out individual physicians will have little credibility and limited success with its educational efforts.

The process of physician profiling consists of aggregating, consolidating, and analyzing provider-specific prescription claims data. To be effective, physician profiles must be clear, easy to understand, and accurate. They also must contain pertinent data and performance indicators useful to both physicians and the MCO. Physician profiles will be useful only if they meet the same requirements as other performance indicators that are generated retrospectively from prescription claims data (i.e., they must have integrity, reliability, validity, flexibility, and significance, and they must represent an adequate time span).

When providing profiles for a primary care physician (PCP), cost and utilization data of the PCP must be separated from those of specialists to whom patients may have been referred. Including prescribing data from specialists with the PCP's data can skew the results by erroneously inflating the PCP's utilization and costs. The artificial inflation of the PCP's data will put in question the accuracy of the profile and will reduce its effectiveness as a tool for changing the physician's current prescribing habits.

PREScriBER INTERVENTIONS

While performance reports are used to monitor prescribing practices, they also are used as the basis for various types of interventions designed to change prescribing practices. The most passive type of intervention is mailing participating physicians their own prescriber report cards. This approach, by itself, is not very effective; combining report cards with educational letters or copies of relevant journal articles has more impact. More extensive strategies include sponsoring continuing education programs and recruiting prominent physicians to influence prescribing behavior of other network physicians. The most extensive, and usually the most effective, profiling efforts involve personal visits with physicians to discuss how their prescribing practices compare with benchmarks and how

performance can be improved.⁴ These personal visits, known as counter detailing or academic detailing, usually are conducted by a pharmacist with a Doctor of Pharmacy (Pharm.D.) degree. Since visibility of the MCO enforces efforts and improves results, it is not uncommon for an official of the MCO to accompany the health professional performing the academic detailing.

The detailing effort normally focuses on therapeutic classes and promotes guidelines rather than specific drug products. Some academic detailing efforts are, however, reinforced through the cooperation of pharmaceutical manufacturers by utilizing representatives to help carry the MCO's message to prescribers. MCOs can create incentives for pharmaceutical manufacturers to participate in academic detailing efforts by agreeing to help move market share.

To obtain the most behavioral change for the least amount of individualized intervention, academic detailing programs generally target those physicians who exhibit prescribing behavior that classifies them as outliers. Other prescribers who may be targeted include those who use the following:

- ▲ high-risk drugs without a previous trial of safer alternatives;
- ▲ ineffective or marginal therapies;
- ▲ medications that are inappropriate for use in children or the elderly; or
- ▲ high-cost drugs, when less expensive, therapeutic alternatives are available.

MCOs that develop successful academic detailing programs often concentrate on several key elements such as:

▲ **Establishing credibility of educational materials.** Educational materials used in academic detailing programs must be credible. Credibility may be established via reference to highly respected clinical research centers that participated in the evaluation of the drug or through peer-reviewed journal articles that report the findings. Identification with prominent physicians or expert consultants who were involved in developing criteria or educational programs also can be useful in establishing credibility.⁵

▲ **Promoting physician participation.** Involving physicians in the development of guidelines and educational programs increases the commitment of physicians and, thus, the effectiveness of academic detailing programs. This effort can be accomplished by involving physicians on committees, encouraging feedback, and having prominent physicians serve as opinion leaders.

▲ **Providing easy-to-use information.** As with other prescriber profiling efforts, the information communicated via academic detailing must be precise, concise, and easy to understand. When used in conjunction with a face-to-face verbal detailing encounter, reports presented as graphs, charts, or diagrams reinforce the verbal message.

▲ **Suggesting alternatives.** Prescribing habits are easier to change if acceptable alternatives are offered to replace the

Figure 3. Example of a Prescriber Report Card for a Specific Therapeutic Class of Drugs

Prescriptions for Antidepressants		
	This Provider	Average for all Providers
Total eligible members (all therapeutic classes)	66	30.60
Total prescriptions (all therapeutic classes)	99	38.25
Members receiving Rx's	12 (18%)	9.6%
Prescriptions	15	10.0%
Rx's/eligible member	0.23	0.10
Total Cost	\$591.00	\$107.22
Cost/Rx	\$39.40	\$35.74
Cost/ eligible member	\$8.95	\$3.50
Generic Rx's	9 (60%)	54%
DAW Rx's	3 (20%)	10%
Nonformulary drugs	3 (20%)	6%
Days supply > 30	3 (20%)	14%
Schedule II drugs	0 (0%)	0%

Note: Figures are for the quarter ending 12-31-97.

undesirable practices. The individual conducting the academic detailing session should, therefore, recommend options such as generic or therapeutic alternatives, step therapy, or over-the-counter medications.

▲ **Reinforcing the message.** The effectiveness of face-to-face academic detailing programs can be reinforced through follow-up visits. Academic detailing efforts also can be augmented by faxed messages, e-mail, newsletters, or personalized letters. Follow-up prescriber report cards also should be sent to prescribers on a periodic basis in order to reinforce therapeutic suggestions and let prescribers know how they are progressing. Simply reminding prescribers that the MCO is monitoring their performance may serve as the catalyst necessary to favorably alter prescribing behavior.

▲ **Providing positive reinforcement.** Favorable responses on by prescribers should be acknowledged through letters or personal visits. In some cases, MCOs may want to provide rewards for significant improvements. Without some form of positive reinforcement, prescribers may regress to their old habits.

PHARMACY PROFILING

Although this article focuses primarily on prescriber profiling, many of the issues discussed here also can be applied to

performance reporting for pharmacies. MCOs are showing increasing interest in selecting pharmacies based on their level of service and their potential to produce positive patient outcomes. While preferred pharmacies traditionally have been selected based on factors such as cost, location, and size, MCOs can use data from prescription claims and other sources to prepare report cards showing how pharmacies adhere to preselected criteria. Information that can be generated from claims data includes the following:

- ▲ PMPM utilization
- ▲ PMPM cost
- ▲ use of generics
- ▲ formulary compliance
- ▲ DAW prescriptions
- ▲ days supply
- ▲ Schedule II drugs⁶

More advanced systems could detect and report on response to alert messages and to the degree of therapeutic interchange. Some useful information, however, cannot be extracted from claims data; interviews or audits are needed to obtain information such as responsiveness to plan reports and analyses; availability of 24-hour emergency services; proper pharmacy layout allowing patient counseling in a private atmosphere; and adequate time, evidenced by a number of prescriptions per pharmacist per hour that does not exceed a given volume.⁷

In 1978 National Prescription Administrators, a New Jersey-based pharmacy benefit manager, began classifying pharmacies according to self-reported profiles that describe areas such as patient counseling, product choice, generic substitution, 24-hour emergency services, and maintenance dispensing. Audits are performed to verify proper classification.⁶ Certainly, selection of network pharmacies should be based on national performance criteria rather than relying solely on competitive bids for the lowest-cost dispensers.

WHAT'S AHEAD?

Historically, prescription costs have been easy to carve out of total health care cost and, as a result, have been highly visible. Although such carve-outs of prescription drug programs have promoted efficiencies in network management, program design, and claims processing, they also have fragmented the management of health care. Separating decision making for prescription drug programs from that for other health care services often has resulted in shifting costs from one health care

service to another, rather than reducing overall health care costs. This fragmentation makes it difficult to determine the impact of pharmaceuticals on overall health care costs.

Such fragmentation manifests itself in several ways. First, prescription claims do not include diagnostic information. Even when a diagnosis can be inferred from prescription claims (which is relatively easy to do for some disease states such as asthma and diabetes) the information is often incomplete; it does not provide information about severity of illness, comorbidities, or health status. Second, assuming that a diagnosis can be determined, the cause is often difficult to determine. For example, was the patient's H₂ antagonist prescribed to treat an existing gastric ulcer or to counteract gastric irritation from a nonsteroidal antiinflammatory drug? Third, prescription claims databases record drug use but usually not the consequences of that use, such as the degree of efficacy or adverse effects.⁷ Information about utilization of physician, hospital, and laboratory services is usually contained in separate databases that are incompatible with the prescription claims database.

Because of these limitations, the full benefits of performance reporting have not yet been achieved. In the future we will see more database integration of the various health care services. Improved data integration will allow performance reports or profiles that merge prescription claims data with hospital, medical, and laboratory data. As the services offered by managed care organizations continue to evolve from cost containment to quality management, performance reporting also will evolve and become a more integral part of managing health care quality as well as costs.

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C E E X A M

Performance Reporting for Managed Care Prescription Programs

Upon completion of this program, the successful participant shall be able to:

1. describe the basic requirements of data used to develop performance reports.
2. design a prescriber report card.
3. use performance data for provider profiling and academic detailing.
4. design pharmacy profiles to be used for selection of network pharmacies.
5. describe the limitations of prescription claims data used for performance reporting.

SELF-ASSESSMENT QUESTIONS

1. Validity of data can be verified by comparing the claims data to:
 - a. a benchmark.
 - b. a comparison group.
 - c. billing information.
 - d. validity of data is not important and verification is not necessary.
 - e. none of the above.
2. For physician profiling to be effective, the information must:
 - a. be concise.
 - b. be adjusted for age or sex.
 - c. provide raw data to allow the physician to validate his/her profile.
 - d. A and B only.
 - e. all the above.
3. Prescriber intervention can range from passive to extensive programs. The most effective intervention program to alter physician prescribing is:
 - a. academic detailing.
 - b. mail report cards to the physician.
 - c. educational programs.
 - d. provide relevant journal articles.
 - e. e-mail or fax messages.
4. Of the reporting formats available, MCOs find the following formats to be the most useful:
 - a. Summary and detail
 - b. Summary and graphic
 - c. Detail and graphic
 - d. Summary only
 - e. Usefulness of the reporting format depends upon the application of the report
5. PMPM cost is calculated by dividing total claim cost by:
 - a. 12.
 - b. total number of utilizing members.
 - c. 3.
 - d. total number of eligible members.
 - e. percent change in enrollment.
6. Prescription cost, whether PMPM or average; is impacted by:
 - a. utilization.
 - b. inflation.
 - c. drug mix.
 - d. generic fill rate.
 - e. all of the above.
7. Benchmarks may be based on:
 - a. physician networks.
 - b. peer groups.
 - c. financial budgets.
 - d. geographic area.
 - e. all of the above.
8. All of the following are key elements of data except:
 - a. validity.
 - b. integrity.
 - c. reproducibility.
 - d. significance.
 - e. adequate time span.
9. The best way to encourage physician cooperation in an academic detailing program is to:
 - a. channel subscribers away from those physicians whose utilization or costs exceed the norm.
 - b. cancel the contracts of prescribers whose utilization or costs exceed the norm.
 - c. publish a list of physicians ranked from high to low in terms of PMPM utilization and costs.
 - d. suggest therapeutic alternatives or other options that prescribers can use to decrease prescription utilization or costs.
10. Prescription claims databases contain information about:
 - a. costs.
 - b. diagnosis.
 - c. health status.
 - d. co morbidities.
 - e. two or more of the above.

See text of article beginning on page 160 of this issue of *JMCP*.

This article qualifies for 1.0 hour of continuing pharmaceutical education (0.1 CEU). The Academy of Managed Care Pharmacy is approved by the American Council on Pharmaceutical Education as a provider of continuing pharmaceutical education. This is program number 233-000-98-002-H04 in AMCP's educational offerings.

CE EXAM

DEMOGRAPHIC INFORMATION (not for scoring)

11. In what type of setting do you work (leave blank if none of the responses below applies)?

- a. HMO.
- b. PPO.
- c. Indemnity insurance.
- d. Pharmacy benefits management.
- e. other.

12. Did this program achieve its educational objectives?

- a. Yes.
- b. No.

13. How many minutes did it take you to complete this program, including the quiz (fill in on answer sheet)?

14. Did this program provide insights relevant or practical for you or your work?

- a. Yes.
- b. No.

15. Please rate the quality of this CE article.

- a. Excellent.
- b. Good.
- c. Fair.
- d. Poor.

INSTRUCTIONS

This quiz affords 1.0 hour (0.1 CEU) of continuing pharmaceutical education in all states that recognize the American Council on Pharmaceutical Education. To receive credit, you must score at least 70% of your quiz answers correctly. To record an answer, darken the appropriate block below. Mail your completed answer sheet to: Academy of Managed Care Pharmacy, 1650 King Street, Suite 402, Alexandria, VA 22314. Assuming a score of 70% or more, a certificate of achievement will be mailed to you within 30 days. If you fail to achieve 70% on your first try, you will be allowed only one retake. The ACPE Provider Number for this lesson is 233-000-98-002-H04. This offer of continuing education credits expires February 28, 1999.

A B C D
1. ☐ ☐ ☐ ☐
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A B C D
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10. ☐ ☐ ☐ ☐

11. ☐ A ☐ B ☐ C ☐ D
12. ☐ Yes ☐ No
13. Minutes _____
14. ☐ Yes ☐ No
15. ☐ A ☐ B ☐ C ☐ D

Participant Identification: Please type or print

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Social Security # _____
For Identification Purposes Only

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Last First Middle

Work Phone # _____

Company _____

Address _____
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State and Lic. No. _____
State No.

Member Type: ☐ Active ☐ Supporting Associate
☐ Student ☐ Nonmember

Signature _____