

# Formulary Tier Placement for Commonly Prescribed Branded Drugs: Benchmarking and Creation of a Preferred Placement Index

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**H**igh drug expenditures are a burden to insurers and patients. Expenditures on pharmaceutical products have risen 10% per year for the last several years,<sup>1</sup> and it seems that annual double-digit increases in prescription drug spending are now the norm. In 2002, approximately 16.6 million Americans reportedly were unable to purchase a prescription drug that was necessary for their care.<sup>2</sup> Mullins et al<sup>1</sup> examined the issue of rising drug expenditures and attributed approximately equal increases across the following 3 factors: pure price inflation, increase in utilization, and the shift from older to newer therapies. Pure price inflation is further discussed in an annual employer health benefits survey reported by the American Association of Retired Persons<sup>3</sup> in which they compare changes in the manufacturer prices for the most commonly used brand-name prescription drugs in 2005 with general inflation. The cumulative comparison for 2005 shows that there was a 6.0% increase in manufacturer drug price, compared with a general inflation rate of 3.4%. With regard to utilization, Joyce et al<sup>4</sup> suggest that to tackle this issue insurers should place greater responsibility for costs in the hands of the patients, such that they abstain from overuse of prescription drugs and choose the most appropriate therapy for their conditions.

One strategy that has been used to curb increases in pharmaceutical expenditures has been the incentive-based insurance formulary, which motivates patients to use less expensive medications within the same drug classes. A restrictive, or closed, formulary covers a certain list (or excludes a certain list) of drugs and may have varying levels of patient cost-sharing (deductibles, copayments, coinsurance, or some combination of these). Today, many formularies are divided into 3 tiers, with the first tier representing generics at the lowest copayment level and the third tier representing nonpreferred brand-name drugs at the highest copayment level. Over time, increasing numbers of health plans have adopted 3-tier formularies. In 1996, only 36% of plans included 3-tier formularies; by 2001, 83% of insurers used them.<sup>5,6</sup> Compared with closed formularies, tiered formularies provide some coverage for drugs, while placing a greater cost burden on the patient for drugs that are listed as nonpreferred agents. In the 3-tier scheme, patients pay the least out-of-pocket amount for generic drugs typically categorized as tier 1, while they pay more for preferred

patented brand-name drugs that are considered tier 2 and even more for tier 3 drugs that are deemed to be even less preferred. Ideally, this system motivates patients and physicians to use

**Objectives:** To examine the relative preferred placement of commonly dispensed prescription drugs and to assess variations in drug coverage across a convenience sample of 12 health insurance plans.

**Study Design:** A cross-sectional analysis of the plans focused on all 67 patented brand-name prescription drugs from among the top 200 prescribed drugs in 2004.

**Methods:** For each plan, we created a preferred placement index representing the percentages of drugs that were positioned on the formulary with preferred placement, defined as tier 2 without restricted access. A separate cardiovascular index was also created. Sensitivity analyses determined the effect of limiting the sample to the top 25 patented branded drugs and examined the robustness of our index when prior authorization restrictions were allowed.

**Results:** Across 67 drugs and 12 insurance plans, drugs were rated as having preferred placement 59.1% of the time. The preferred placement index ranged from 31.3% to 88.1% across the plans for the full sample of 67 drugs; for the sample of cardiovascular drugs, the range was 25.0% to 100.0%. Results were robust across sensitivity analyses.

**Conclusions:** Based on this convenience sample of 12 formularies, there is a wide variation in preferred placement of the most commonly prescribed branded medicines across insurers. The wide range implies that the specific insurance coverage a patient selects may have an effect on whether his or her prescribed drugs have preferred formulary placement and on his or her out-of-pocket drug expenditures.

*(Am J Manag Care. 2007;13(part 2):377-384)*

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less expensive drug regimens, while allowing greater access to drugs at higher copayments that might not be covered at all on 2-tier (generic or brand) formularies. The ultimate goal of the tiered formulary design is to decrease the overall expenditures on prescription drugs. Some concern has arisen over the effect of 3-tier formularies. Health professionals worry that if patients stop taking essential medications because of rising out-of-pocket costs, they will experience increased long-term health consequences that will cost the health insurance industry more money because of patients' increased utilization of other medical services. Nonetheless, Motheral and Fairman<sup>7</sup> conducted a 12-month follow-up of members in a preferred provider organization and concluded that the 3-tier formulary system increased prescription drug savings for the insurance company, while not affecting other related medical services. To further explore this issue, Fairman et al<sup>8</sup> conducted a 30-month follow-up and found that decreased prescription drug expenditures associated with 3-tier formularies did not affect other medical expenses.

In 2003, Huskamp et al<sup>9</sup> studied the shift in drug use when 2 employers transformed their prescription drug coverage from 1-tier and 2-tier coverage plans to 3-tier incentive-based formularies. The study focused on utilization patterns of statins, proton pump inhibitors, and angiotensin-converting enzyme inhibitors. The employer who switched from a 1-tier to a 3-tier plan experienced slower growth in drug use, as well as a greater shift in spending from the insurance provider to the patient. Patients employed under the system with the more drastic change in formulary design were more likely to switch or discontinue medicines than patients in the control group who retained the old system. This change was more likely to occur when medications were placed on the third tier of the revised formulary. Similarly, in 2002, Joyce et al<sup>4</sup> found that doubling the copayment from \$5 to \$10 within a 1-tier plan caused per-member total annual mean drug costs to decrease from \$725 to \$563. However, total out-of-pocket expenditures by patients were not altered because of the higher copayments occurring as their drug use decreased. Similarly, Goldman et al<sup>10</sup> observed that, when insurers doubled copayments, patients reduced their use of drugs in 8 therapeutic classes. Among these classes, nonsteroidal anti-inflammatory drugs had a 45% decrease in days supply, antihistamines had a 44% decrease, and antihyperlipidemics had a 34% decrease. Antilulcerant, antiasthmatic, antihypertensive, antidepressant, and antidiabetes medications were the other drug classes that had a decline in use when the out-of-pocket costs by the patient were increased.

Despite the fact that patient demand responds to out-of-pocket drug costs, prescribers often may be unaware of a drug's

cost to the patient. Shrank et al<sup>11</sup> found that physicians admitted that they were unaware of the formulary restrictions for their patients. The survey found that 70% of physicians were seldom or never aware of patients' out-of-pocket costs when prescribing medications. Shih and Sleath<sup>12</sup> noted the lack of physician knowledge in ambulatory care settings regarding formulary coverage of certain medications. Physicians in that study did not know the formulary status of 64% of the medications they prescribed. The authors stressed that there was a lack of communication between insurance formulary creators and the healthcare providers who prescribe these medications.

While insurers are interested in curbing pharmaceutical expenditure increases, they also compete for business based on the premiums they charge and the benefits they provide. Insurers that place more drugs on the highest tier of their restrictive formularies may be simultaneously viewed as providing lower benefits. To date, little research has explored the extent of variations in formulary restrictiveness in tier placement of a large group of commonly used prescription drugs. Most of the discussion is focused on medical benefits and their effect on premiums<sup>5,7-9</sup>; the literature reports the effect of formularies on health outcomes, yet little is known about variation of coverage across formularies. Merely having a drug on a formulary does not guarantee its preferred placement to patients enrolled in a particular plan. This is an important policy issue in benefit design. While there are many managed care organizations and many formularies within each managed care organization, depending on their customer base, the present study calculates a preferred placement index of the most commonly prescribed drugs and their tier placement across a convenience sample of 12 publicly available plans. This analysis is particularly important to the health plan enrollee who is faced with the challenge of choosing plans appropriately. The typical patient may be unaware of the possibility that there are vast differences in coverage across formularies; this study aims to show that patients should be aware of the tier placement of their drugs when evaluating plans.

## METHODS

The primary aim of this study was to produce a general preferred placement index of drug coverage by analyzing the percentages of drugs that have preferred placement under each formulary and the percentages of insurers providing preferred placement for each drug. The secondary aim was to create a cardiovascular index and analysis using the same method. Our primary analysis produced a preferred placement index of the formulary placement status of the most commonly prescribed

## Benchmarking and Creation of a Preferred Placement Index

■ **Table 1.** Structure of Patient Cost-sharing Across Plans and Preferred Placement\*

Plan No.	Copayment, \$			Rx Deductible, \$	Monthly Premium, \$	Preferred Placement, %	
	Tier 1	Tier 2	Tier 3			Top 67 Drugs	Cardiovascular Drugs (n=16)
1	15	25	40	500	81	53.7	50.0
2	50% coinsurance	50% coinsurance	50% coinsurance	0	118.50	52.2	43.8
3	2	NA	NA	0	0	79.1	100.0
4	10	25	40	50	243	64.2	62.5
5	5	20	40	0	269.35	62.7	62.5
6	10	30	50	500	52.22	58.2	62.5
7	5	10	25	NA	NA	88.1	68.8
8	15	25	NA	0	167	58.2	37.5
9	10	20	35	0	NA	52.2	62.5
10	1	3	NA	0	0	35.8	56.3
11	10	20	30	0	518.12	31.3	25.0
12	15	30	60	100	86.27	73.1	75.0

\*Medicaid plan 3 only provides 1 copayment option. Plans 8 and 10 only provide information on tier 1 and tier 2. NA indicates not applicable.

medicines using the top 200 medications dispensed in 2004, as reported by NDC Health.<sup>13</sup> A convenience sample of 12 formularies was considered for this analysis. The plans analyzed in this study include 2 state Medicaid programs, 8 national plans, and 2 regional plans. The regional plans are scattered geographically and do not focus on only 1 area of the nation. While insurance companies typically have multiple formularies for various enrollee groups, they also publish standard formularies on the company Web sites, and these were the primary sources for this study. Plans that were available online were accessed within 1 week of one another. However, there were some publicly available formularies that were only accessible by hard copy and were dated within a few months of the period the online plans were accessed. Because plans change their formularies frequently, it would be necessary for a functional preferred placement index to change at least yearly to accurately represent the preferred placement of drugs across the plans.

A drug was included if it was a brand-name medication listed in the top prescribed drugs list and remained on patent through 2004. The patent status of the drugs was obtained using the Electronic Orange Book.<sup>14</sup> Drugs were ranked according to the number of prescriptions dispensed in 2004. Each branded drug was then broadly categorized as having

preferred placement or not. If a patented brand-name drug was covered on the second tier without restrictions, it was categorized as having preferred placement and was assigned a 1 for purposes of this analysis. A drug was considered restricted if it was on the third tier, nonformulary, or if it had any type of necessary prior authorization, step therapy requirement, or specific restrictions other than a quantity limit or duration limit on the drug. A restricted drug was assigned a 0 for purposes of the analysis. Tier 1 drugs were not under consideration in this study because they are typically generics.

For example, plan 1 in **Table 1** uses a tier 2 and tier 3 branded patented system. For this analysis, tier 2 drugs were deemed to have preferred placement, whereas tier 3 drugs were deemed to not have preferred placement. However, if a drug was listed under tier 2 but was available only through a step therapy, precertification, or prior authorization requirement, it was then assigned a 0 because it does not have preferred placement. Because of differences in terminology across plans, each insurer was considered separately. Plan 5 indicated that some products were preferred brand-name medications, which were considered to have preferred placement; products deemed to be nonpreferred brand-name medications were categorized as not having preferred placement. Under our categorization scheme, preferred brand-name and nonpre-

ferred brand-name medications were assigned a 1 and a 0, respectively.

After each drug was categorized for each plan, we counted the number of patented brand-name drugs that were assigned a 1 and created a preferred placement index, defined as the percentages of drugs assigned a 1 among the entire sample of 67 branded prescription drugs. Therefore, the preferred placement index of drugs across insurance plans was calculated using a ratio of the number of drugs with preferred placement for that plan divided by the total number of drugs examined. Because there was a large number of cardiovascular drugs in our general analysis, we also created a preferred placement index for the subset of patented brand-name cardiovascular agents in the top 200 drugs dispensed (cardiovascular index). This index included antilipidemics, calcium channel blockers,  $\beta$ -blockers, angiotensin-converting enzyme inhibitors, angiotensin II receptor antagonists, and  $\alpha/\beta$ -blockers. An identical rating process and identical calculations were used as were performed with the preferred placement index for the top 67 brand-name patented drugs.

We also assessed how changing the definition of *preferred placement* would affect the results of the study. In the sensitivity analysis, those drugs on the second tier of a formulary were deemed to have preferred placement regardless of any utilization restrictions such as prior authorization or step therapy requirements. For the sensitivity analysis, the procedure for calculating the preferred placement index was the same as in the previous calculations; however, all tier-2 drugs were now deemed to have preferred placement rather than restricted placement under this index and were assigned a 1 rather than a 0 in the calculations. In a separate sensitivity analysis, the original method was repeated for the top 25 branded prescription drugs to test the sensitivity of using only that sample to represent all of the branded drugs in the study.

## RESULTS

### Analysis of Drug Coverage by Plan

On average, 59.1% of 67 drugs were rated as having preferred placement across the 12 insurance plans. The range of preferred placement across plans reflected a low of 31.3% coverage to a high of 88.1% coverage (Table 1). Therefore, the preferred placement varied widely across plans.

### Analysis of Coverage Across Plans by Drug

Table 2 gives the percentages of the 12 insurance plans in the study that provide preferred placement for each of the top 67 drugs by drug name. There is a wide range of preferred

placement across the top 67 patented brand-name medications. For instance, Fosamax<sup>®</sup> has preferred placement with all plans, while Aciphex<sup>®</sup> has preferred placement with only 8.3% of the plans. At first glance, there seems to be no readily observable trend in coverage across these medications. For this reason, we chose to examine coverage within a therapeutic class, and we decided to examine the largest therapeutic class of drugs within the top 67 list, cardiovascular drugs, to further explore variance in coverage and preferred placement.

### Cardiovascular Drugs

Of 67 drugs from the primary analysis, 16 were included in the cardiovascular index. On average, the percentage of cardiovascular agents with preferred placement was 58.9%, ranging from 25.0% to 100.0% (Table 1). The preferred placement of the cardiovascular drugs in the cardiovascular index is similar to that in the preferred placement index. For example, for plan 11, Table 1 indicates that 25.0% of the top patented brand-name cardiovascular drugs had preferred placement, compared with 31.3% of the top 67 drugs. In fact, a comparison of the plan rankings between the top 67 drugs and the cardiovascular drugs documents a 73% correlation between the cardiovascular rank and the overall rank for the top 67 drugs. When examined by drug, analysis of the rank order comparisons of the cardiovascular drugs versus the top 25 drugs produces a correlation of 74%. While the 16 cardiovascular drugs had preferred placement 58.9% of the time, there was significant variation by individual agent. Table 2 indicates that Pravachol<sup>®</sup> (a lipid-lowering drug) had preferred placement with only 16.7% of insurers, whereas Lotrel<sup>®</sup> (an antihypertensive) had preferred placement for 91.7% of insurers.

### Patient Cost-sharing

Table 1 gives the relative cost-sharing for the various plans studied. Except for the 2 Medicaid plans, tier-1 copayments were between \$5 and \$15, and tier-2 copayments were between \$20 and \$30. While there was variability in cost-sharing across the 12 plans, higher deductibles and copayments associated with certain plans did not clearly correlate with placement on the preferred placement index.

### Sensitivity Analyses

The sensitivity analysis (data not shown) provides information on the change in the preferred placement index when the categorization of preferred placement was broadened to include drugs that were considered restricted in our general analysis. Drugs that were previously considered restricted because of prior authorization or step therapy requirement were categorized as having preferred placement in the sensi-

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■ **Table 2.** Percentage of Plans Providing Preferred Placement for the Top 67 Patented Brand-name Prescription Drugs\*

Proprietary Name	% Easy Access	Proprietary Name	% Easy Access	Proprietary Name	% Easy Access	Proprietary Name	% Easy Access
Fosamax®	100.0	Zocor®	75.0	Zetia®	66.7	Prevacid®	33.3
Flonase®	100.0	Effexor XR®	75.0	Xalatan®	66.7	Protonix®	33.3
Lantus®	100.0	Ortho Evra®	75.0	Zyprexa®	66.7	Nexium®	25.0
Zithromax®	91.7	Actonel®	75.0	Topamax®	66.7	Viagra®	25.0
Advair Diskus®	91.7	Avandia®	75.0	Detrol LA®	66.7	Crestor®	25.0
Diovan®	91.7	Imitrex®	75.0	Aricept®	66.7	Strattera®	25.0
Lotrel®	91.7	Humlin N®	75.0	Plavix®	58.3	Elidel®	25.0
Evista®	91.7	Humalog®	75.0	Rhinocort Aqua®	58.3	Benicar HCT®	25.0
Coreg®	91.7	Patanol®	75.0	Ambien®	50.0	Celebrex®	16.7
Valtrex®	91.7	Lamictal®	75.0	Flomax®	50.0	Pravachol®	16.7
Toprol XL®	83.3	Lipitor®	75.0	Yasmin 28®	50.0	Clarinex®	16.7
Risperdal®	83.3	Zoloft®	66.7	Amaryl®	50.0	Mobic®	16.7
Seroquel®	83.3	Lexapro®	66.7	Skelaxin®	50.0	Zyrtec®	8.3
Omnicef®	83.3	Singulair®	66.7	Cozaar®	41.7	Allegra®	8.3
Flovent®	83.3	Altace®	66.7	Hyzaar®	41.7	Aciphex®	8.3
Depakote®	83.3	Diovan HCT®	66.7	Avapro®	41.7	Allegra-D 12 Hour®	8.3
Norvasc®	75.0	Actos®	66.7	Nasacort AQ®	41.7	OVERALL	59.1

\*Listed in alphabetical order by ranking of preferred placement to nonpreferred placement. All drugs listed are single source and have no generic alternatives.

tivity analysis. For example, Protonix was placed in the second tier by only 4 plans, but in the sensitivity analysis it had preferred placement by 6 of 12 plans. All of the means obtained in the original analyses are increased by several percentage points in the sensitivity analysis. For instance, while Table 2 indicates that the top 67 patented brand-name drugs as a whole had preferred placement with 59.1% of insurers, the results for the sensitivity analysis show that the same drugs had preferred placement with 65.8% of insurers. The cardiovascular index component of the sensitivity analysis reveals a similar pattern. The mean preferred placement index for the top 16 cardiovascular drugs across the 12 plans was 64.6% in the sensitivity analysis, compared with 58.9% in the primary index. For the second sensitivity analysis in which the primary analysis was repeated on the top 25 branded drugs that were still on patent, 58.3% of the top 25 drugs had preferred placement. Therefore, there were slight differences in the preferred placement of the top 25 and top 67 drugs. When plans were ranked by the number of preferred placement drugs for the top 25 and top 67 brand-name drugs, the correlation coefficient

between the 2 rankings was 91%. This suggests that we would be able to use the top 25 drugs as a proxy for all brand-name drugs under patent in future research.

## DISCUSSION

The objective of this study was to assess the relative preferred placement of the most commonly prescribed brand-name patented drugs within a convenience sample of health insurers. The elimination of generic drugs and unpatented brand names in the top 200 prescription drugs dispensed resulted in a list of 67 drugs that were considered for this study. For those 67 drugs, more than 850 million prescriptions were dispensed in the United States in 2004.<sup>11</sup> In comparison, the National Association of Chain Drug Stores reported that there were approximately 3.27 billion prescription drugs dispensed in 2004.<sup>15</sup> According to these figures, the drugs in our list of 67 represent approximately 1 of every 4 prescriptions.

The results suggest that the preferred placement index and the amount paid by patients vary considerably based on which

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plan the patient selects. As such, this analysis may be of particular interest to Medicare beneficiaries who are learning to navigate changes in health plans and access to medications brought about by Medicare Part D. To take advantage of the drug coverage and to receive full benefit without a penalty, enrollees were required by May 15, 2006, to select and enroll in a drug plan approved by Medicare. First, enrollees need to determine which plans offer the necessary medications. Enrollees can purchase medications through a national plan, a stand-alone plan, or Medicare Advantage. Each plan has different formularies, or lists, of available medications; however, each drug plan is required by the Medicare Prescription Drug, Improvement, and Modernization Act to have at least 2 drugs available in each class. Second, enrollees need to determine if the medication is considered a preferred drug, which places it on the lower cost tier, or if the drug is nonpreferred and placed on a higher cost-sharing tier. Enrollees need to stay alert to changes in these formularies and to other requirements such as step therapy and prior authorization. Our study underscores the importance of informed patient decision making.

On average, more than 50% of 67 patented brand-name drugs in our study had preferred placement on insurers' formularies; however, there is such a wide range in the likelihood of coverage that it is unwise to make too broad a generalization. Only 14 drugs had preferred placement on 3 or fewer of 12 formularies that were examined, whereas 26 drugs had preferred placement with 9 or more plans. Clearly, there was a difference in the availability among 67 patented brand-name drugs studied. Insurers provided preferred placement for more than half of 67 brand-name patented drugs in the study; however, the range of coverage by insurers was large. A similar study conducted by Shrank et al<sup>16</sup> found significant variability among insurers' coverage of drugs across plans and across time. Their study looked specifically at 6 of the 7 largest California health insurance companies, examined their coverage of drugs from 2000 to 2002, and categorized the top 20 drugs in 5 therapeutic classes as preferred or nonpreferred/not covered. The results of their study were similar to our results, although the methods were different. Drugs were considered preferred even if they required prior authorization as long as no other brand-name drug in that class did not require prior authorization. The study by Shrank et al focused primarily on the effects of variability in coverage and led to confusion among physicians in prescribing medications; the present study is more concerned with the variability in coverage from the patient's vantage point.

Based on the variability across 12 formularies in the present study, as well as previous research showing similar variabil-

ity across plans and time,<sup>4,7,8</sup> it is clear that insurance plans are inconsistent in their coverage of the most commonly dispensed drugs. While one plan may cover a drug under its lowest copayment level, another similar plan may not even include the drug on its formulary. The patient pays a reduced price under one plan, whereas the out-of-pocket costs under the coverage of a different plan may be substantial. For this reason, patients must examine each plan on a case-by-case basis to determine which is most beneficial to their health needs. Coverage differs by insurance plan and by specific drugs, which is why it is crucial that patients be familiar with their health insurance provider's formulary and breadth of coverage. The patient must essentially be an educated consumer when choosing between insurance plans so as to save the most money in the long term. Motheral and Heinle<sup>17</sup> conducted a survey of insured patients under various plans to determine the precipitating factors for overall satisfaction with prescription coverage. They found that the mean number of prescription drug claims per person per year was 27 and that the mean copayment was \$14.15. In addition, they observed that 75% of patients were most concerned with the total amount they paid out of pocket for their drugs, compared with only 15% who cared most about the actual list of drugs on the insurance plan's formulary. It becomes a dangerous situation when patients are overly concerned with cost and less concerned with their health. Heisler et al<sup>18</sup> demonstrated in a longitudinal study of patients in the Health and Retirement Study and in the Asset and Health Dynamics Among the Oldest Old survey that patients who restricted drug use because of out-of-pocket costs experienced substantially worse health outcomes. They reported that patients who restricted drug use because of cost had a 50% increase in the likelihood of experiencing angina and a 51% increase in the chance of having a nonfatal myocardial infarction or stroke.

Not everyone agrees that increasing patient cost-sharing is detrimental. Joyce et al<sup>4</sup> recommends putting greater responsibility of paying for prescription drugs in the hands of patients to decrease costs. They also state that requiring mandatory generic substitution provides an alternative to additional levels of copayments in the tiered system. The authors found that adding a third tier with incremental copayments of \$10 only decreased drug expenditures by 4%. Therefore, higher cost-sharing does not necessarily deter patients from purchasing needed medicines.

As previous research indicates, patients must in effect balance preferred placement and affordability as it pertains to their individual needs. The point at which a copayment becomes too high and creates affordability concerns is personalized based on how badly the patient needs the medication

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and whether the economic resources exist to pay the higher copayment that accompanies a higher tier placement. The Kaiser Family Foundation<sup>19</sup> reported in 2005 that the mean copayment was \$22 for tier-2 drugs and \$35 for tier-3 drugs. These findings are consistent with the mean copayments of \$21 and \$36 for tier-2 and tier -3 drugs, respectively, as given in Table 1. A difference of \$13 to \$15 per copayment between tier-2 and tier-3 drugs may be insignificant for some patients but may be large enough to deter other patients from using tier-3 drugs, especially if they must take the medication for the rest of their lives. At least in the short run, patients might be well advised to determine whether and to what extent a particular drug is covered. For example, breadth of formulary coverage may not be as important as the level of coverage for a narrow group of drugs the patient may already be taking. While not the focus of this investigation, patients from a clinical standpoint may need to weigh the direct health benefits of selecting a plan that offers a 3-tier formulary that covers only a certain percentage of drugs, compared with another plan that covers a much broader range of medications.

It seems reasonable to assume that the list of the most widely prescribed medications would serve as a good proxy for the most clinically relevant treatments. However, prescribing patterns are affected by pharmaceutical manufacturers' physician detailing and by marketing and promotional activities to practitioners and patients. Therefore, the list of drugs examined in our analysis may not reflect the most essential drugs for individual patients or for populations of enrollees. Furthermore, some may argue that it is only necessary to have at least 1 drug on tier 2 within a therapeutic class and that it may be unnecessary to have any tier-2 drug if an over-the-counter alternative is available. There are some obvious problems with this for enrollees who switch insurance plans and may feel pressured to change drugs. Furthermore, the efficacy and safety profiles of drugs for individual patients, especially those with complex diseases or those using polypharmacy, limit a "1 size fits all" approach.

There were some drugs that received generally good coverage across all plans. Fosamax, Flonase, Lantus, Advair Diskus, Coreg, Diovan, Evista, Lotrel, Valtrex, and Zithromax were the drugs covered most extensively by the sample of insurers we examined. Furthermore, of 12 plans examined, the 2 Medicaid programs were at the low and high ends of the coverage spectrum of the top 67 brand-name drugs still on patent. For instance, one Medicaid plan covered 79.1%, with the other plan covering only 35.8% of the top 67 drugs on preferred placement. However, the plans were inconsistent in

### Take-away Points

Insurance plans are inconsistent in their coverage of the most commonly dispensed drugs. Patients should examine each plan on a case-by-case basis to determine which is most beneficial to their health needs.

- Across 12 insurance plans, 67 commonly prescribed brand-name drugs were rated as having preferred placement 59.1% of the time.
- Patients need to determine whether and to what extent a particular drug is covered. They may need to weigh the direct health benefits of selecting a plan that offers a 3-tier formulary that covers only a certain percentage of drugs, compared with another plan that covers a broader range of medications.

expressing formulary limitations. While the more restrictive Medicaid plan was specific and outlined all of the formulary limitations directly on the publicly available formulary, the other Medicaid plan simply stated whether each drug was formulary or nonformulary (ie, the latter plan did not specify when prior authorization or step therapy restrictions existed). Therefore, it may seem that one Medicaid plan is far more comprehensive than the other, when in reality it may just communicate its restrictions less effectively.

The drug classes most represented in our study were the cardiovascular agents. For this reason, we chose to create a cardiovascular index for the cardiovascular agents in the top 67 patented brand-name drugs. The 16 drugs that qualified for the cardiovascular index had mean preferred placement index ratings that were similar to those of the preferred placement index. Therefore, the cardiovascular agents included in the top 67 brand-name patented drugs do not exhibit a trend that is any different from that of the primary analysis. Insurers did not treat this class of drugs any differently than the other drugs on their formulary. The range of coverage of the cardiovascular drugs was almost as large as the range in preferred placement of all 67 patented brand-name drugs in the study. Clearly, there were some cardiovascular agents such as Diovan and Lotrel that were covered by most insurers, but there were also some cardiovascular agents such as Crestor and Benicar that were covered on tier 2 by few insurers.

The insurer's decision regarding tier placement of new drugs is related to whether the insurer perceives any therapeutic advantage of the new drug, compared with existing therapies in the marketplace. This raises the issue of whether it is necessary to have a formulary that covers all drugs. A high percentage of coverage does not necessarily imply a high-quality formulary, because the ideal formulary would include the most cost-effective drugs within each class and would exclude those that are deemed less beneficial in health and monetary aspects. For this study, we looked at only 1 formulary per plan,

which was generally published as the base formulary. We recognize that within each plan there may be dozens of formularies tailored to the needs of each client and that there would presumably be variance within each plan. An examination of variation in coverage for specific formularies within plans would be an excellent follow-up to this study.

## CONCLUSIONS

Based on this convenience sample of 12 insurance plans, there is a wide variation in preferred placement of the most commonly prescribed branded medicines, with some plans providing preferred placement for fewer than one third of drugs and other plans providing preferred placement for almost 90% of drugs. There also is significant variation in the likelihood of coverage for a specific drug across plans. The wide range implies that the specific insurance coverage a patient selects and the patient's medication therapy needs may have an effect on the tier placement of the prescribed drugs and out-of-pocket drug expenditures.

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**Funding Source:** Financial support for this project was obtained from Pfizer Inc.

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