Published in final edited form as:

J Subst Abuse Treat. 2008 March ; 34(2): 147–156.

Availability of Addiction Medications in Private Health Plans

Constance M. Horgan, Sc.D., Sharon Reif, Ph.D., Dominic Hodgkin, Ph.D., Deborah W. Garnick, Sc.D., and Elizabeth L. Merrick, Ph.D.

Institute for Behavioral Health, Schneider Institutes for Health Policy, Heller School for Social Policy and Management, Brandeis University, Waltham, MA 02454

Abstract

Health plans have implemented cost-sharing and administrative controls to constrain escalating prescription expenditures. These policies may impact physicians' prescribing and patients' use of these medications. Important clinical advances in the pharmacologic treatment of addiction highlight the need to examine how pharmacy benefits consider medications to treat substance dependence. The extent of restrictions influencing availability of these medications to consumers is unknown. We use nationally representative survey data to examine the extent and stringency of private health plans' management of naltrexone and disulfiram for alcohol dependence, and buprenorphine for opiate dependence. Thirty-one percent of insurance products excluded buprenorphine from formularies, while 55% placed it on the highest cost-sharing tier. Generic naltrexone is the only substance dependence medication that is both rarely excluded from formularies and usually placed on a lower cost-sharing tier. These findings demonstrate that pharmacy benefits have an impact on access to medications to treat substance abuse.

Keywords

pharmacotherapy; cost-sharing; pharmacy benefits; formulary; substance abuse

1. Introduction

The emergence of effective prescription medications to treat substance use disorders highlights the need to examine the availability of these medications under health insurance pharmacy benefits. Prescription medications available for treatment of alcohol dependence include disulfiram and naltrexone, as well as the more recently approved acamprosate and long-acting naltrexone. Buprenorphine has been available for several years for treatment of opiate dependence. While methadone has been a treatment option for opiate dependence for many years (Payte, Zweben, & Martin, 2003), it can only legally be prescribed for addiction treatment within specifically licensed clinics (Saxon & McCarty, 2005), thus is covered as a treatment service rather than a prescription medication.

Prescribed medications overall are one of the fastest growing components of the U.S. health care budget, growing from \$40 billion in 1990 to \$189 billion in 2004, with an annual percent increase of 18% in 1999 (the most rapid annual increase) and 8% in 2004 (Centers for Medicare

Corresponding Author: Constance M. Horgan, Sc.D., Institute for Behavioral Health, Schneider Institutes for Health Policy, Heller School for Social Policy and Management, Brandeis University, 415 South Street, MS 035, Waltham, MA 02454, 781-736-3916 (voice), 781-736-3905 (fax), horgan@brandeis.edu (email).

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

and Medicaid Services, 2006). These increases are due to many factors, including a larger population, more medications on the market, higher costs per medication, and more medications per person. However, the contribution of medications for substance dependence to total substance abuse treatment costs remains extremely low (<1% in 2001, excluding methadone; Mark et al., 2005), despite the advances in pharmacological treatment options. Many private health plans have implemented cost-sharing requirements and administrative controls in an effort to constrain escalating prescription costs overall. Such pharmacy policies may impact physicians' inclination to prescribe and patients' willingness to use medications. These policies include formulary exclusions, prior authorization requirements and placing medications on cost-sharing tiers with higher copayments. This paper reports on the extent and stringency of private health plans' management of prescription medications to treat alcohol and opiate dependence in 2003, using data from a nationally representative survey of health plans. It is important to examine the specifics of the pharmacy benefit to have a better understanding of the true availability and cost that individuals with private health insurance face when they need medications for substance dependence.

1.1 Medications to Treat Substance Dependence

The use of medications for treatment of substance dependence is minimal to date (Mark, 2004), but considerable evidence points to their effectiveness for appropriate patients, an indication that all patients with substance use disorders should be assessed for the use of pharmacotherapy as part of their treatment for substance use disorders (National Quality Forum, 2005). All medications for treatment of substance dependence should be used, at least initially, in conjunction with other forms of treatment, specifically counseling services (Center for Substance Abuse Treatment, 1998, 2004; Fiellin, Kleber, Trumble-Hejduk, McLellan, & Kosten, 2004). The following sections describe currently available prescription medications to treat alcohol dependence and opiate dependence, excluding medications for acute intoxication and withdrawal; see Table 1 for an overview of these medications.

Alcohol Dependence Medications—Disulfiram (Antabuse®) was the first medication approved in the United States to treat alcohol dependence, more than 50 years ago, and is considered an “aversive” agent. It interferes with the metabolism of alcohol, leading to a number of adverse side effects, such as nausea and vomiting, when any alcohol is consumed (Anton & Swift, 2003). In 1994, the opiate antagonist naltrexone was approved by the Food and Drug Administration (FDA) for treatment of alcohol dependence (Harris & Thomas, 2004), following its approval for treatment of opiate addiction in 1984. By blocking opiate receptors, naltrexone also serves to block the reinforcing effects of alcohol (Anton & Swift, 2003; Center for Substance Abuse Treatment, 1998). Naltrexone is available in both brand (ReVia™) and generic formulations, and a long-acting injectable form of naltrexone was approved by the FDA in 2006. Medication development for substance dependence continues, with medications such as acamprosate (Campral®) for alcohol dependence approved by the FDA in 2004, and many others in the development pipeline.

Opiate Dependence Medications—Naltrexone precipitates acute withdrawal from opiates; this leads to poor compliance and treatment retention, thus it is rarely used for ongoing treatment of opiate dependence (Minozzi et al., 2006). Buprenorphine was approved by the FDA in 2002 for treatment of opiate dependence (Center for Substance Abuse Treatment, 2004). It is available in two forms: Subutex® is buprenorphine only, and is primarily used for the monitored initiation period of buprenorphine treatment; Suboxone® is a buprenorphine and naloxone combination, which was created to reduce the risk of non-therapeutic use, since the naloxone portion eliminates the “high” effect of opiates. Buprenorphine was developed as a treatment that can be used in office-based practice, with the Substance Abuse and Mental Health Services Administration (SAMHSA) taking an active role in promoting information

about buprenorphine. The regulations that made buprenorphine available for office-based use also require that prescribing physicians receive specific training, obtain a unique DEA number to prescribe buprenorphine, and agree to limitations on the number of patients they will treat with buprenorphine at any time. At the time of our study, the 30-patient limit was applied at the institutional level if the physician was in an organization or a group practice; this limit has since been lifted from institutions, although it remains in effect at the individual physician level. In contrast, methadone, available since the 1960s, has more side effects, is more highly regulated and must be provided through specially licensed facilities (Saxon & McCarty, 2005). As such, methadone is often considered a treatment service, rather than a prescription medication.

1.2 Prescription Policies

With spending on prescription medications rising twice as fast as other health care spending (Garis, Clark, Siracuse, & Makoid, 2004), health plans have implemented a variety of techniques to help control expenditures. Techniques to control or restrict access to particular medications may include exclusion from formularies altogether, prior authorization requirements, “fail first” policies that direct certain medications to be tried before others are used, drug utilization review, and tiering of copayments (Gleason, Gunderson, & Gericke, 2005; Hoadley, 2005; Olson, 2002). In addition, many health plans contract with pharmacy benefit management (PBM) companies, which perform administrative functions related to management of the prescription benefits and contracting with pharmaceutical companies on behalf of the health plan (Garis, Clark, Siracuse, & Makoid, 2004; Olson, 2002). Which techniques are used may vary not only by the specific health plan and insurance product, but also by the medication within any given health plan and product.

Harris and Thomas (2004) put forth reasons that may be considered pros and cons for including naltrexone on formularies, which could similarly be considered for other medications to treat substance dependence. Reasons hypothesized for formulary inclusion of naltrexone included the lack of close substitutes, a high level of compliance (compared to disulfiram), availability in generic form, and the high costs of alcohol dependence. On the other hand, factors that might reduce a health plan’s inclination to include naltrexone on its formulary include: lack of consensus on effectiveness, a small market demand, potential side effects, and the expectation that it should be used in conjunction with counseling services.

One of the most common insurance changes in the past few years has been the adoption of three-tier formularies, used by 92% of health plans in 2003 (Horgan, Garnick, Merrick, & Hodgkin, in review), nearly double the prevalence in 1999. Three-tier formularies are intended to provide incentives to the consumer to choose less costly medications by introducing different cost-sharing for each tier (Landsman, Yu, Liu, Teutsch, & Berger, 2005; Nair & Valuck, 2004). The lowest, and least costly, tier is generally reserved for generic medications; the middle tier is for brand medications that are preferred by the health plan, due to lower retail costs or agreements with the manufacturers; the highest tier is where brand-name, non-preferred medications are placed, which often includes the most expensive or newest medications in a class. In 2005, the average copayment per medication in employer-sponsored health plans was \$10 for the lowest tier, \$22 for the middle tier, and \$35 for the highest tier (Kaiser Family Foundation, 2005). Evidence shows that use of medications listed on lower tiers increases when such formularies are adopted, although some discontinuation of medications occurs due to increased costs for some consumers when three-tier plans are implemented (Gleason, Gunderson, & Gericke, 2005; Nair & Valuck, 2004).

The impact of these techniques for managing use of prescription medications for mental and substance use disorders has largely been unexamined. Huskamp (2003) argues that use of medications for mental conditions might not be as affected by these prescription policies, in

part because much of specialty behavioral health care is carved out to specialty vendors (managed behavioral health organizations (MBHOs)), representing 71% of private health plans in 2003 (Horgan, Garnick, Merrick, & Hodgkin, in review). Typically these MBHOs do not have any financial linkage to the health plan's prescription plans, which are managed as part of the general medical benefit, outside of the carve-out (Frank, Conti, & Goldman, 2005). Thus, specialty treatment providers are less likely to consider the financial impact of the choice to prescribe specific medications (Frank, Conti, & Goldman, 2005; Huskamp, 2003). Of course, there is a movement to have more treatment of substance use disorders take place within primary care, as evidenced by screening and brief intervention initiatives and increased use of medications to treat substance dependence in office-based settings, thus prescription benefit policies may have an increasing effect on access to medications for substance dependence.

Prescription policies may be intended to guide consumers to use less costly medications, yet for medications to treat substance dependence, this may not be possible, since so few medications are currently available (Harris & Thomas, 2004). For instance, if using a beta-blocker or an antidepressant, there are multiple medications within each class of medications. Thus, if one is excluded from coverage, or is on the most costly tier, alternatives are available. Yet if buprenorphine, for example, is excluded or is on the highest tier, no other medications exist in that class, and access is effectively restricted.

The current analysis is intended to ascertain the extent to which formulary exclusions, three-tier prescription benefit structures, and prior authorization requirements are used for medications to treat substance dependence, in a nationally representative sample of private health plans. Using data collected for the 2003 benefit year on coverage for substance dependence medications available at that time, namely disulfiram, naltrexone (generic and brand) and buprenorphine (brand), we examine exclusion from formularies, placement on the highest tier, and requirements for prior authorization. We also consider how these policies vary by the type of insurance product (health maintenance organization (HMO), point of service (POS), and preferred provider organization (PPO)); the contracting arrangements for treatment of behavioral health (carved out to a specialty managed behavioral health care organization (MBHO), contracted out to a single vendor along with general medical care, or provided internally); and whether a pharmacy benefits manager was used.

2. Methods

2.1 Data Sources and Sample

We conducted a nationally representative survey of private health plans regarding alcohol, drug abuse and mental health services in 1999 and 2003. Data for these analyses rely on the 2003 survey only. This telephone survey included an administrative module addressing behavioral health contracting arrangements, benefits, network management and provider payment, and a clinical module that addressed primary care screening and treatment, entry into specialty care, utilization management, prescription drug formularies and associated requirements, quality improvement, and other clinically oriented behavioral health topics. At each market-area-specific health plan, respondents were asked about the top three products, where products were defined for respondents as "packages, plans or contracts that are similar in terms of out-of-network coverage, referrals and primary care physicians". Within each product we asked respondents about the "most commonly purchased package", hereafter referred to as **products**.

Typically there were two respondents per plan (executive director for the administrative module and medical director for the clinical module). For some national or regional plans, we interviewed respondents at the corporate headquarters level regarding multiple sites, asking specifically about any differences across sites. In some cases the plans referred us to the

managed behavioral health organization (MBHO) for more detailed information. All items were asked at the product level within each market-area-specific health plan.

The study is linked to the Community Tracking Study (CTS), a longitudinal study of health system change, funded by the Robert Wood Johnson Foundation and described more fully elsewhere (Kemper et al., 1996). The primary sampling units were the 60 market areas selected for the CTS to be nationally representative. Our second sampling stage consisted of selecting plans within market areas. Plans serving multiple markets were defined as separate plans for the study and data were collected with reference to the specific market area. The plan sample was allocated to each market area based on the weighted estimate of plan enrollees in each site, with proportional distribution between PPO-only and HMO/multi-type of plans.

In 1999 we surveyed 434 health plans in 60 market areas (92% response rate); in 2003 we surveyed 368 plans in the same market areas (83% response rate). For the 2003 survey, we augmented the 1999 sample of 720 plans with a national sample of plans not previously operating in the sample sites. Of the 110 new plans identified, we selected 94, maintaining the same sampling rates as those in 1999. The 2003 sample frame consisted of 1,054 plans, and the 2003 sample itself totaled 814 plans including all 1999 eligible sampled cases plus a sample of 1999 ineligible and new plans. Of these 814 plans, 373 were categorized as ineligible because they had closed, merged, or were otherwise unreachable, had fewer than 300 subscribers in the market area, did not offer comprehensive health care products, served only Medicaid/Medicare, or for several other reasons. This left 441 eligible plans, of which 368 (83%) responded and reported on 812 products. Of these, 347 plans (79%) completed the clinical module, reporting on 771 products. Four products that were “consumer-driven plans” were excluded from the analyses.

2.2 Measures

For the top three private managed care products within each health plan, several questions were asked about specific medications for substance dependence, as part of a larger prescription medication module that also included psychiatric and tobacco dependence medications. **(1) Medication exclusions:** Whether there was formulary inclusion for specific medications to treat alcohol dependence: disulfiram (Antabuse®), generic naltrexone, and brand naltrexone (Revia™); and opiate dependence: buprenorphine/naloxone combination (Suboxone®) and buprenorphine alone (Subutex®). Inclusion of both generic and brand naltrexone allows a better understanding of how prescription management techniques are used for newer medications when a generic is also available. Since disulfiram is a much older medication, we did not enquire about brand and generic distinctions. Responses for the two buprenorphine medications were nearly identical, thus results are provided only for the combination product, hereafter referred to as buprenorphine. Methadone is provided as a treatment service, rather than a retail prescription medication, thus was not examined in this paper. **(2) Three-tier formulary:** Whether a three-tier formulary was used, and if so, which tier was used for each covered medication. **(3) Prior authorization:** For each medication, whether prior authorization was required in order to receive the medication.

Health plan products were classified by **(1) Product type:** Health maintenance organization (HMO), in which services are provided by a network of affiliated providers, and services outside the network are generally not covered; point-of-service (POS), in which both “in-network” or “out-of-network” services may be chosen, albeit with differential coinsurance or deductibles; or preferred provider organization (PPO), in which enrollees are given a financial incentive, usually in the form of different coinsurance or deductible, to use a “preferred” network of providers. HMOs are typically viewed as the most managed and PPOs as the least so. **(2) Contracting arrangement:** Whether the health plan carved out behavioral health services to a managed behavioral healthcare organization (specialty); contracted with a single

vendor for both general medical and behavioral health services (comprehensive); or had all behavioral health services provided by health plan employees or through a network directly administered by the plan (internal). **(3) Pharmacy benefits manager (PBM):** Whether the health plan contracted with a prescription drug management firm.

2.3 Statistical Analysis

The findings reported here are national estimates with data weighted to be representative of health plans' private managed care products in the continental United States. Statistical analyses were implemented using SUDAAN software (Research Triangle Institute, 2002) for accurate estimation of the sampling variance given the complex sampling design. When comparing results within a specific medication by product type, contracting arrangement, and use of a PBM, we used pairwise t-tests to determine significance. We corrected for multiple comparisons (3 pairwise tests for each comparison by product type or contracting arrangement) using the Bonferroni correction.

2.4 Sample Characteristics

Insurance products were split fairly evenly across product types, with slightly fewer identified as HMOs (29%) than POS (36%) or PPOs (35%). Nearly three-quarters of insurance products contracted with a managed behavioral health organization, and over half used a pharmacy benefits manager. The vast majority (86%) were for-profit. Outpatient substance abuse rehabilitation treatment was a covered benefit by 98% of insurance products, and methadone maintenance was a treatment benefit for almost two-thirds of products.

3. Results

Formulary exclusions and tiering of medications to treat substance dependence vary both by the type of substance dependence and by the specific medication (Figure 1). Overall, very few products excluded medications to treat alcohol dependence. In contrast, for opiate dependence, nearly one-third of products excluded buprenorphine. Another 55% of products place buprenorphine on the highest tier. Brand naltrexone is on the highest tier for 41% of products, yet generic naltrexone is almost never on the highest tier; this pattern is as expected for medications with generic and brand formulations. Generic naltrexone is thus the most financially accessible medication, with 92% of products placing it on the lower tiers; only 14% of products place buprenorphine on the lowest tiers.

3.1 Medication Exclusions

In addition to differences by specific medications, whether a medication is covered varies significantly by insurance product characteristics (Table 2). While disulfiram is excluded by very few insurance products overall, products with internal arrangements for behavioral health have a much higher rate of excluding disulfiram from their formularies (8.7%) than products with specialty or comprehensive contracts.

Generic and brand naltrexone have similar exclusion patterns: HMOs are the most likely to exclude both (about 9% of products), and insurance products with internal contracting arrangements are also most likely to exclude both (about 19% of products). Over 10% of products that use a PBM exclude generic and brand naltrexone, significantly greater than products without a PBM.

Insurance product characteristics relate to larger variations and different patterns for buprenorphine than for alcohol medications. POS products are most likely to exclude buprenorphine (45%); HMO products still have a high rate of exclusion (39%), but PPO products are relatively unlikely to exclude buprenorphine (6%). Products with specialty

contracts are the most likely to exclude buprenorphine (36%). For buprenorphine, contracting with a PBM is related to much lower exclusion rates than products not using a PBM (10% vs. 55%, respectively).

3.2 Restriction to Most Costly Tier

Once a medication is in the formulary, the plan may still try to manage its use by restricting it to the most costly tier of the formulary (Tier 3). As with formulary exclusions, rates of restriction to Tier 3, once on the formulary, vary by specific medication and by product type, contracting arrangements, and PBM use (Table 3). Because so few insurance products exclude alcohol medications, there is little change from the overall tiering restrictions for disulfiram, naltrexone, and brand naltrexone as seen in Figure 1.

In contrast to exclusion patterns in Table 2, where generic and brand naltrexone were very similar, Table 3 shows that patterns of Tier 3 placement are rather different for generic and brand naltrexone. Generic naltrexone is seldom placed on Tier 3, regardless of product type, contracting arrangements, or PBM use. As expected when a generic form is available, many more products (44%) placed brand naltrexone on Tier 3. Significantly more PPOs used Tier 3 (53%) than did HMOs (41%) or POS products (39%). Brand naltrexone was on Tier 3 for 64% of insurance products with internal arrangements, yet for only 21% of products with comprehensive arrangements. Brand naltrexone tiering did not differ by whether a product had a PBM contract. However, the only significant finding for disulfiram was that use of a PBM was related to much lower rates of Tier 3 usage (13%) than no PBM contract (45%).

Buprenorphine was the medication most likely to be placed on Tier 3, if on the product's formulary at all, with 80% of products using the highest tier. PPOs were somewhat less likely to use Tier 3 (73%) than either HMOs or POS products. Products with specialty behavioral health contracts were most likely to use Tier 3 for buprenorphine (89%), versus only 30% of products with comprehensive contracts. If we examine this finding in the context of the high exclusion rate for buprenorphine among products with specialty behavioral health contracts (Table 2), and the fact that 73% of products are such carveouts (data not shown), access to buprenorphine is greatly restricted for enrollees of private health plans. Almost all products without a PBM contract use Tier 3 for buprenorphine, compared to 71% of products with a PBM.

3.4 Prior Authorization

While many products use tiering to manage access to medications for substance dependence, few require prior authorization for these medications, with essentially no differences in use of prior authorization by product characteristics for any of the alcohol medications (Table 4).

As with exclusion from the formulary and use of Tier 3, buprenorphine is more likely to have prior authorization requirements than the medications for alcohol dependence, although it is still minimal (7%). Comprehensive products are least likely to require prior authorization for buprenorphine (5%), and internal products are most likely (14%). About 10% of insurance products with PBMs used prior authorization for buprenorphine, yet almost no products without PBMs did so.

4. Discussion

Our results indicate that plans handle medications for alcohol dependence differently than those for opiate dependence. Almost one-third of insurance products excluded buprenorphine from formularies, yet very few did so for brand and generic naltrexone. Furthermore, once in the formulary, most insurance products place buprenorphine on the highest cost-sharing tier, nearly

half do so for brand naltrexone, and about one quarter do so for disulfiram; generic naltrexone was on lower tiers in almost all cases. While 3-tier formularies were developed to restrict use of brand medications, use of the highest tier is of particular impact with medications for substance dependence, where substitutes are not available (Harris & Thomas, 2004). Generic naltrexone is the only medication for substance dependence that is both rarely excluded from formularies and usually placed on a low or intermediate cost-sharing tier. Prior authorization is rarely required for substance dependence medications, but if required, is used more frequently for opiate medications.

While medication exclusions and tiering varied by product type, behavioral health contracting arrangements, and PBM use, the patterns were largely inconsistent across these characteristics. These findings suggest, therefore, that choices regarding management of medications are made for reasons other than the degree of “managedness” of an insurance product. One might have expected, for example, that HMOs as more managed private health insurance might primarily choose to restrict access to certain medications, parallel to restricting access to certain providers. The lack of a clear pattern for HMOs, POS, and PPOs, for either medication exclusion or Tier 3 usage indicates that this is not the case. By definition, PBMs are pharmacy benefit managers, so one might expect all products that use PBMs to have more use of each of these techniques across the board, which was also not the case. It appears that these various strategies are tools from which health plans can pick and choose for any given insurance product, to encourage or discourage certain medication usage, without particular strategies associated with any particular type of insurance product. This allows health plans to be more responsive, for example, to overall demand for specific medications, expenditures within a medication class, and requests by purchasers.

The patterns of formulary exclusion, Tier 3 usage, and prior authorization were also inconsistent across medications, within the group of alcohol medications, and most distinctly when comparing alcohol to opiate medications. Within the alcohol medications, the patterns for generic and brand naltrexone suggest that these medications to treat alcohol dependence are approached like other medications with both generic and brand formulations, where the management techniques are designed to encourage generic use and discourage brand use. This can be seen in particular where Tier 3 usage is high for brand naltrexone, and very low for generic naltrexone. Our findings in this national sample of private health plans confirm those of Harris and Thomas (2004) that naltrexone is widely placed on formularies, although restrictions may be used. They note that prior authorization restrictions are common for public plans, such as Medicaid, but less so for private plans.

The findings for disulfiram indicate that even though a medication may have been available much longer and is cheaper than alternatives, health plans may choose to discourage its use for other reasons, such as perceived ineffectiveness or low demand (Harris & Thomas, 2004). Thus although disulfiram is the least expensive medication considered, is likely to remain less expensive than any new medications, and is rarely excluded from formularies, nearly half place it on Tier 3, where the monthly copayment may be very close to the retail medication price. In general, access to medications for alcohol dependence within private health plans is reasonably good, with generic naltrexone the most accessible. It is apparent that most enrollees who are prescribed naltrexone would find it available and financially accessible within their specific insurance products, with the three-tier formulary working as it does for prescription treatment of medical conditions.

A distinct pattern was seen for the opiate medication, where buprenorphine was excluded by a large proportion of products, and was placed on the most expensive tier for most products that did include it on the formulary. Buprenorphine has been marketed as a treatment for opiate dependence that can be provided in the privacy of a doctor’s office, can be taken unsupervised

at home like other medications (but not methadone), and is geared in particular to individuals who prefer not to attend methadone programs, including those who find that methadone treatment interferes with employment (Center for Substance Abuse Treatment, 2004). However, our findings show that buprenorphine may not, in fact, be accessible for these individuals. The most striking finding is that plans that carve out behavioral healthcare to MBHOs have the highest rates of both exclusions and Tier 3 usage for buprenorphine. Nearly three-quarters of health plans carve out to MBHOs, but these types of insurance products are least likely to cover an effective medication-based treatment for opiate dependence. Buprenorphine is a very expensive medication if not covered by a health plan, nearly \$300 per month for an average dosage at the time of the survey (The Medical Letter, 2003) and \$170–\$274 now (Table 1), five to eight times the average medication copayment on Tier 3; this is of concern with the high rate of buprenorphine exclusion from formularies.

It is possible that the high level of exclusion reflects the newness of buprenorphine at the time of the survey, having received FDA approval only one year before, and future surveys might find a lower exclusion rate. Similarly Tier 3 is often used for newer brand medications, so the buprenorphine result might not be unexpected. However, Tier 3 is used much more often for buprenorphine than for brand naltrexone, indicating that buprenorphine is considered differently. It may be, for instance, that demand for buprenorphine coverage, either by purchasers or by enrollees, is low enough that health plans see very low risk in excluding it or placing a high copayment (i.e., Tier 3) on it. Buprenorphine is also more expensive (see Table 1), thus greater restriction by health plans might be expected.

Prevalence for alcohol dependence is much greater than opiate dependence (3.5% versus 0.1%, respectively) (Substance Abuse and Mental Health Services Administration, 2005), thus higher demand for alcohol treatment than for opiate treatment is to be expected, although it is still rather low. Excluding alcohol medications may make a specific insurance product less attractive to a purchaser, whereas excluding opiate medications may be seen as addressing such a small population that it is not worth debating. The exclusion rates for the alcohol medications are similar to exclusion rates for antidepressants in the same survey (Hodgkin, Horgan, Garnick, Merrick, & Volpe-Vartanian, forthcoming). Alcohol dependence may also be viewed with less stigma than opiate dependence, which involves an illegal activity, so there is likely to be more demand for alcohol medications by enrollees, and much less demand for opiate medications, particularly among individuals in employer-sponsored health plans (Substance Abuse and Mental Health Services Administration, 2006). Finally, methadone has for many years been the primary treatment for opiate dependence, and health plans may still view that as the preferred option, although only 65% of insurance products in this survey cover this treatment service.

While these results provide national estimates of the availability of medications to treat substance dependence, several issues should be noted. As a survey of the characteristics of private insurance products, there was no measure of purchaser or enrollee demand for specific medications for the treatment of substance dependence, which would further inform our understanding of exclusions, high tiering, and their true impact on access to medications within the health plan. The data reflect policies as reported by health plans, and as such represent potential access, not actual use of medications by their enrollees. It is also important to note that this analysis focused on access within the health plan, but medications may be purchased out-of-plan, thus access is truly only limited by a person's ability to pay. Due to stigma, some enrollees choose not to use their insurance for treatment of substance use disorders, and this may extend to medications to treat substance dependence, which in turn affects demand within the health plan, and limits the potential impact of prescription management techniques. Despite these considerations, this analysis provides an overall picture of the availability and financial accessibility of medications for substance dependence within private insurance.

4.1 Implications for Policy, Delivery, or Practice

Current policy discussions regarding parity for treatment of substance use disorders highlight the need for continued focus on access to care, and the issue of the availability of medications is increasingly relevant. There is more to accessing medications than inclusion in formularies; such coverage is necessary but not sufficient. Behavioral health policymakers should consider access as consisting of two levels. First, inclusion in formularies is necessary for these medications to be viable treatment options. As Table 1 indicates, monthly retail price of these medications, which would be paid out of pocket if the medication were excluded from the formulary, is much higher than average copayments, even on the most expensive tier. Second, most private health plans use copayment tiering to restrict access to some medications. As brand medications to treat addictions (e.g., naltrexone, buprenorphine) are often placed on the higher tiers, financial access becomes an important issue that may restrict use of medications to treat substance dependence even when nominally covered by private insurance.

Formularies and financial access, however, are only two of many reasons that can contribute to whether a medication is used. Use of medications to treat substance dependence is an evidence-based practice (National Institute of Alcohol Abuse and Alcoholism, 2006; National Institute of Drug Abuse, 2006; National Quality Forum, 2005; Volkow, 2004). Availability of these addiction medications through private health insurance pharmacy benefits is necessary to increase demand for, access to and usage of these treatment options among the privately insured. At least several avenues to increase such knowledge can be considered: organizations such as the National Quality Forum can further work to increase awareness of these medications; continuing efforts to reduce stigma surrounding substance use disorders will make consumers more comfortable in seeking needed treatment, particularly under employer-sponsored health insurance, thus consumer demand can also serve to increase accessibility of these medications; incorporation of performance measures for substance dependence medications may influence insurers' inclusion of those medications on formularies. As policymakers try to encourage the incorporation of medications as part of best practices for treatment of substance use disorders, it will be particularly important to target employers who are making the purchasing decisions, large insurers, and pharmacy benefit managers, as these constituencies may effect the greatest changes in health plan behaviors regarding medications for substance dependence.

Although prior studies of substance abuse medications have examined diffusion and adoption, none has examined availability of multiple substance dependence medications for a privately insured population. Our analyses show that access to medication for treatment of substance use disorders often is limited by the structure of prescription drug benefits, and restrictions are greater for medications to treat opiate dependence than for medications to treat alcohol dependence.

Acknowledgements

This study was funded by the National Institute on Alcohol Abuse and Alcoholism (R01 AA010869) and the National Institute on Drug Abuse (R01 DA10915). The authors thank respondents from the participating health plans for their time and Frank Potter and the staff at Mathematica Policy Research for fielding the survey. The authors wish to acknowledge Galina Zolotusky, Joanna Volpe-Vartanian, Alex Hoyt, and Cindy Parks Thomas for their contributions. Preliminary versions of this paper were presented at the AcademyHealth annual meeting, June 2006 and the Addiction Health Services Research conference, October 2006.

References

- Anton RF, Swift RM. Current pharmacotherapies of alcoholism: A U.S. perspective. *American Journal on Addictions* 2003;12:S53–S68. [PubMed: 14972780]
- Center for Substance Abuse Treatment. Naltrexone and Alcoholism Treatment. Rockville, MD: Substance Abuse and Mental Health Services Administration; 1998.

- Center for Substance Abuse Treatment. Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2004.
- Centers for Medicare and Medicaid Services. National Health Expenditures by type of service and source of funds, CY 1960-2004. Table 2: National Health Expenditures Aggregate Amounts and Average Annual Percent Change, by type of expenditure. 2006. Retrieved July 10, 2006, from http://www.cms.hhs.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.asp#TopOfPage
- Fiellin DA, Kleber H, Trumble-Hejduk JG, McLellan AT, Kosten TR. Consensus statement on office-based treatment of opioid dependence using buprenorphine. *Journal of Substance Abuse Treatment* 2004;27:153–159. [PubMed: 15450648]
- Frank RG, Conti RM, Goldman HW. Mental health policy and psychotropic drugs. *Milbank Quarterly* 2005;83(2):271–298. [PubMed: 15960772]
- Garis RI, Clark BE, Siracuse MV, Makoid MC. Examining the benefit of pharmacy benefit management companies. *American Journal of Health-System Pharmacy* 2004;61:81–85. [PubMed: 14725125]
- Gleason PP, Gunderson BW, Gericke KR. Are incentive-based formularies inversely associated with drug utilization in managed care? *Annals of Pharmacotherapy* 2005;39(2):339–345. [PubMed: 15644478]
- Harris KM, Thomas C. Naltrexone and pharmacy benefit management. *Journal of Addictive Diseases* 2004;23(4):11–29. [PubMed: 15339711]
- Hoadley, J. Cost Containment Strategies for Prescription Drugs: Assessing the Evidence in the Literature. Menlo Park, CA: Kaiser Family Foundation; 2005.
- Hodgkin D, Horgan CM, Garnick DW, Merrick EL, Volpe-Vartanian J. Management of psychotropic medications in private health plans. *Clinical Therapeutics*. forthcoming
- Horgan CM, Garnick DW, Merrick EL, Hodgkin D. Changes in how health plans provide behavioral health services. in review
- Huskamp HA. Managing psychotropic drug costs: Will formularies work? *Health Affairs* 2003;22(5):84–96. [PubMed: 14515884]
- Kaiser Family Foundation. Employer Health Benefits 2005 Annual Survey. 2005. Retrieved August 2, 2006, from <http://www.kff.org/insurance/7315/upload/7315.pdf>
- Kemper P, Blumenthal D, Corrigan JM, Cunningham PJ, Felt SM, Grossman JM, et al. The design of the community tracking study: a longitudinal study of health system change and its effects on people. *Inquiry* 1996;33:195–206. [PubMed: 8675282]
- Landsman PB, Yu W, Liu X, Teutsch SM, Berger ML. Impact of 3-tier pharmacy benefit design and increased consumer cost-sharing on drug utilization. *American Journal of Managed Care* 2005;11(10):621–628. [PubMed: 16232003]
- Mark TL. Are medications for alcoholism underutilized? An analysis of private-sector and Medicaid claims. *Drug Benefits Trends* 2004;16(3):154–158.
- Mark, TL.; Coffey, RM.; McKusick, D.; Harwood, H.; King, E.; Bouchery, E., et al. National Expenditures for Mental Health Services and Substance Abuse Treatment 1991–2001 (No. SMA 05-3999). Rockville, MD: Substance Abuse and Mental Health Services Administration; 2005.
- Minozzi S, Amato L, Vecchi S, Davoli M, Kirchmayer U, Verster A. Oral naltrexone maintenance treatment for opioid dependence. *Cochrane Database of Systematic Reviews* 2006;25(1)
- Nair KV, Valuck RJ. Impact of three-tier pharmacy benefit structures on consumer attitudes, pharmacy, medical utilization and costs: A critical review. *Disease Management and Health Outcomes* 2004;12(2):81–92.
- National Institute of Alcohol Abuse and Alcoholism. Five Year Strategic Plan FY07-FY11: Alcohol Across the Lifespan. 2006. Retrieved August 1, 2006, from <http://pubs.niaaa.nih.gov/publications/StrategicPlan/NIAAASTRATEGICPLAN.htm>
- National Institute of Drug Abuse. Principles of Effective Treatment for Criminal Justice Populations. Rockville, MD: National Institute of Drug Abuse; 2006.
- National Quality Forum. Evidence-Based Treatment Practices for Substance Use Disorders: Workshop Proceedings. Washington, D.C: National Quality Forum; 2005.
- Olson BM. Approaches to pharmacy benefit management and the impact of consumer cost-sharing. *Clinical Therapeutics* 2002;25:250–272. [PubMed: 12637125]

- Payte, JT.; Zweben, JE.; Martin, J. Opioid maintenance treatment. In: Graham, AW.; Schultz, TK.; Mayo-Smith, MF.; Ries, RK.; Wilford, BB., editors. Principles of Addiction Medicine. 3. Chevy Chase, MD: American Society of Addiction Medicine; 2003. p. 751-766.
- Research Triangle Institute. SUDAAN User's Manual: release 8.0. Research Triangle Park, NC: Research Triangle Institute; 2002.
- Saxon AJ, McCarty D. Challenges in the adoption of new pharmacotherapeutics for addiction to alcohol and other drugs. *Pharmacology & Therapeutics* 2005;108(1):119–128. [PubMed: 16055196]
- Substance Abuse and Mental Health Services Administration. Results from the 2004 National Survey on Drug Use and Health: Detailed Tables. 2005. Retrieved August 3, 2006, from <http://www.oas.samhsa.gov/NSDUH/2k4nsduh/2k4tabs/2k4TabsCover.pdf>
- Substance Abuse and Mental Health Services Administration. 2004 National Survey on Drug Use and Health [computer file]. 2006. Retrieved August 3, 2006, from <http://webapp.icpsr.umich.edu/cocoon/SAMHDA-SERIES/00064ml>
- The Medical Letter. Buprenorphine: An alternative to methadone. *The Medical Letter on Drugs and Therapeutics* 2003;45(W1105A)
- Volkow ND. NIDA at 30: Committed to Scientific Solutions for Drug Addiction Problems. *NIDA Notes* 2004;19(1)

Figure 1. Medication Exclusions and Tiering

Note: Within each medication, percentages were calculated based on non-missing responses. Missing data ranged from 8% to 12%, depending on the medication.

Table 1
Medications Prescribed for Substance Dependence

Medication Name	Year FDA Approved	Approximate Retail Price per month ^a	Expected Effects
Acamprosate (Campral®)	2004	\$115–\$124	Reduces craving for alcohol and longer-term withdrawal symptoms
Disulfiram (Antabuse®)	1951	\$45–\$74	Causes unpleasant side effects when combined with alcohol; used as an 'aversive' agent
Naltrexone (ReVia™)	1994 (for alcohol dependence)	\$103–\$117 (generic)	Reduces craving for alcohol; used daily; precipitates opiate withdrawal
Naltrexone, long-acting (Vivitrol™)	2006	\$160–\$208 (brand) \$695	Reduces craving for alcohol; used monthly
Buprenorphine (Subutex®, Suboxone®)	2002	\$170–\$274	Opiate substitute; reduces withdrawal symptoms

Note: Medications in bold are analyzed for this paper. Medications for treatment of acute withdrawal, such as benzodiazepines, are not examined.

^aPrice range as identified from several online pharmacies, including www.drugstore.com and www.walgreens.com (7/06); Vivitrol pricing is as announced by the manufacturer (6/06).

Table 2

Formulary Exclusion of Medications to Treat Substance Dependence, in Private Health Plans, by Product Characteristics

Insurance Product Characteristics	Percent of Insurance Products Excluding Medication (SE)			
	Alcohol			Opiate
	Disulfiram	Naltrexone (generic)	Naltrexone (brand)	Buprenorphine (brand)
Weighted N	6,919	6,632	6,616	6,747
Total	1.3 (0.2)	6.2 (1.7)	6.4 (1.7)	31.0 (2.4)
HMO	1.9 (0.3) ^{ab}	8.8 (2.4) ^a	9.3 (2.4) ^{ab}	38.9 (2.6) ^{ab}
POS	1.1 (0.2) ^a	3.8 (1.2) ^{ab}	3.8 (1.1) ^{bc}	45.5 (3.0) ^{bc}
PPO	0.9 (0.3) ^b	6.7 (1.8) ^b	6.7 (1.8) ^{ac}	5.9 (1.6) ^{ac}
Specialty	0.1 (0.1) ^c	4.9 (1.2)	5.3 (1.2) ^{de}	36.0 (1.5) ^{de}
Comprehensive	1.5 (1.0) ^{cd}	0.5 (0.6) ^c	0.0 (0.0) ^{ef}	7.0 (4.9) ^{ef}
Internal	8.7 (2.0) ^d	19.3 (6.9) ^c	19.2 (7.0) ^{df}	18.9 (6.8) ^{df}
PBM	2.2 (0.4) ^e	10.4 (2.4) ^d	10.9 (2.4) ^g	9.5 (2.2) ^g
No PBM	0.0 (0.0) ^e	1.5 (1.3) ^d	1.3 (1.3) ^g	55.2 (2.8) ^g

Note: Within each medication, percentages were calculated based on non-missing responses. Missing data ranged from 8% to 12%, depending on the medication. Numbers may not add to 100% due to rounding.

^{a-f}Pairs that share superscript letter within a column and section are significantly different, $p < .05$

Table 3

Restriction of Medications to Treat Substance Dependence to Most Costly Prescription Benefit Tier (Tier 3), in Private Health Plans, by Product Characteristics

Insurance Product Characteristics	Percent of Insurance Products with Medication on Tier 3 (SE), contingent upon formulary inclusion			
	Alcohol			Opiate
	Disulfiram	Naltrexone (generic)	Naltrexone (brand)	Buprenorphine (brand)
Weighted N	6,830	6,219	6,193	4,658
All Products	28.0 (2.7)	1.6 (1.2)	44.2 (3.8)	79.5 (3.0)
HMO	24.0 (3.8)	1.8 (1.4)	41.3 (5.2) ^a	83.4 (3.2) ^a
POS	27.2 (3.2)	2.7 (2.1)	39.2 (5.0) ^b	85.3 (3.1) ^b
PPO	32.9 (2.3)	0.0 (0.0)	53.4 (2.2) ^{ab}	73.1 (3.4) ^{ab}
Specialty	28.9 (2.9)	2.0 (1.6)	45.0 (3.8)	89.2 (2.7) ^{cd}
Comprehensive	32.1 (8.1)	0.0 (0.0)	20.6 (9.4) ^c	30.3 (7.3) ^{de}
Internal	18.2 (7.3)	0.0 (0.0)	63.6 (10.4) ^c	78.3 (5.5) ^{ce}
PBM	12.9 (2.4) ^c	0.0 (0.0)	42.6 (5.2)	70.7 (3.9) ^f
No PBM	44.5 (3.8) ^c	3.0 (2.4)	45.8 (3.7)	99.9 (0.1) ^f

Note: Percentages were calculated based upon products that included each medication on the formulary. Numbers may not add to 100% due to rounding.

^{a-f}Pairs that share superscript letter within a column and section are significantly different, $p < .05$

Table 4

Prior Authorization Requirement for Medications to Treat Substance Dependence, in Private Health Plans, by Product Characteristics

Insurance Product Characteristics	Percent of Insurance Products Requiring Prior Authorization (SE), contingent upon formulary inclusion			
	Alcohol			Opiate
	Disulfiram	Naltrexone (generic)	Naltrexone (brand)	Buprenorphine (brand)
Weighted N	6,813	5,652	6,172	4,608
All Products	2.7 (1.2)	0.4 (0.2)	1.6 (1.2)	7.1 (1.6)
HMO	3.2 (1.6)	0.5 (0.2)	1.9 (1.4)	6.8 (2.2) ^a
POS	2.3 (1.2)	0.3 (0.2)	1.8 (1.3)	4.9 (1.9) ^{ab}
PPO	2.8 (1.4)	0.5 (0.2)	1.4 (1.0)	8.8 (1.7) ^b
Specialty	0.8 (0.8)	0.0 (0.0) ^a	0.0 (0.0)	6.2 (1.5)
Comprehensive	0.0 (0.0)	6.6 (3.6)	3.0 (1.8)	4.8 (2.8)
Internal	19.6 (9.3)	0.8 (0.3) ^a	12.8 (10.2)	14.0 (9.9)
PBM	4.1 (2.2)	1.0 (0.4)	3.4 (2.5)	10.2 (2.2) ^c
No PBM	1.3 (1.3)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1) ^c

Note: Percentages were calculated based upon products that included each medication on the formulary. Numbers may not add to 100% due to rounding.

^{a-f}Pairs that share superscript letter within a column and section are significantly different, $p < .05$