

# The Journal of Workers Compensation

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A GROWING NEED FOR COVERAGE  
THE PAST, PRESENT, AND FUTURE OF THE DEFENSE BASE ACT



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A COMPARISON OF DIFFERENT APPROACHES



KEY COST DRIVERS IN WORKERS COMPENSATION  
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A RECENT DEVELOPMENT IN INJURY MANAGEMENT  
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# EFFECTIVE PHARMACY MANAGEMENT PROGRAMS IN WORKERS COMPENSATION

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Pharmaceutical costs have long been a troublesome concern for all of the parties involved in the workers compensation (WC) arena. Although there has been some moderation in the rate of the rise of drug costs lately, they still represent a significant and escalating component of total medical costs for most insurers and employers, and consequently, they are of great interest to third party administrators (TPAs) and managed care companies.

Data from NCCI, published in 2007, confirm that drug costs are leveling off.<sup>1</sup> Drug cost per claim increased annually at a rate of close to 30 percent from 2001 through 2003, but the increase dropped to just over 10 percent from 2003 to 2004.

This trend is confirmed by data from the weblog Managed Care Matters, indicating that cost increases declined from 9.5 percent to 6.5 percent to

4.3 percent in the years 2005, 2006, and 2007, respectively.<sup>2</sup>

While data from recent years show a promising trend, it remains true that pharmaceuticals represent a substantial segment of total medical cost in WC. The NCCI study shows that, depending on the analytic methodology applied, drugs account for 14 percent to 18 percent of total medical cost. Furthermore, the study confirms that utilization, rather than unit price, is the primary cost driver responsible for the high WC drug cost.

Many of the tools that group health plans have found to be effective in reducing drug costs are not feasible in WC due to regulatory restraints. Tiered pharmacy benefit plans, which may encourage health plan members to select cost-effective drugs in order to minimize their out-of-pocket costs, are not permitted in WC where first-dollar pharmacy coverage is the rule. Many states limit the ability of WC managers to direct claimants only to participating physicians and pharmacies, or to definitively confine drug selection to a limited formulary.

Pharmaceutical usage patterns in WC are dramatically different from those in the group health sector. Five major therapy classes generally account for more than 70 percent of total pharmaceutical costs: narcotic analgesics (opioids), anticonvulsants, antidepressants, nonsteroidal anti-inflammatory drugs (NSAIDs), and muscle relaxants.<sup>3</sup> Essentially, WC pharmacy is the story of pain management. All of the above therapy classes attack components of pain directly or indirectly, e.g., both the anticonvulsant and antidepressant classes are utilized largely due to their putative beneficial impact on neuropathic pain.

The struggle to manage chronic pain syndromes successfully, and to do so in a way that promotes effective symptom control, maximum functionality, and timely return to work while simultaneously containing drug costs, is a core challenge in workers compensation. Most physicians who treat chronic pain patients will readily acknowledge the multiple difficulties inherent in the pharmacological management of this subpopulation of WC claimants: noncompliance; drug abuse and addiction; polypharmacy (multiple drugs/treating physicians/pharmacies); control of side effects; drug diversion (resale of prescribed medication); comorbid conditions; social and psychological overlay; etc.

In order to contain drug costs effectively, TPAs often work with pharmacy benefit managers (PBMs). These entities employ a variety of techniques: favorable contractual arrangements with drug manufacturers and retail pharmacies; pharmacy networks; approved drug lists (formularies); mail-order programs; generic substitution; and drug utilization

review programs. We are unaware of any published, controlled studies exploring the value of various techniques and solutions implemented by PBMs and their managed care partners as they have endeavored to better control pharmaceutical costs in the WC arena.

This study documents the process and outcomes of a collaboration between a large national TPA and its contracted national PBM. In 2006, this TPA had been reconfigured as a merger of two distinct TPA entities. The premerger TPAs (to be called TPAB and TPAC) had coincidentally both been using the same PBM.

As the integration of the two organizations evolved, it was apparent that both TPAB and TPAC had embraced certain traditional and fundamental pharmacy management components. However, TPAB, in collaboration with the PBM, and taking full advantage of its strong in-house nursing and physician resources, had developed and implemented additional, clinically focused elements to create a more robust program.

Once the two entities merged and access to data from both independent programs was available to management, a comparison of outcomes between TPAB and TPAC presented a unique opportunity to quantify and analyze the impact of the incremental TPAB programs. Essentially, TPAB serves as an intervention group and TPAC as a control group, permitting a determination of the effectiveness of the intensive program elements introduced within TPAB.

Exhibit 1 lists pharmacy programs that TPAB and TPAC shared in common and those that were unique to TPAB.

<b>EXHIBIT 1</b>		
<b>PHARMACY PROGRAM COMPONENTS OF TWO TPA DIVISIONS</b>		
<b>Program</b>	<b>TPAB</b>	<b>TPAC</b>
1. Drug Formulary	√	√
2. Clinical Formulary Management (prospective) (A) Prior authorization (B) Fill limitations (C) Date of injury limitations	√	
3. Retrospective drug utilization review	√	√
4. Mail order penetration	√	
5. Network penetration	√	√

## 1. Formularies

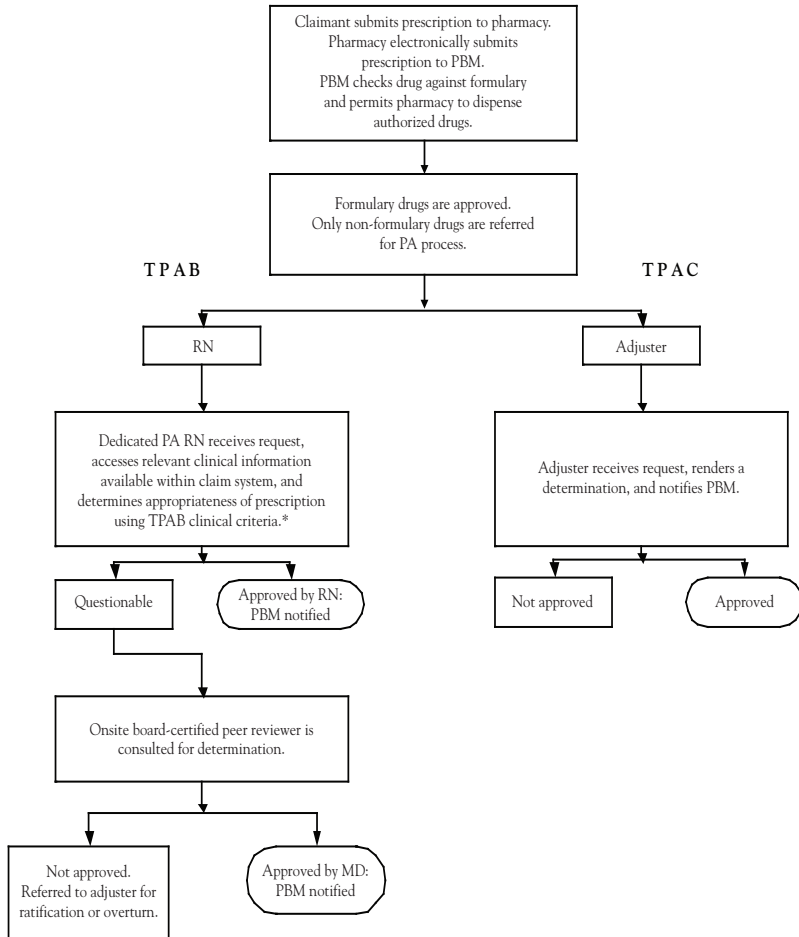
Drug formularies are used in various clinical settings to identify drugs deemed to be generally appropriate for standard use in that particular setting. They are consequently permitted to be dispensed “automatically,” without additional prospective scrutiny (beyond establishing benefit eligibility). On the other hand, a prescription for a nonformulary drug may trigger an additional level of review to ascertain whether the drug meets criteria for exceptional authorization.

In the WC setting, formulary approval requires that the drug be considered medically necessary and appropriate for the compensable condition, i.e., the medical condition that has been accepted by the organization’s claim examiners as causally related to an occupational injury or illness. Most WC formularies simply list approvable therapy classes, rather than specific drugs within each class. Therapy classes likely to appear on formularies are those which are typically used for the most common WC conditions, e.g., analgesics, NSAIDs, etc. Cardiac medications would likely not appear on a formulary, so a prescription for a drug used for heart failure or arrhythmias would be subject to further evaluation in order to assess whether it was genuinely required for treatment of the accepted WC condition. TPAB and TPAC had virtually identical drug formularies throughout the study period, so formulary design was not a differentiator warranting analysis.

## 2. Clinical Formulary Management

Both TPA divisions had developed formularies in cooperation with their common PBM partner. But they diverged in their handling of nonformulary prescriptions. TPAC operated an industry-standard prior authorization (PA) process in which nonformulary drugs were referred to a claims adjuster for nonclinical review and adjudication. On the other hand, TPAB had developed a rigorous clinically driven PA process (see Exhibit 2), making full use of its on-site nurses and physicians to review nonformulary drugs. In addition to evaluating prescribed drugs by virtue of their exclusion from the formulary, TPAB developed several additional triggers that identified prescriptions that exceeded the reasonably anticipated number of refills of a particular drug or drugs prescribed at atypical time frames in relation to the date of injury.

EXHIBIT 2



\*TPAB's clinical pharmacy guidelines were developed by its medical department, based on the review of scientific articles, evidence-based medicine consensus recommendations, and the TPA's own panel of independent physician reviewers including the specialties of orthopedics, physical medicine, anesthesiology/pain management, internal medicine, and others.

The clinical formulary management program was therefore a differentiator between TPAB and TPAC and provided an opportunity to study the impact of the program.

### **3. Retrospective Drug Utilization Review**

Both TPA divisions used a retrospective drug utilization review (retro DUR) tool implemented by the PBM. A list of triggers indicating inappropriate patterns of drug use was developed in discussions between the TPAs and PBM. The PBM automated the process so instances of any of the patterns resulted in a letter generated by the PBM to the prescribing physician, alerting the physician of the adverse drug pattern and suggesting review and potential modification of the regimen.

For example, if the PBM identified a claimant receiving duplicate therapies, such as two concurrent prescriptions for a particular class of antidepressants, the treating physician was notified to alter the regimen.

The design and operation of the retro DUR program was identical for both TPAs and not a subject for comparative study.

### **4. Mail Order Penetration**

Home delivery of drugs used on a long-term basis is a cost-effective alternative to retail pharmacy dispensing. The PBM has the capability of processing mail deliveries, and the option was available to both TPAs.

TPAB, but not TPAC, chose to proceed with an aggressive conversion effort to identify and target claimants for mail order. The process began with an injured worker receiving an initial package of explanatory materials from TPAB, including enrollment forms for home delivery. Subsequently, based on system data, all claimants who had received a 90-day or greater supply of any medication (with the exception of certain controlled substances) within a six-month period received introductory letters followed by telephone calls from the PBM. These messages conveyed the value and convenience of the mail order program. If a claimant agreed to participate, his or

her treating physician was contacted to generate new prescriptions permitting a three-month supply for initial and refill mail-order dispensing. TPAB claim adjusters continued to reinforce the opportunity to enroll to claimants reluctant to do so.

The impact of TPAB's initiatives was analyzed in this study.

## 5. Network Penetration

Both TPAs used the same pharmacy network, developed by the PBM. PBMs typically contract with sufficient chain and independent pharmacies to ensure reasonable geographic access for their TPA clients. Claimants are provided with participating pharmacy lists, and pharmacies are required to process prescriptions through online links with the PBM, ensuring that clients receive the benefit of the contracted pricing. Drug management programs also ensure the quality and safety of the drugs. This element was consistent between TPAB and TPAC and was not analyzed.

## METHODOLOGY

The analysis of program outcomes was focused on the two initiatives which were unique to TPAB:

- clinical formulary management (prospective) and
- mail-order penetration.

Consequently, for the purposes of evaluating comparative outcomes within TPAB and TPAC, a set of metrics was developed that reflected endpoints that could be affected by successful interventions within these two categories.

### A. Clinical Formulary Management (prospective)

An effective program should be able to reduce the use of nonformulary drugs that are typically not used in WC, and more commonly used for nonoccupational illnesses. They are more appropriately subject to reimbursement under health plan benefits. Use of nonformulary drugs can be assessed through several interrelated metrics:

1. **Percentage of nonformulary prescriptions**, i.e., the number of

nonformulary prescriptions as a ratio of total prescriptions in any time period.

2. **Percentage of nonformulary costs**, i.e., the cost of nonformulary drugs as a ratio of total drug costs, in any time period.

The above metrics represent the end-point program outcomes. Several process metrics are also of interest:

3. **Prior authorization therapy class approval rate**, i.e., the percentage of PA drugs falling into nonformulary therapy classes that were approved, as a ratio of total PAs of this type reviewed, in any time period.
4. **Prior authorization fill limitation approval rate**, i.e., the percentage of PA drugs exceeding fill limitation criteria that were approved, as a ratio of total PAs of this type reviewed, in any time period.
5. **Prior authorization aggregate approval rate**, i.e., the aggregate PA approval rate combining both types of PA categories above.

## **B. Mail-Order Penetration**

The key metric measuring the impact of a mail-order program is:

6. **Percentage of home delivery prescriptions**, i.e., the number of prescriptions sent by mail as a ratio of total prescriptions, in any time period.

A process metric to determine the efficacy of a mail-order conversion program is:

7. **Percentage of successful conversions**, i.e., the number of claimants consenting to convert from retail pharmacy to home delivery as a ratio of total claimants targeted (by phone or mail) to do so, in any time period.

All of the above metrics were extracted from the PBM and TPAs' reporting systems for the time period January 1, 2007, to December 31, 2007, with distinct, nonoverlapping data from both TPAB and TPAC.

**EXHIBIT 3**  
**STUDY METRICS FOR TWO TPA DIVISIONS**

Metric	Description	TBAB N	TBAB %	95% CI	TBAC N	TBAC %	95% CI
1	Percentage of non-formulary prescriptions	316,137	8.8%	8.7%, 8.9%	156,744	14.5%	14.3%, 14.7%
2	Percentage of non-formulary costs	\$34,251,821	16.1%	16.1%, 16.1%	\$16,202,431	22.3%	22.3%, 22.3%
3	Prior authorization therapy class approval rate	39,855	10.8%	10.5%, 11.1%	21,762	28.0%	27.4%, 28.6%
4	Prior authorization fill limitation approval rate	14,812	26.7%	26%, 27.4%	938	59.0%	55.9%, 62.1%
5	Prior authorization aggregate approval rate	54,667	15.1%	14.8%, 15.4%	22,700	29.3%	28.7%, 29.9%
6	Percentage of home delivery prescriptions	316,137	7.8%	7.7%, 7.9%	156,744	1.0%	1%, 1.1%
7	Percentage of successful conversions	13,649	18.8%	18.2%, 19.5%	-	-	-

**RESULTS**

In order to evaluate the null hypothesis (the hypothesis set up to be nullified) that the proportions measured are equivalent between TPAB and TPBC, a large sample test for the difference in binomial proportions was performed for each metric. This test assumed that samples are independent of each other and that they are normally distributed.<sup>4</sup> As indicated previously, these samples are completely distinct and independent from one other. Further, because the sample sizes are sufficiently large, the sampling distribution can be approximated by a normal distribution. Exhibit 3 presents the metrics estimated for both TPAB and TPAC for 2007. The 95 percent confidence intervals for each metric were calculated. Note that the proportion confidence intervals for each metric are very narrow due to the large sample size. Also, the 95 percent confidence intervals for each metric are distinct from one another between the two TPAs.

Exhibit 4 lists the difference in proportion between the TPAs for each metric. All metrics demonstrated statistically significant differences between TPAB and TBAC, with TPAB having significantly fewer non-formulary prescriptions, lower nonformulary costs, fewer prior authorization approvals, and markedly more home delivery prescriptions. These differences are all strongly significant, with P-values less than 0.0001, indicating there is less than one possibility out of one hundred thousand that the differences observed were due to chance.

**EXHIBIT 4**  
**COMPARISON STUDY METRICS FOR TWO TPA DIVISIONS**

Metric	Description	TPA DIFF (TPAB-TPAC)	95% CI	Z-VALUE	P-VALUE
1	Percentage of non-formulary prescriptions	-5.7%	-5.9%, -5.5%	-55.76	<0.0001
2	Percentage of non-formulary costs	-6.2%	-6.2%, -6.2%	-512.45	<0.0001
3	Prior authorization therapy class approval rate	-17.2%	-17.9%, -16.5%	-50.33	<0.0001
4	Prior authorization fill limitation approval rate	-32.3%	-35.5%, -29.1%	-19.62	<0.0001
5	Prior authorization aggregate approval rate	-14.2%	-14.9%, -13.5%	-41.93	<0.0001
6	Percentage of home delivery prescriptions	6.8%	6.7%, 6.9%	125.24	<0.0001

## DISCUSSION

This analysis conclusively demonstrates the value of pharmaceutical management interventions in workers compensation, within two areas of focus.

### Clinical Formulary Management

TPAB achieved a significant reduction of nonformulary utilization and costs as measured by several metrics. While both TPAs operated identical formularies, the clinical enhancements to the process developed by TPAB in conjunction with the PBM clearly produce more favorable results.

TPAB's program reduced the nonformulary prescription rate by 40 percent (8.8 percent vs. 14.5 percent) and nonformulary costs by 28 percent (16.1 percent vs. 22.3 percent).

The adjuster-driven PA process at TPAC resulted in a significantly higher rate of nonformulary drug approval within various therapy classes and among individually excluded drugs, both at initial prescribing and at the expiration of defined refill limits. The nonformulary approval rate at TPAC was nearly double that at TPAB (29.3 percent vs. 15.1 percent).

For example, if a prescription for a nonformulary drug class agent, such as the beta blocker propranolol (used primarily in cardiology), was submitted to TPAB, a review by an RN, with or without subsequent physician review, was set in motion to consider whether this drug was indeed medically appropriate for an accepted compensable condition. In contrast, at TPAC, this determination was rendered by claim examiners without clinical training. It is apparent that the clinical process at TPAB was superior in differentiating, and reducing, the use of nonformulary drugs.

Similarly, while the therapy class of opioids is on the formulary due to the frequent and medically necessary need for potent analgesia in workers compensation, selected drugs within this class were deliberately excluded. Oral transmucosal fentanyl citrate, for example, is an opioid that carries an FDA "black-box" warning and an approved indication only for breakthrough pain in cancer patients. Nevertheless, it has been widely used by some physicians for WC cases, despite the fact that it is known to be abused or diverted for recreational use by some claimants. Clinical review for the purposes of establishing when this agent may be appropriate for off-label use in a WC setting is both a quality- and cost-improvement measure.

The clinical process at TPAB is guided by the application of evidence-based drug guidelines developed through review of high-grade scientific studies from the medical literature, recommendations of EBM resources and specialty societies, and an annual review and update performed by the

organization's medical staff and its contracted specialist consultant panel. This process promotes both quality of care and reduction of unnecessary costs for the WC payer. Specifically in this analysis, if TPAC had been operating a clinical PA program, achieving the same lower nonformulary dispensing rate as TPAB, a total of 8,394 prescriptions may have been averted, yielding aggregate savings of \$1,420,237.

In a separate cost-benefit analysis of the PA program by TPAB's utilization review department, the overall return on investment is 5:1. This incorporates both RN and physician review costs.

Based on the above data, the authors believe that a clinical prior authorization program should be an integral part of any WC pharmacy management program, helping to ensure the quality and safety of prescribing practices while contributing substantially to cost-containment strategies.

### **Home Delivery Program**

The use of mail-order services is an established method for cost-effectively supplying claimants with drugs needed on a long-term basis. The challenge is to identify potential candidates and to actively move claimants from their retail pharmacies into mail-order programs. Many claimants are apparently comfortable with their existing arrangement and, despite the convenience of home delivery, may be hesitant to try a different approach.

TPAB chose a proactive enrollment process as described earlier. The outcome was an eight-fold higher mail-order penetration rate than TPAC (7.8 percent vs. 1.0 percent). While the initiative is clearly effective and should be considered a key element of WC pharmacy management, there is certainly an opportunity to expand the acceptance of this service. The modest conversion rate of 18.8 percent (the percentage of claimants successfully convinced to switch to home delivery) vividly illustrates that additional innovative tactics should be explored to help in driving larger numbers of claimants into mail-order programs. This is a worthwhile investment of resources, since each retail prescription converted to mail order yields a cost savings of 27 percent.

### **FUTURE RESEARCH EFFORTS**

At this time, TPAB and TPAC have merged all operations and all of the more robust elements of TPAB's program have been implemented into the integrated organization. The TPA and PBM are continuing to focus on several additional areas of interest which will benefit from further research and may be subjects of future publications.

## ENDNOTES

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