

Utilization Patterns of Extended-Release Naltrexone for Alcohol Dependence

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Abstract

Objective: The purpose of this retrospective study was to evaluate health plan member utilization patterns of extended-release naltrexone (XR-NTX) and assess the cost of alcohol-related hospitalizations and medical and pharmacy costs. This is the first known study that examined post-XR-NTX therapy outcomes and costs.

Study Design: Retrospective analysis of claims data.

Methods: A sample of 48 members was identified with continuous pharmacy and medical benefit enrollment between July 1, 2006, and December 31, 2008, and a medical claim for reimbursement code J2315 (naltrexone for extended-release injectable suspension) with a date of service between July 1, 2007, and December 31, 2007.

Results: The average duration of XR-NTX therapy was 3 months. Among the 40% of patients who received 3 or more months of therapy, 58% had gaps in therapy. Post-XR-NTX therapy, alcohol-related hospitalization, medical, and pharmacy costs significantly decreased.

Conclusion: Findings validate that abstinence from alcohol remains an issue after discontinuing therapy. Despite most patients being on therapy for less than 6 months, there were significant reductions in costs for alcohol-related hospitalizations, as well as total medical and total pharmacy costs.

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For author information and disclosures, see end of text.

Alcohol-use disorders, including alcohol abuse and dependence, affect 7% to 8% of Americans at any given time, or about 15 to 20 million adults.¹ In the United States, alcohol-use disorders account for \$185 billion in healthcare costs, lost wages, bodily injury, and property damage annually.²

Alcohol abuse is characterized by a pattern of risky use (eg, continuous and heavy alcohol use, binge drinking) that causes a person to experience 1 or more consequences at work or school (absenteeism, poor job performance), reckless behavior (eg, driving while intoxicated), legal problems (eg, getting arrested), and personal or relationship problems (eg, fighting with spouse).³ The recommended treatment for alcohol abuse is abstinence, education, and support by a counselor or other health professional and/or peer support groups such as Alcoholics Anonymous.

Alcohol dependence is more severe than abuse, and occurs when a person has a physical or emotional dependence on the use of alcohol that leads to significant distress or harmful consequences.⁴ Persons with alcohol dependence experience 1 or more consequences (eg, often drink more than intended, have obsessive thoughts about alcohol, spend a great deal of time and resources obtaining alcohol, and avoid important activities because of alcohol) of heavy drinking in combination with tolerance (the need for larger amounts of alcohol to feel its effect) and, when drinking ceases, withdrawal symptoms (eg, shakiness, agitation). Treatment for alcohol dependence can include education and support for abstinence, professional counseling and/or peer support groups, and medication. Four US Food and Drug Administration (FDA)-approved medications are available for the treatment of alcohol dependence: oral naltrexone, disulfiram, and acamprosate (all given daily), and extended-release injectable suspension naltrexone (known as naltrexone XR or XR-NTX).

In April 2006, the FDA approved XR-NTX for once-monthly administration in the treatment of alcohol dependence in patients who are able to abstain from alcohol in an outpatient setting prior to initiation of treatment.⁵⁻⁷ The recommended dose of XR-NTX is 380 mg, given by intramuscular (IM) injection.⁵⁻⁷ Naltrexone is an opioid antagonist with highest affinity for the mu (μ) opioid receptor.^{5,6} XR-NTX was studied in a randomized, double-blind, placebo-controlled trial in which a 25% reduction in the event-

■ **Table.** Analysis of the Top 5 High-Cost Members

Patient	Pre-Extended Release Naltrexone			Post-Extended Release Naltrexone			Change in Overall Costs, %	
	No. of Months of Therapy	Prescription Costs, \$	Alcohol-Related Hospitalizations, \$	Total Medical Costs, \$	Prescription Costs, \$	Alcohol-Related Hospitalizations, \$		Total Medical Costs, \$
1	1	4008	75,370	128,172	2894	54,087	91,009	-29
2	2	2226	33,325	41,825	3317	2442	3110	-85
3	1	1416	14,072	16,854	1476	12,195	12,516	-23
4	2	89	17,075	17,873	167	32,892	33,557	87
5	4	2230	11,914	12,254	2760	3636	6042	-39

rate of heavy drinking days ($P = .03$) was noted at the 6 month end point.⁸

Regardless of the therapeutic regimen, and as with most treatment classes, adherence remains a critical factor in determining patient outcomes. Though it is likely that adherence to XR-NTX is a complex process involving scheduling a physician office visit, appearing at the office at the scheduled time, and being willing to commit to the presence of naltrexone in the bloodstream for up to 30 days, it does not require the patient to maintain willingness each day of the next 30 day period to adhere to taking medication as does a daily oral regimen. Therefore, the requirements of treatment adherence are different for XR-NTX than oral naltrexone, and are beyond the scope of this manuscript. Assuming a different adherence requirement, outcomes could be interpreted without regard for the required adherence regimens; however, XR-NTX adherence will be compared with that seen with oral naltrexone.

The purpose of this study was to characterize utilization patterns of XR-NTX, to evaluate the impact of XR-NTX therapy on pharmacy and medical costs, and to identify the number of health plan members with mixed dependence.

Methods

A retrospective analysis was used to identify members from Horizon Blue Cross Blue Shield of New Jersey (BCBSNJ) with pharmacy and medical benefits between July 1, 2006, and December 31, 2008.

The sample consisted of BCBSNJ members with 30 months of continuous pharmacy and medical benefits between July 1, 2006, and December 31, 2008, and a medical claim for reimbursement code J2315 (naltrexone for extended-release injectable suspension) with a date of service between July 1, 2007, and December 31, 2007. Members with a claim for J2315 and date of service between January 1, 2007, and June 30, 2007, were excluded. Analysis of baseline characteristics of the patient population yielded a sample of

48 members; 63% were male ($n = 30$; female, $n = 18$), and they were between 18 and 75 years old.

The primary variables of interest included number of months of therapy on XR-NTX and gaps in months of therapy (defined as more than 1 month of no therapy in between months of therapy). Secondary variables of interest included number of members with concomitant addictions, defined as addiction to both alcohol and opioids, based on *International Classification of Diseases, 9th Revision* codes; number of alcohol-related hospitalizations 6 months prior to and after last administration of XR-NTX; and total medical and pharmacy costs 6 months prior to and after last administration of XR-NTX.

This investigation was retrospective in nature and conducted as an internal study by Horizon BCBSNJ.

Results

Results from the retrospective analysis indicated the average duration of XR-NTX therapy was 3 months (range, 1-18 months) with 40% ($n = 19$) of the 48 members receiving 3 or more months of therapy. Of those 19 members, 58% ($n = 11$) had gaps in therapy. Almost half of those with gaps in therapy ($n = 5$) had alcohol-related hospitalizations after initial discontinuation of XR-NTX; however, there were no alcohol-related hospitalizations after final discontinuation. The analysis also showed that 10% of members had a concomitant diagnosis of alcohol and opioid dependence.

Cost analysis for all members ($n = 48$) post-XR-NTX therapy demonstrated that alcohol-related hospitalization costs decreased by 52%, total medical costs decreased by 34%, total pharmacy costs decreased by 36%, and combined pharmacy and medical costs decreased by 49%.

Analysis of the top 5 members (Table) who expended the most costs 6 months prior to XR-NTX therapy showed similar decreases in costs post-XR-NTX therapy. Alcohol-related hospitalization costs decreased by 31%, total medical

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costs decreased by 31%, and combined pharmacy and medical costs decreased by 33%; however, total pharmacy costs increased by 6%. The total medical cost reductions in the top most costly patients from baseline to post–XR-NTX therapy showed a substantial reduction in overall medical costs of approximately \$70,000, even with a modest increase in pharmacy costs of \$645. Further study of the cost analysis and an increased number of patient cases would be necessary to ensure that this trend (continued overall medical cost savings to small pharmacy cost increase) would be seen across the plan membership; however, we found these results encouraging for XR-NTX.

Discussion

This study evaluated the utilization patterns of XR-NTX and, to our knowledge, is the first study that analyzed post–XR-NTX therapy outcomes including associated costs. Although the duration of therapy in clinical studies was 6 months, the average duration of therapy was found to be 3 months. Despite the majority of patients being on therapy for less than 6 months, there was a meaningful reduction in alcohol-related hospitalization costs, total medical costs, and total pharmacy costs overall. In addition, those members with the highest costs still showed a substantial savings in overall medical costs compared with baseline (even with a slight increase in pharmacy costs).

The findings also reflect that adherence to abstinence from alcohol still remains an issue after discontinuing therapy. Adherence to traditional forms of pharmacologic treatment is also difficult to assess. In the case of XR-NTX therapy, adherence is enhanced once treatment is administered, the medication is “onboard,” and delivery is ensured, as compared with traditional (oral) treatments that rely on several factors affecting the patient.

Limitations of the study include small sample size; thus, findings cannot be generalized to the larger population of all patients on XR-NTX therapy. The study is also retrospective in nature; therefore, causality cannot be established. Conclusions are based on analysis of pharmacy and medical claims data. Access to behavioral counseling notes may provide a more robust clinical profile for treatment failure or success. Moreover, patient abstinence cannot be confirmed based on claims data since all alcohol-related incidents may not have rendered a hospital or physician visit. It is worth noting that adherence to XR-NTX can be confirmed and assures that the patient is receiving necessary pharmacologic treatment compared with traditional therapies. In addition, despite the cost-savings limitations mentioned, additional studies further contribute to the growing body of evidence as

to the potential cost savings that may be realized by utilization of XR-NTX.⁹⁻¹¹

Based on findings from this study, Horizon BCBSNJ utilized the results for formulary review and placement of XR-NTX. This study has also led to further discussion and desire for analysis of XR-NTX in the treatment of both alcohol dependence and opioid dependence, since XR-NTX was recently approved (fall 2010) by the FDA for treatment of opioid dependence. These and future studies may be utilized and reviewed to inform policy changes in the treatment of alcohol dependence.

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