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Tonix Pharmaceuticals Presented Retrospective U.S. Real-World Claims Analysis of Opioid Use in Patients with Fibromyalgia at the 2026 American Society of Clinical Psychopharmacology (ASCP) Annual Meeting

Real-world analysis of three years of closed claims data from Symphony Health, focused on the third year of the study (2023-2024), comprised of more than 261,000 U.S. adults with fibromyalgia

Data demonstrate a substantial and persistent health burden associated with prescribed opioid use among adults with fibromyalgia

Tonix commercially launched TONMYA[®] in November 2025, the first new fibromyalgia drug for adults in the U.S. in over 15 years approved by the U.S. Food and Drug Administration (FDA)

BERKELEY HEIGHTS, N.J., May 28, 2026 (GLOBE NEWSWIRE) -- Tonix Pharmaceuticals Holding Corp. (Nasdaq: TNXP) ("Tonix" or the "Company"), a fully-integrated, commercial-stage biotechnology company, presented data from a real-world claims analysis of opioid use in U.S. adults with fibromyalgia at the 2026 ASCP Annual Meeting, held May 26-29, 2026, in Miami Beach, Florida.

“Opioids remain widely prescribed for fibromyalgia despite long-standing guidelines that discourage their use due to lack of efficacy, a growing concern that they worsen fibromyalgia symptoms and the risk of dependence,¹⁻⁶” said Seth Lederman, M.D., Chief Executive Officer of Tonix Pharmaceuticals. “The discrepancy between real-world practice and evidence-based recommendations reveals a gap in knowledge and an urgent need to educate health care prescribers about the nature of fibromyalgia and the availability of non-opioid, FDA-approved medicines. Tonix is currently executing on the launch of TONMYA[®] (cyclobenzaprine HCl sublingual tablets), a first-in-class, first-line, non-opioid analgesic medicine FDA approved for daily bedtime administration and long-term use in adults with fibromyalgia.”

Data presented at ASCP 2026 represent a retrospective cohort study using the Symphony Health closed claims database, encompassing administrative medical and pharmacy claims collected between April 2021 and April 2024, to evaluate opioid and benzodiazepine use

among adults diagnosed with fibromyalgia (ICD-10-CM diagnosis code M79.7). The study's objective was to quantify opioid and benzodiazepine use in patients diagnosed with fibromyalgia and characterize patients by age, insurance coverage, and polypharmacy. The Year 3 cohort (April 2023 to March 2024) included 261,776 adult patients, with a mean age of 52.3 years. The cohort was predominantly female (92.1%).

Among patients with Commercial or Medicare Advantage insurance, 40.2% of patients were prescribed at least one opioid, with most claims for tramadol (13.7%), followed by oxycodone (13.1%). Among Medicaid patients, 38.8% were prescribed at least one opioid, with most claims for oxycodone (15.7%), followed by tramadol (11.1%). The Medication Possession Ratio (MPR) for opioid use was similar for Commercial or Medicare Advantage patients (0.39) and Medicaid patients (0.40). Opioid use showed the highest prevalence in older age groups: 61-65 years (43.1%), 66-70 years (39.2%), 71-75 years (38.5%), and >75 years (34.4%), and was lower, but still common for younger adults 18-25 years (20.9%). Concomitant opioid and benzodiazepine use was similar in patients covered under Medicare Advantage or Commercial insurance (19.1%) and Medicaid patients (20.4%).

A copy of the Company's poster presentation, "Opioid Use in Patients with Fibromyalgia: A Retrospective Claims Analysis," is available under the Scientific Presentations tab on the Tonix website at <https://www.tonixpharma.com/scientific-presentations/>.

About Fibromyalgia

Fibromyalgia is a chronic pain disorder that is understood to result from amplified sensory and pain signaling within the central nervous system. Fibromyalgia afflicts more than 10 million adults in the U.S., predominantly in women. Symptoms of fibromyalgia include chronic widespread pain, nonrestorative sleep, fatigue, and morning stiffness. Other associated symptoms include cognitive dysfunction and mood disturbances, including anxiety and depression. Individuals suffering from fibromyalgia struggle with their daily activities, have impaired quality of life, and frequently are disabled. Physicians and patients report common dissatisfaction with currently marketed products.

About TONMYA[®] (cyclobenzaprine HCl sublingual tablets)

TONMYA (cyclobenzaprine HCl sublingual tablets) is a sublingual tablet formulation of cyclobenzaprine hydrochloride that was approved on August 15, 2025, by the FDA for the treatment of fibromyalgia in adults. TONMYA is the first new prescription medicine approved for fibromyalgia in more than 15 years. TONMYA provides rapid transmucosal absorption of cyclobenzaprine and reduced production of a long half-life active metabolite, norcyclobenzaprine, due to bypassing first-pass hepatic metabolism. TONMYA is a multifunctional agent with potent binding and antagonist activities at the 5-HT_{2A} serotonergic, α_1 -adrenergic, H₁-histaminergic, and M₁-muscarinic receptors. TONMYA was investigated as TNX-102 SL. TNX-102 SL is also being developed to treat acute stress disorder (ASD)/acute stress reaction (ASR), and major depressive disorder (MDD). The United States Patent and Trademark Office (USPTO) issued United States Patent No. 9636408 in May 2017, Patent No. 9956188 in May 2018, Patent No. 10117936 in November 2018, Patent No. 10,357,465 in July 2019, and Patent No. 10736859 in August 2020. The Protectic[™] protective eutectic and Angstro-Technology[™] formulation claimed in the patent are important elements of Tonix's proprietary TONMYA composition. These patents are

expected to provide TONMYA with U.S. market exclusivity until 2034.

Citations

¹Winslow BT, et al. *Am Fam Physician*. 2023;107(2):137–44.

²Macfarlane GJ, et al. *Annals of the Rheumatic Diseases*. 2017;76(2):318.

³Martucci KT, et al. *Sci Rep*. 2019;9(1):9633.

⁴Turner JA, et al. *Pain*. 2016;157(10):2208–2216.

⁵Fitzcharles MA, et al. *J Rheumatol*. 2013;40(8):1388–1393.

⁶American College of Rheumatology. Fibromyalgia. 2024. Available from: <https://www.rheumatology.org/I-Am-A/Patient-Caregiver/Diseases-Conditions/Fibromyalgia>.

Tonix Pharmaceuticals Holding Corp.

Tonix Pharmaceuticals* is a fully integrated, commercial-stage biotechnology company focused on central nervous system (CNS) disorders, infectious diseases, immunology conditions, and rare diseases where there exists high unmet medical need. TONMYA[®] (cyclobenzaprine HCl sublingual tablets 2.8mg), the Company's flagship internally conceived and developed medicine, is the first new treatment for fibromyalgia in more than 15 years. Tonix's CNS commercial infrastructure supports its marketed products, including its acute migraine products, Zembrace[®] SymTouch[®] (sumatriptan injection 3 mg) and Tosymra[®] (sumatriptan nasal spray 10 mg). Tonix is extending the science behind TONMYA in Phase 2 clinical studies to evaluate its potential in major depressive disorder and acute stress disorder/acute stress reaction. Tonix is also advancing a pipeline of infectious disease programs, including monoclonal antibody TNX-4800 (anti-OspA mAb) for Lyme disease prevention in the U.S. and TNX-801 (horsepox, live virus vaccine), a vaccine in development for the prevention of mpox and smallpox. Within immunology, Tonix is developing TNX-1500 (anti-CD40L mAb), a third-generation CD40 ligand inhibitor for the prevention of kidney transplant rejection. Finally, the Company's rare disease portfolio includes TNX-2900, which is Phase 2 ready for the treatment of Prader-Willi syndrome. To learn more, visit www.tonixpharma.com.

**Tonix's product development candidates are investigational new drugs or biologics; their efficacy and safety have not been established and have not been approved for any indication.*

Zembrace SymTouch and Tosymra are registered trademarks of Tonix Medicines. TONMYA is a registered trademark of Tonix Pharma Limited. All other marks are property of their respective owners.

Forward Looking Statements

Certain statements in this press release are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995 including those relating to the completion of the offering, the satisfaction of customary closing conditions, the intended use of proceeds from the offering and other statements that are predictive in nature. These statements may be identified by the use of forward-looking words such as "anticipate," "believe," "forecast," "estimate," "expect," and "intend," among others. There are a number of factors that could cause actual events to differ materially from those indicated by such forward-looking

statements. These factors include, but are not limited to, risks related to the failure to successfully launch and commercialize TONMYA® and any of our approved products; risks related to the failure to obtain FDA clearances or approvals and noncompliance with FDA regulations; risks related to the timing and progress of clinical development of our product candidates; our need for additional financing; uncertainties of patent protection and litigation; uncertainties of government or third party payor reimbursement; limited research and development efforts and dependence upon third parties; and substantial competition. As with any pharmaceutical under development, there are significant risks in the development, regulatory approval and commercialization of new products. Tonix does not undertake an obligation to update or revise any forward-looking statement. Investors should read the risk factors set in the Company's Annual Report on Form 10-K for the year ended December 31, 2025, as filed with the SEC on March 12, 2026, and periodic reports filed with the SEC on or after the date thereof. Tonix does not undertake an obligation to update or revise any forward-looking statement. All of Tonix's forward-looking statements are expressly qualified by all such risk factors and other cautionary statements. The information set forth herein speaks only as of the date thereof.

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INDICATION

TONMYA is indicated for the treatment of fibromyalgia in adults.

CONTRAINDICATIONS

TONMYA is contraindicated:

In patients with hypersensitivity to cyclobenzaprine or any inactive ingredient in TONMYA. Hypersensitivity reactions may manifest as an anaphylactic reaction, urticaria, facial and/or tongue swelling, or pruritus. Discontinue TONMYA if a hypersensitivity reaction is suspected. With concomitant use of monoamine oxidase (MAO) inhibitors or within 14 days after discontinuation of an MAO inhibitor. Hyperpyretic crisis seizures and deaths have occurred in patients who received cyclobenzaprine (or structurally similar tricyclic antidepressants) concomitantly with MAO inhibitors drugs.

During the acute recovery phase of myocardial infarction, and in patients with arrhythmias, heart block or conduction disturbances, or congestive heart failure. In patients with hyperthyroidism.

WARNINGS AND PRECAUTIONS

Embryofetal toxicity: Based on animal data, TONMYA may cause neural tube defects when used two weeks prior to conception and during the first trimester of pregnancy. Advise females of reproductive potential of the potential risk and to use effective contraception during treatment and for two weeks after the final dose. Perform a pregnancy test prior to initiation of treatment with TONMYA to exclude use of TONMYA during the first trimester of pregnancy.

Serotonin syndrome: Concomitant use of TONMYA with selective serotonin reuptake inhibitors (SSRIs), serotonin norepinephrine reuptake inhibitors (SNRIs), tricyclic antidepressants, tramadol, bupropion, meperidine, verapamil, or MAO inhibitors increases the risk of serotonin syndrome, a potentially life-threatening condition. Serotonin syndrome symptoms may include mental status changes, autonomic instability, neuromuscular abnormalities, and/or gastrointestinal symptoms. Treatment with TONMYA and any concomitant serotonergic agent should be discontinued immediately if serotonin syndrome symptoms occur and supportive **symptomatic treatment should be initiated**. If concomitant treatment with TONMYA and other serotonergic drugs is clinically warranted, careful observation is advised, particularly during treatment initiation or dosage increases.

Tricyclic antidepressant-like adverse reactions: Cyclobenzaprine is structurally related to TCAs. TCAs have been reported to produce arrhythmias, sinus tachycardia, prolongation of the conduction time leading to myocardial infarction and stroke. If clinically significant central nervous system (CNS) symptoms develop, consider discontinuation of TONMYA. Caution should be used when TCAs are given to patients with a history of seizure disorder, because TCAs may lower the seizure threshold. Patients with a history of seizures should be monitored during TCA use to identify recurrence of seizures or an increase in the frequency of seizures.

Atropine-like effects: Use with caution in patients with a history of urinary retention, angle-closure glaucoma, increased intraocular pressure, and in patients taking anticholinergic drugs.

CNS depression and risk of operating a motor vehicle or hazardous machinery: TONMYA monotherapy may cause CNS depression. Concomitant use of TONMYA with alcohol, barbiturates, or other CNS depressants may increase the risk of CNS depression. Advise patients not to operate a motor vehicle or dangerous machinery until they are reasonably certain that TONMYA therapy will not adversely affect their ability to engage in such activities. **Oral mucosal adverse reactions:** In clinical studies with TONMYA, oral mucosal adverse reactions occurred more frequently in patients treated with TONMYA compared to placebo. Advise patients to moisten the mouth with sips of water before administration of TONMYA to reduce the risk of oral sensory changes (hypoesthesia). Consider discontinuation of TONMYA if severe reactions occur.

ADVERSE REACTIONS

The most common adverse reactions (incidence $\geq 2\%$ and at a higher incidence in TONMYA-treated patients compared to placebo-treated patients) were oral hypoesthesia, oral

discomfort, abnormal product taste, somnolence, oral paresthesia, oral pain, fatigue, dry mouth, and aphthous ulcer.

DRUG INTERACTIONS

MAO inhibitors: Life-threatening interactions may occur.

Other serotonergic drugs: Serotonin syndrome has been reported.

CNS depressants: CNS depressant effects of alcohol, barbiturates, and other CNS depressants may be enhanced.

Tramadol: Seizure risk may be enhanced.

Guanethidine or other similar acting drugs: The antihypertensive action of these drugs may be blocked.

USE IN SPECIFIC POPULATIONS

Pregnancy: Based on animal data, TONMYA may cause fetal harm when administered to a pregnant woman. The limited amount of available observational data on oral cyclobenzaprine use in pregnancy is of insufficient quality to inform a TONMYA-associated risk of major birth defects, miscarriage, or adverse maternal or fetal outcomes. Advise pregnant women about the potential risk to the fetus with maternal exposure to TONMYA and to avoid use of TONMYA two weeks prior to conception and through the first trimester of pregnancy. Report pregnancies to the Tonix Medicines, Inc., adverse-event reporting line at 1-888-869-7633 (1-888-TNXPMED).

Lactation: A small number of published cases report the transfer of cyclobenzaprine into human milk in low amounts, but these data cannot be confirmed. There are no data on the effects of cyclobenzaprine on a breastfed infant, or the effects on milk production. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for TONMYA and any potential adverse effects on the breastfed child from TONMYA or from the underlying maternal condition.

Pediatric use: The safety and effectiveness of TONMYA have not been established. **Geriatric patients:** Of the total number of TONMYA-treated patients in the clinical trials in adult patients with fibromyalgia, none were 65 years of age and older. Clinical trials of TONMYA did not include sufficient numbers of patients 65 years of age and older to determine whether they respond differently from younger adult patients.

Hepatic impairment: The recommended dosage of TONMYA in patients with mild hepatic impairment (HI) (Child Pugh A) is 2.8 mg once daily at bedtime, lower than the recommended dosage in patients with normal hepatic function. The use of TONMYA is not recommended in patients with moderate HI (Child Pugh B) or severe HI (Child Pugh C). Cyclobenzaprine exposure (AUC) was increased in patients with mild HI and moderate HI compared to subjects with normal hepatic function, which may increase the risk of TONMYA-associated adverse reactions.

Please see additional safety information in the full Prescribing Information. To report suspected adverse reactions, contact Tonix Medicines, Inc. at 1-888-869-7633, or the FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.



Source: Tonix Pharmaceuticals Holding Corp.