

Buprenorphine in Tennessee

Buprenorphine is used to treat opioid addiction.

Buprenorphine is an opioid *partial agonist* medication used for the treatment of opioid addiction. Opioid *partial agonists* are drugs that activate opioid receptors but to a lesser degree than opioid *agonists* like heroin or methadone. Buprenorphine has a strong affinity to opioid receptors and displaces other opioids in contrast to the opioid *antagonist* naloxone, which blocks opioid receptors. Because buprenorphine activates opioid receptors it can be abused, but the effects are weaker and it has less abuse potential than other opioids (Substance Abuse and Mental Health Services Administration, 2004).

Buprenorphine is the active ingredient in the prescription medications Subutex® and Suboxone®. Subutex® contains only buprenorphine while Suboxone® contains both buprenorphine and naloxone. Naloxone is included to discourage abuse. When naloxone is injected or snorted, it blocks the effects of opioids and precipitates withdrawal symptoms. Subutex® is used at the beginning of treatment and Suboxone® is used in the treatment of opiate addiction. Suboxone® is the most commonly prescribed buprenorphine product (CESAR Fax, 2015).

Buprenorphine is different from methadone.

Buprenorphine has weaker opioid effects, is less likely to result in overdose, and produces a lower level of physical dependence than methadone. In contrast to methadone, which can only be dispensed by federally regulated Opioid Treatment Programs (OTP), buprenorphine is currently the only medication that can be prescribed in a certified physician's office for opioid treatment outside the OTP setting. These OTPs serve about 5,600 Tennesseans on a daily basis. Prescription opioid dependence causes about 2,000 new people to seek treatment at OTPs annually. The average number of people receiving treatment at Tennessee OTPs annually is about 8,660.

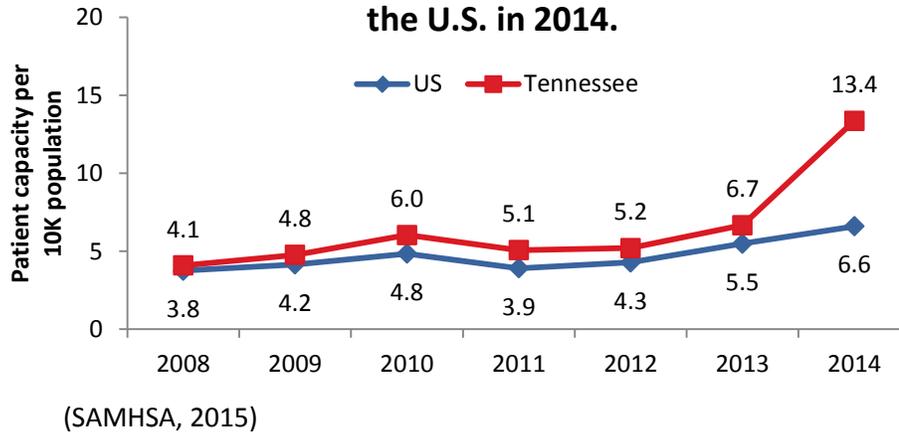
Buprenorphine can be prescribed for, up to, a 30-day supply shortly after beginning treatment. In contrast, methadone patients must comply with treatment for two years to be eligible to receive a 30-day take-home dose (CESAR Fax, 2015). According to SAMHSA's treatment locator, 481 Tennessee physicians and 24 treatment programs were certified to prescribe buprenorphine as of April 13, 2015 (SAMHSA, 2015). The SAMHSA website does not indicate the size of the physician practice, whether they are active or not, and only includes physicians agreeing to be listed.

Tennessee has more buprenorphine patient capacity than most states.

Tennessee currently has a buprenorphine patient treatment capacity double that of the United States. Tennessee moved from a patient capacity rank of 18 among all states in 2008 to a rank of 7 in 2014 (SAMHSA, 2015). Patient treatment capacity was calculated by multiplying the number of physicians multiplied by their treatment capacity (30 patients or 100 patients) each year for each state. Patient capacity was then divided by annual state population estimates per 10,000.

Buprenorphine can be prescribed as a pain medication as well as a treatment for opioid use disorders. There is currently no way to distinguish how much buprenorphine is prescribed for pain relief and how much is prescribed for substance abuse treatment.

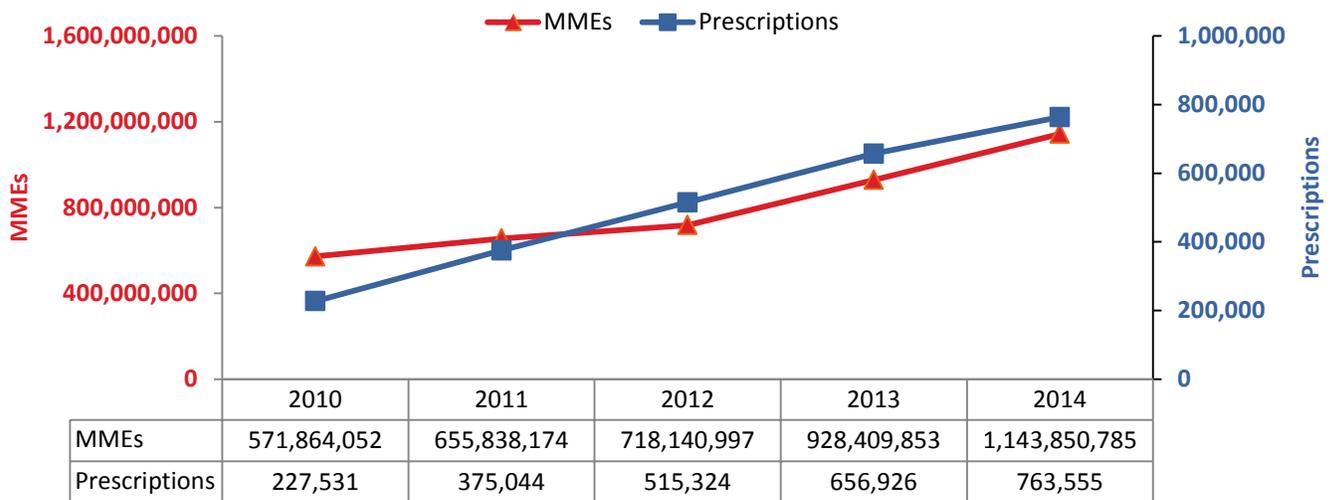
Figure 1. Tennessee buprenorphine treatment capacity was two times greater than the U.S. in 2014.



Buprenorphine use in Tennessee is increasing.

Both the number of buprenorphine prescriptions reported in the controlled substance monitoring database (CSMD) for buprenorphine and the number of buprenorphine morphine milligram equivalents (MMEs) have increased over the past five years. The CSMD collects all controlled substance prescriptions filled at Tennessee pharmacies, including prescriptions filled for Tennessee and non-TN residents. (Tennessee Department of Health, 2015). MMEs are a standard measure of the potency of different opioids. Figure 2 shows the number of MMEs and prescriptions for buprenorphine from 2010 to 2014. (See data limitations below.) MMEs may be a better measure of prescribing patterns than the number of prescriptions, since the amount of MMEs contained in a single prescription can vary dramatically.

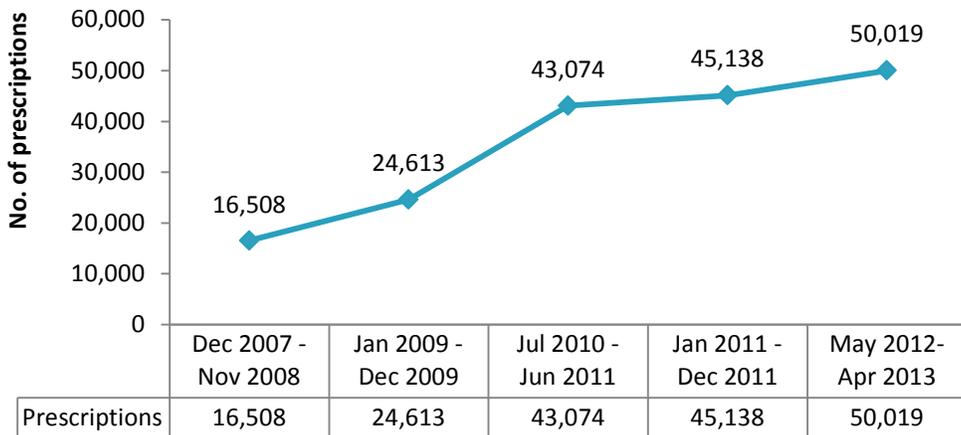
Figure 2. The amount (MMEs) of buprenorphine reported to Tennessee's CSMD doubled from 2010 to 2014.



(Tennessee Department of Health, 2015)

Data from TennCare show the number of Suboxone® prescriptions increased about 200% from 2008 to 2013: from 16,500 to 50,000. Figure 3 shows trends for this time period. TennCare costs for Suboxone® increased similarly from \$4.5 to \$10.3 million for this same time period; however, per script costs for this time period declined 25%, from \$274 to \$206 per script (AON Hewitt Health Care Benefits Consulting, 2010-2014).

Figure 3. Suboxone® prescriptions for TennCare enrollees increased 200% from 2008 to 2013.

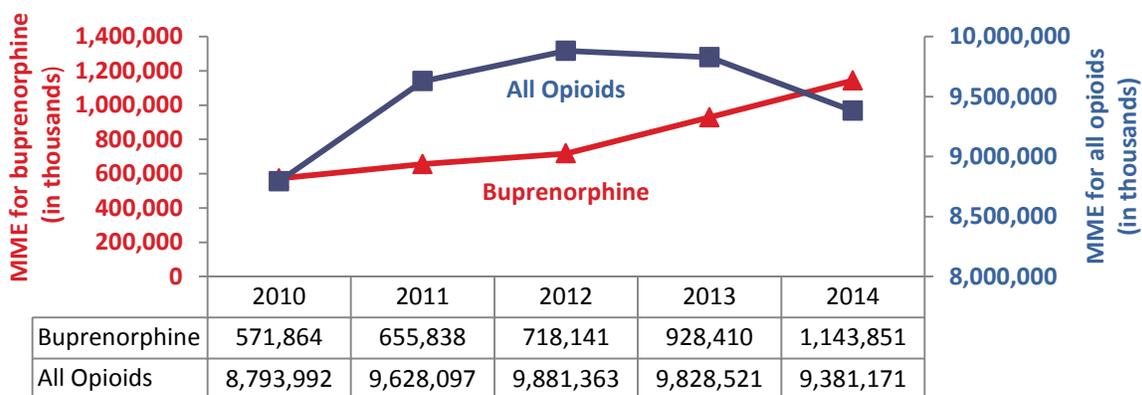


(AON Hewitt Health Care Benefits Consulting, 2010-2014)

The use of opioids other than buprenorphine is decreasing.

The increasing number of prescriptions for buprenorphine may, in part, reflect a higher treatment need. As the overall amount of prescribed opioids in Tennessee declines, patients may turn to buprenorphine as treatment for opioid addiction. Figure 4 shows the reduction in prescribed opioids contrasted with the increase in prescribed buprenorphine for people in Tennessee.

Figure 4. When prescribed opioids declined in 2012, buprenorphine increased.



Note: The scale for Buprenorphine is smaller than the scale for all opioids.

(Tennessee Department of Health, 2015)

An alternative explanation is that buprenorphine is being diverted for non-medical use (e.g., to sell or get high). Nationwide, buprenorphine diversion for non-medical use is increasing. Indicators of the diversion of buprenorphine include drug seizures by law enforcement and an increase in emergency room visits associated with the misuse of buprenorphine (CESAR Fax, 2015).

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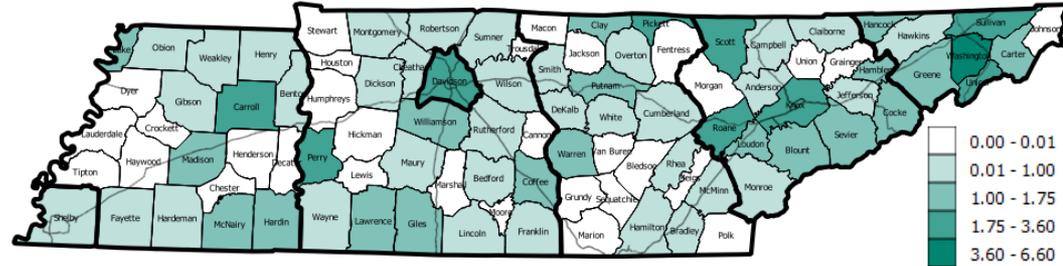
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Buprenorphine Data Indicators

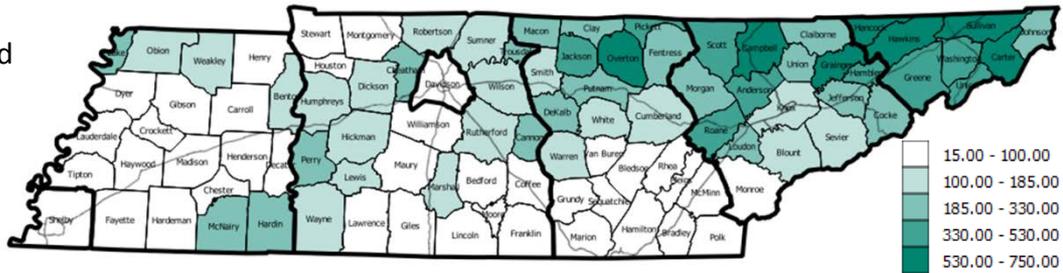
Map 1. Number of doctors certified to prescribe buprenorphine (per 10K population): 2015¹

Source: DEA (private communication), 2015



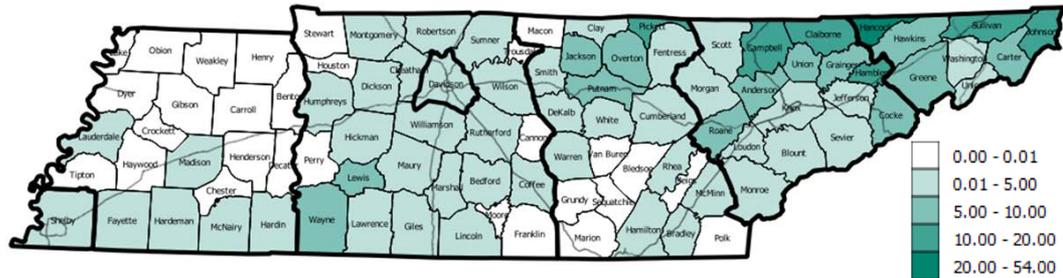
Map 2. Buprenorphine morphine milligram equivalents dispensed and reported to the CSMD (MME per capita): 2014

Source: Tennessee Department of Health Controlled Substance Monitoring Database, 2015



Map 3. Confirmed buprenorphine seizures (per 10K population): 2014-2015²

Source: Tennessee Bureau of Investigation (TBI) lab data, 2015



Notes: (1) +Point-in-time value (10/1/15); (2) 2015 rates estimated as of Jan-Jun, 2015.