Controlled Substance Monitoring Database

2016 Report to the 109th Tennessee General Assembly

TENNESSEE CONTROLLED SUBSTANCE MONITORING PROGRAM: BOARD OF PHARMACY
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Patient RX History Report

Search Criteria: D.O.B. = 05/08/1977 And (Last Name Contains - doe Or First Name Contains jan Or First Name Contains jane) And Request Period '02/24/2014'

Disclaimer: Information contained in the report results from the search criteria entered and incorporated by the user and from the data entered by the dispenser. Any clinical notifications arising from the results of information submitted by the dispenser. Therefore, the Tennessee Department of health and the Board of Pharmacy do not express or imply any warranty regarding the accuracy, adequacy, or completeness of the health nor the Board of Pharmacy make recommendations, or give any legal advice, to the user who might be required as a result of viewing the report or the information contained in the report.

For more information about a prescription, please contact the dispenser or prescriber identified in the report.

| Patients that match search criteria
| PLID | Name | DOB | Address
|------|------|-----|------------------|
| 0000 | DOE JANE | 05/08/1977 | 100 Main Bank Dr Jonesborough TN 37659
| 9999 | DOE JANE | 05/08/1977 | 99 Wroth Rd Johnson City TN 37604
| 2022 | DOE JANE | 05/08/1977 | 100 MAIN BANK DR JONESBOROUGH TN 37659
| 1111 | DOE JANE | 05/08/1977 | 100 MAIN BANK DR JONESBOROUGH TN 37659
| 5555 | DOE JANE | 05/08/1977 | 100 MAIN BANK Dr Johnson City TN 37659
| 3333 | DOE JANE A | 05/08/1977 | 100 CSMD Dr Johnson City TN 37659

Active Cumulative Morphine ER

| Prescription Details
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<tr>
<th>PLID</th>
<th>Name</th>
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| 0000 | DOE JANE | 05/08/1977 | 100 Main Bank Dr Jonesborough TN 37659
| 9999 | DOE JANE | 05/08/1977 | 99 Wroth Rd Johnson City TN 37604
| 2022 | DOE JANE | 05/08/1977 | 100 MAIN BANK DR JONESBOROUGH TN 37659
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| 5555 | DOE JANE | 05/08/1977 | 100 MAIN BANK Dr Johnson City TN 37659
| 3333 | DOE JANE A | 05/08/1977 | 100 CSMD Dr Johnson City TN 37659

Prescriptions

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Health Licensure & Regulation

Controlled Substance Monitoring Database Committee

February 1, 2016
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Executive Summary

Background
This report addresses activities of the Controlled Substance Monitoring Database (CSMD) program. The analyses performed considered all patients in the CSMD and then provided a detailed assessment of only the patients that have a Tennessee address. The Controlled Substance Monitoring Database Committee (CSMD Committee) reports annually on the outcome of the program with respect to its effect on distribution and abuse of controlled substances along with recommendations for improving control and prevention of diversion of controlled substances and the security measures taken to ensure that only authorized persons or entities access the database.

Key Outcomes:

Increased Utilization of the CSMD
- The number of registrants increased by 10.2% in 2015 to 42,835;
- The number of patient reports requested increased 27.3% overall in 2015 to 6,445,103 (6,442,965 were from Healthcare Providers and 2,138 were from Law Enforcement);

Outcomes Related to Ratio of Prescriptions Reported to CSMD / Request
- Tennessee has observed sustained improvement as the number of searches has increased the proportion of prescriptions written and dispensed without a search has decreased from 14:1 in 2010 to 3:1 in 2015.

Outcomes Related to Utilization of Benzodiazepines and Stimulants
- The prescribing and dispensing of benzodiazepine drugs decreased 1.8% from 2014 to 2015
- The prescribing and dispensing of drugs in the stimulants class has grown 40.0% for patients in Tennessee from 2010 to 2015

Outcomes Related to Utilization of Opioids and Morphine Milligram Equivalents (MME)
- There was a decline in opioid MMEs dispensed to patients in Tennessee of 7.8% in 2015 with a decrease of 14.3% from 2012 to 2015
- The amount of MMEs dispensed per Tennessee County per capita from 2013 to 2015 decreased for all counties across the state.¹
- Methadone for pain peaked for Tennessee patients in 2011 at 345,703,455 MMEs and then decreased by 47% to 181,920,908 MMEs in 2015 suggesting the use for treatment of pain is decreasing.²

¹ Excluding FDA approved buprenorphine products indicated for treatment of opioid dependence
• MMEs for pain decreased by certain age group for Tennessee patients
  ▪ 54.7% (20 to less than 30 years)
  ▪ 38.8% (30 to less than 40 years)
  ▪ 28.8% (40 to less than 50 years)

Outcomes Related to Top 50 Prescribers and Top 10 for Small Counties
• MME dispensed from the Top 50 Prescribers in 2015 decreased by 8.3% compared to 2014.
  (Please note that the 2015 analysis converted to a calendar year; therefore, there was a quarter overlap of the analysis preformed in 2014).
• The top 10 prescribers in small counties was identified and none were in the top 50 and the number one top 10 small county prescriber was ranked 64 of all prescribers.

Outcomes Related to Potential Doctor-Pharmacy Shopping
• There was a noticeable sustained decrease of 50.1% of potential doctor-pharmacy shopping patients from 2011 to 2015. Analysis only includes data submitted to the CSMD, if a patient visited dispensers outside of the state they would not be identified in the analysis.

Outcomes Related to User Satisfaction & Perception of the CSMD
Overall satisfaction and impact on practice has been level for respondents in most categories for the years of 2014 and 2015.
• CSMD surveyed prescribers in 2015 as a measure of satisfaction with improvements and more than 2,800 prescribers responded, with the following notable responses:
  ▪ 73% use the CSMD at least monthly;
  ▪ 70% have changed a treatment plan after viewing a CSMD report;
  ▪ 70% report discussing the CSMD report with their patient and 43% do so somewhat to very often;
  ▪ 35% are more likely to refer a patient for substance abuse treatment;
  ▪ 87% report that the CSMD is useful for decreasing doctor shopping; and
  ▪ 43% report that they are less likely to prescribe controlled substances after checking the CSMD.
• Dispensers were surveyed in 2015 and more than 800 responded:
  ▪ 91% use the CSMD at least monthly;
  ▪ 69% communicate with the prescriber after viewing a CSMD report;
  ▪ 72% report discussing the CSMD report with their patient;
  ▪ 56% are more likely to communicate with the prescriber regarding a patient with potential for referral to substance abuse treatment;
  ▪ 90% report that the CSMD is useful for decreasing doctor shopping; and
  ▪ 81% report that they are less likely to fill a prescription as written after checking the CSMD.

2 Due to federal regulation, the CSMD Program does not receive reports of Methadone use by Opioid Treatment Programs across Tennessee
Outcomes Related to Top 10 Drugs Reported for 2015

- Hydrocodone and oxycodone have trended down in the number of MMEs over the last three years.
- Hydrocodone remained the number one drug dispensed, but oxycodone rose to second place for 2015 (hydrocodone was rescheduled from a Schedule III to a Schedule II drug in 2014).
- Hydrocodone MMEs decreased by 13.1% (2013 to 2015).
- Oxycodone MMEs decreased by 7.5% (2013 to 2015).
- Tennessee patient’s MMEs declined 23.7% for long acting and 9.0% for short acting opioids comparing 2015 to 2012.

Goals for 2016

CDC Grant Funding

- In September 2015, TDH was awarded a $3.4 million dollar grant from the Centers for Disease Control and Prevention (CDC) to assist with funding epidemiologic studies pertaining to the nation’s prescription drug overdose (PDO) epidemic.
  - Enhance and maximize CSMD
  - Policy Evaluations
  - Develop and Implement Rapid Response Project

CSMD Functionality Enhancements and Improvements

- Work with dispenser to transition to daily reporting.
- Continue to evolve clinical decision support.
- Work with stakeholders to identify and develop new functionality such as better utility for law enforcement and drug court requests, better integration with TennCare and enhance models for high risk patients, prescribers and dispensers.

Interstate Data Sharing

- Continue work with borders states.
- Work with other states to share data, in conversations with Minnesota, Louisiana, Rhode Island and Maryland.

Expand Collaboration

- Expand collaborations around aggregate data analysis with appropriate analytic partners.
Results of January 2016 Data Analysis

The primary purpose of this section is to report on the outcome and the efficacy of the CSMD Program. The CSMD team compiled the following data describing the controlled substances prescriptions reported to the CSMD from January 1, 2015 to December 31, 2015. Tenn. Code Ann. § 53-10-306 (a) (2) allows CSMD program staff to access database information for the purposes of compiling this report. The goal is to release the most current information for 2015 by February 1, 2016. It should be noted that this report uses Centers for Disease Control and Prevention (CDC) conversion factors and updates to conversion factors for opioids and the classification of controlled substances published in or about June each year. If new drug products were introduced after the CDC update, they are not included.

Increased Utilization of the CSMD

The Prescription Safety Act of 2012 has facilitated a substantial increase in utilization of the CSMD:

- The number of registrants increased by 10.2% in 2015 to 42,835;
- The number of patient reports requested increased 27.3% overall in 2015 to 6,445,103 (6,442,965 were from Healthcare Providers and 2,138 were from Law Enforcement);
- Details for the number of registrants since 2010 are located in Appendix (Table 1).

Law enforcement requests to the CSMD (Table 2 in Appendix) continued to be a critical use of the CSMD as we all worked together to address questionable controlled substance use in Tennessee. Effective July 1, 2011, law enforcement was granted access to the CSMD without a court order or subpoena by sending a request to the CSMD Program.

- The process to best respond to requests from the Pilot Program for Drug Courts was improved during 2015 and forms to streamline the process are located on the CSMD website. We have been successful in utilizing the new system to provide these patient reports during 2015.

Number of Registrants of the CSMD, 2010 - 2015

*VA registrants were included in 2013, 2014, and 2015.
Outcomes Related to Number of Prescriptions Reported

This analysis was performed by considering all patients in the CSMD and by then providing a detailed assessment of only the patients that have a Tennessee address. A significant change occurred in 2011 when Tennessee scheduled tramadol and carisoprodol as schedule IV controlled substances resulting in added reporting volume to the CSMD. During 2015, the CSMD program noticed a decrease in overall reporting of prescriptions to the CSMD by 1.8% and a 1.7% decrease for patients with a Tennessee address compared to 2014. Table 3 in Appendix and Figure 2 best illustrates this welcome news to hopefully demonstrate that the partnership of the CSMD with the clinicians, the legislature, state government and law enforcement has created a culture of utilizing the database as a clinical tool as was intended in 2002 when the first CSMD Legislation was passed in Tennessee.

Total Prescriptions Reported to CSMD, 2010-2015

Figure 2. Total Prescriptions Reported to CSMD, 2010-2015*

*Excluding prescriptions reported from VA pharmacies.
Outcomes Related to Ratio of Prescriptions

The CSMD continued to gain overall use as Tennessee worked to fight the prescription drug crisis. In order to illustrate this gain in utilization of the CSMD, Figure 3 below presents a ratio of prescriptions in the CSMD to the number of requests made to the CSMD. Since 2010, Tennessee has observed sustained improvement in this ratio of requests to dispensed prescriptions from 14:1 in 2010 to 3:1 in 2015. This trend suggests that mandatory checking required by the Prescription Safety Act benefitted prescribers to assure the most current and complete information about the patient.

**Ratio of Number of Prescription to Number of Requests in the CSMD, 2010-2015**

*Includes all Prescriptions and all requests*
For 2015, the CSMD program provided a more detailed analysis of the MME for trends by age groups for patients with a Tennessee address (Figure 4). It is encouraging to see some decline in MME since the Prescription Safety Act of 2012 was passed for the 20 to less than 60 age ranges. Comparing 2015 with 2011 (the peak year for age groups with MME declines in opioids), MME decreased 54.7% (20 to less than 30 years), 38.8% (30 to less than 40 years), and 28.8% (40 to less than 50 years) in these age groups. It is concerning to see increases for certain age groups above 60 since those groups may be more at risk for adverse events such as falls.

### MMEs for Declines for TN Patients, 2011 vs. 2015

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<th>Age Group</th>
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<tr>
<td>20 to less than 30</td>
<td>54.7%</td>
</tr>
<tr>
<td>30 to less than 40</td>
<td>38.8%</td>
</tr>
<tr>
<td>40 to less than 50 years</td>
<td>28.8%</td>
</tr>
</tbody>
</table>

### MMEs of Opioids Dispensed to TN Patients and Reported to the CSMD by Age Group from 2010 to 2015

**Figure 4. Morphine Milligram Equivalents of Opioids Dispensed to TN Patients and Reported to the CSMD by Age Group, 2010–2015**

*Excluding prescriptions reported from VA pharmacies.*

*Figure 5 and Tables 4A, 4B, 4C and 4D located in the Appendix demonstrates the number of controlled substances prescriptions dispensed and reported to CSMD by class of controlled substances.*
Outcomes Related to Utilization of Benzodiazepines and Stimulants

Another targeted class of controlled substances is the benzodiazepine class which decreased 1.8% from 2014 to 2015 and has shown no significant growth since 2011. The number of prescriptions for stimulants has continued to increase and it should be noted that the stimulants class of drugs has grown 40.0% for patients in Tennessee from 2010 to 2015.

Outcomes Related to Utilization of Opioids and Morphine Milligram Equivalents (MME)

The CSMD program utilized all CDC MME conversion files that Tennessee had received from the CDC for this analysis and all patient reports. The Tennessee CSMD patient reports included clinical indicators for the patient’s current MME. This feature of the patient report is a quantification of MME for all opioid prescriptions which are “active” (based on fill date, quantity and days’ supply) standardized to an equivalent dose of morphine. This standardization of opioid dose aided in determining opioid exposure and shaped the clinical decision-making process.

The prescribing and dispensing of opioids was targeted legislatively, educationally and now through the focus of the new Chronic Pain Guidelines. Utilization numbers for patients in Tennessee showed a
decline of 14.3% in MMEs and a decrease of 7.8% of opioid prescriptions from 2012 to 2015 (Figure 6). Additional analysis provided a comparison of the average decrease of MME per Tennessee County per Capita per year 2013 to 2015 can be seen in Map 1. In addition there is a more detailed report of the number of FDA approved buprenorphine products indicated for treatment of opioid dependence which has increased significantly from 2010 to 2015 by 185.9. ³

³ Due to federal regulation, the CSMD Program does not receive reports of Methadone use by Opioid Treatment Programs across Tennessee.
Average MME Decrease per Tennessee County per Capita for TN Patients 2015 vs. 2013

Legend

TNCounties

Change in MME per capita yearly (2015 VS. 2013)
- Decreased 800 to 1035
- Decreased 600 to 799
- Decreased 400 to 599
- Decreased 200 to 399
- Decreased 77 to 199

The decrease was above average
The decrease was below average
Figure 7 below demonstrates the number of prescriptions dispensed to Tennessee patients and reported to the CSMD by age group and

**Prescriptions Dispensed to TN Patients and Reported to the CSMD by Age Group, 2010-2015**

Concerning use of FDA approved buprenorphine products indicated for treatment of opioid dependence, there was an increase in MMEs and prescriptions between 2010 and 2015 (See Figure 8 and Table 7 in Appendix). In order to provide a perspective of age breakdown for Tennessee population see Figure 9 which demonstrates for 2015, the CSMD program provides MMEs for FDA approved buprenorphine products indicated for treatment of opioid dependence trends by age groups for those patients with a Tennessee address. Additionally, the number of MMEs associated with FDA approved buprenorphine products indicated for treatment of opioid dependence has increased significantly by 115% from 2010 to 2015.  

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4 Due to federal regulation, the CSMD Program does not receive reports of Methadone use by Opioid Treatment Programs across Tennessee
FDA Approved Buprenorphine Products Indicated for Treatment of Opioid Dependence and Associated MMEs Dispensed to TN Patients and Reported to CSMD, 2010-2015

Figure 8. FDA Approved Buprenorphine Products Indicated for Treatment of Opioid Dependence and Associated MMEs Dispensed to TN Patients and Reported to CSMD, 2010-2015*

*Excluding prescriptions reported from VA pharmacies.

FDA Approved Buprenorphine Products Indicated For Treatment of Opioid Dependence and Associated MMEs Dispensed to TN Patients and Reported to CSMD by Age Group, 2010-2015

Figure 9. FDA Approved Buprenorphine Products Indicated For Treatment of Opioid Dependence and Associated MMEs Dispensed to TN Patients and Reported to CSMD by Age Group, 2010-2015*

* Excluding prescriptions reported from VA pharmacies
Map 2 provides additional analysis to provide a comparison of the average increase or decrease of FDA approved buprenorphine products indicated for treatment of opioid dependence per Tennessee County per Capita per year 2013 to 2015.

**Average MME Increase or Decrease per Tennessee County per Capita for FDA Approved Buprenorphine Products Indicated For Treatment of Opioid Dependence Dispensed to TN Patients, 2015 vs. 2013**

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5 Excluding prescriptions reported from VA pharmacies
Methadone is considered by the Tennessee Chronic Pain Guidelines to be high risk for overdose and 2015 demonstrates a decline for Methadone MMEs and prescriptions since 2010 (Figure 10 and Table 8 in the Appendix). The Chronic Pain Guidelines indicate buprenorphine should be used only for addiction and methadone should not be used for pain unless the prescriber is experienced with its use in pain management. Due to federal regulation, the CSMD Program does not receive reports of Methadone use by Opioid Treatment Programs across Tennessee. Methadone peaked for Tennessee patients in 2011 at 345,703,455 MMEs and then decreased by 47% to 181,920,908 MMEs in 2015.

**MMEs of All Methadone Dispensed Compared to Methadone Dispensed to TN Patients and Reported to the CSMD, 2010-2015**

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6 Due to federal regulation, the CSMD Program does not receive reports of Methadone use by Opioid Treatment Programs across Tennessee and excluding prescriptions reported from VA pharmacies
Outcomes Related to Top 50 Prescribers and Top 10 for Small Counties

Public Chapter 476 (passed during 2015) required the CSMD to continue to identify the top fifty (50) prescribers in Tennessee and added a new requirement for the CSMD program to identify the top 10 prescribers from all of the combined counties having populations of fewer than 50,000 to the top prescriber annual identification process. The CSMD Program was able to complete this additional legislative assignment for the small counties by the end of July 2015. Communication has been sent to these prescribers in the form of registered letters. There has been an 8.3% decrease in the MMEs dispensed from the Top 50 Prescribers in 2015 compared to 2014 (Figure 15). Please note that the 2015 analysis converted to a calendar year therefore; there was a quarter overlap with the analysis preformed in 2014. In the analysis 2015 was compared to 2013 and there was a decrease of 105 million MMEs which equates to the equivalent of 21 million fewer hydrocodone with acetaminophen (5mg) being dispensed during that timeframe. The top 10 prescribers in small counties was identified and none were in the top 50 and the number one top 10 small county prescriber was ranked 64 of all prescribers. The CSMD Program will plan to provide a trend analysis as done with the top 50 for the top 10 prescribers from all of the combined counties having populations of fewer than 50,000 during the July 2016 identification and notification process.

MMEs Prescribed by Top 50 Prescribers and Dispensed in 2013 - 2015

Figure 11. Morphine Milligram Equivalents Prescribed by Top 50 Prescribers and Dispensed in 2013 - 2015*

*MME in 2013 and 2014 covered 12-month opioid prescriptions written by the top 50 prescribers from April 1 of preceding year to March 31 of current year; MME in 2015 covered opioid prescriptions filled by the patients of the top 50 prescribers during January 1, 2015 to December 31, 2015.

Outcomes Related to Potential Doctor-Pharmacy Shopping

Tennessee Department of Health (TDH) defines a potential doctor and pharmacy shopper as an individual visiting five or more prescribers and five or more dispensers in a 3 month period, referred to as 5-5-3 criteria. There is no universal consensus on a public health definition for doctor and pharmacy
shopping or potential doctor and pharmacy shopper. However, maintaining continuity of definitions within Tennessee allows the Department of Health to observe the change in overall number of potential doctor and pharmacy shoppers over time. This ability provides valuable information about the direction the state is moving in its public health efforts to reduce abuse and diversion. The graph below (Figure 12 and Table 9 in Appendix) demonstrates this trend and the decreased incidence of doctor and pharmacy shopping. There has been a noticeable sustained decrease of 50.1% of potential doctor and pharmacy shopping patients from 2011 to 2015. Analysis only includes data submitted to the CSMD, if a patient visited dispensers outside of the state they would not be identified in the analysis.

**Potential Doctor and Pharmacy Shoppers Identified in the CSMD, 2010-2015**

![Figure 12. Potential Doctor and Pharmacy Shoppers Identified in the CSMD, 2010-2015*](image)

* An Individual visiting five or more prescribers and five or more dispensers in a 3 month period and excluding prescriptions reported from VA pharmacies

**Outcomes Related to User Satisfaction & Perception of the CSMD**

Prescribers and Dispensers were provided the opportunity to communicate their satisfaction and perception of the CSMD through a survey. The 2015 survey was the third for prescribers and the second for dispensers. The result of the 2015 survey details is located in the Appendix. Figure 13 provides insight into why prescribers checked the CSMD.
2015 Prescriber and Dispenser Survey Results – Why did they check?

Why do you check the CSMD before prescribing?

### Prescribers

- **Mandatory check**: 67%
- **New Patient**: 52%
- **Other**: 36%
- **ED Visit**: 15%
- **Planned Surgery**: 4%

### Dispensers

- **New Patient**: 82%
- **Suspected Doctor Shopping**: 72%
- **Suspected Pharmacy Shopping**: 79%
- **Suspected Alteration of Prescription**: 27%
- **Other**: 30%

Source: 2015 CSMD Prescriber and Dispenser Survey

Figure 13

#### 2015 Prescriber User Survey

As a measure of satisfaction with improvements to the CSMD, a survey of prescribers was conducted in 2015 with greater than 2,800 prescribers responding, with the following notable responses:

- 73% use the CSMD at least monthly;
- 70% of responders have changed a treatment plan after viewing a CSMD report;
- 70% report discussing the CSMD report with their patient and 43% do so somewhat to very often;
- 35% of responders are more likely to refer a patient for substance abuse treatment;
- 87% of respondents report that the CSMD is useful for decreasing doctor shopping; and
- 43% report that they are less likely to prescribe controlled substances after checking the CSMD.

---

7 2015 CSMD Prescriber and Dispenser Survey allowed multiple responses to survey questions
**2015 Dispensers User Survey**

A survey of dispensers was conducted in 2015 with greater than 800 responding with the following notable responses

- 91% use the CSMD at least monthly;
- 69% of responders communicate with the prescriber after viewing a CSMD report;
- 72% report discussing the CSMD report with their patient and 38% do so somewhat to very often;
- 56% of responders are more likely to communicate with the prescriber regarding a patient with potential for referral to substance abuse treatment;
- 90% of respondents report that the CSMD is useful for decreasing doctor shopping; and
- 81% report that they are less likely to fill a prescription as written after checking the CSMD.

Additional 2015 detailed survey results are located in the Appendix.

**Outcomes Related to Top 10 Drugs Reported for 2015**

*Report Table 1* and *Figure 14* below demonstrate how the Top 10 most prescribed Schedule II-IV controlled substances have changed over the last four years\(^8\). Hydrocodone remained the number one drug, but oxycodone made it into second place for 2015. As we try to evaluate the impact of the Prescription Safety Act of 2012 on the patients with a Tennessee address, the CSMD Program completed a detailed analysis on hydrocodone and oxycodone prescribing. There is an encouraging observation that both of these drugs have seen a trend down in the number of MMEs over the last three years. Comparing 2015 with 2013, MMEs of hydrocodone decreased 13.1%, and the MMEs of oxycodone decreased 7.5%.

---

\(^8\) All prescriptions in the CSMD
**Report Table 1. The Highest 10 Controlled Substances Reported in the CSMD, 2012-2015**

<table>
<thead>
<tr>
<th>Rank</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hydrocodone Products</td>
<td>Hydrocodone Products</td>
<td>Hydrocodone Products</td>
<td>Hydrocodone Products</td>
</tr>
<tr>
<td>2</td>
<td>Oxycodone Products</td>
<td>Alprazolam</td>
<td>Alprazolam</td>
<td>Alprazolam</td>
</tr>
<tr>
<td>3</td>
<td>Alprazolam</td>
<td>Oxycodone Products</td>
<td>Oxycodone Products</td>
<td>Oxycodone Products</td>
</tr>
<tr>
<td>4</td>
<td>Zolpidem</td>
<td>Zolpidem</td>
<td>Zolpidem</td>
<td>Zolpidem</td>
</tr>
<tr>
<td>5</td>
<td>Tramadol</td>
<td>Tramadol</td>
<td>Tramadol</td>
<td>Tramadol</td>
</tr>
<tr>
<td>6</td>
<td>Clonazepam</td>
<td>Clonazepam</td>
<td>Clonazepam</td>
<td>Clonazepam</td>
</tr>
<tr>
<td>7</td>
<td>Lorazepam</td>
<td>Lorazepam</td>
<td>Lorazepam</td>
<td>Lorazepam</td>
</tr>
<tr>
<td>8</td>
<td>Diazepam</td>
<td>Diazepam</td>
<td>Phentermine Products</td>
<td>Diazepam</td>
</tr>
<tr>
<td>9</td>
<td>Morphine Products</td>
<td>Phentermine Products</td>
<td>Diazepam</td>
<td>Phentermine Products</td>
</tr>
<tr>
<td>10</td>
<td>Suboxone</td>
<td>Morphine Products</td>
<td>Morphine Products</td>
<td>Buprenorphine Products</td>
</tr>
</tbody>
</table>

Based on number of prescriptions reported to the CSMD
The tables below provide a breakdown of Opioids MMEs by long (Table 2A) or short acting (Table 2B) category. It is encouraging to see the long acting MMEs for patients with a Tennessee address declined by 14.5% combined with a decline in the short acting category of 2.6% from 2014 to 2015. Both long acting and short acting opioids have declined now for the last three years. MMEs declined 23.7% for long acting and 9.0% for short acting opioids from 2012 to 2015.

* Including all prescriptions reported to CSMD in 2015.

For additional information see Table 5A and Table 5B in Appendix.
Report Table 2A. MMEs for Long Acting Drugs Dispensed in TN and Reported to the CSMD, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of Acting</th>
<th>Overall</th>
<th>TN Patients</th>
<th>Change among TN patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Long-Acting</td>
<td>3,186,385,458</td>
<td>3,052,878,206</td>
<td>-</td>
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<tr>
<td>2011</td>
<td>Long-Acting</td>
<td>3,253,854,793</td>
<td>3,119,682,192</td>
<td>2.2</td>
</tr>
<tr>
<td>2012</td>
<td>Long-Acting</td>
<td>3,287,394,931</td>
<td>3,150,187,053</td>
<td>1.0</td>
</tr>
<tr>
<td>2014</td>
<td>Long-Acting</td>
<td>2,927,815,436</td>
<td>2,808,701,848</td>
<td>-9.6</td>
</tr>
<tr>
<td>2015</td>
<td>Long-Acting</td>
<td>2,497,959,986</td>
<td>2,402,401,384</td>
<td>-14.5</td>
</tr>
</tbody>
</table>

* The classes of controlled substances were defined based on a CDC document; and excludes prescriptions reported from VA pharmacies

Report Table 2B. MMEs for Short Acting Drugs Dispensed in TN and Reported to the CSMD, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of Acting</th>
<th>Overall</th>
<th>TN Patients</th>
<th>Change among TN patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Short-Acting</td>
<td>5,036,736,534</td>
<td>4,860,899,728</td>
<td>-</td>
</tr>
<tr>
<td>2011</td>
<td>Short-Acting</td>
<td>5,725,154,422</td>
<td>5,465,311,704</td>
<td>12.4</td>
</tr>
<tr>
<td>2012</td>
<td>Short-Acting</td>
<td>5,888,215,731</td>
<td>5,641,928,064</td>
<td>3.2</td>
</tr>
<tr>
<td>2013</td>
<td>Short-Acting</td>
<td>5,670,635,828</td>
<td>5,453,878,046</td>
<td>-3.3</td>
</tr>
<tr>
<td>2014</td>
<td>Short-Acting</td>
<td>5,485,395,966</td>
<td>5,273,358,124</td>
<td>-3.3</td>
</tr>
<tr>
<td>2015</td>
<td>Short-Acting</td>
<td>5,335,576,556</td>
<td>5,133,797,282</td>
<td>-2.6</td>
</tr>
</tbody>
</table>

* The classes of controlled substances were defined based on a CDC document; and excludes prescriptions reported from VA pharmacies

Database Performance

In 2015, the system was up and functional 99.28% of the year. Most downtimes occurred in the first half of 2015. The CSMD team worked with the vendor to improve stability and the system stabilized by the last quarter of 2015.

During 2015, the prescribers and dispensers were provided the opportunity to communicate their satisfaction and perception of the CSMD through a survey. The 2015 results demonstrated that 78% of prescribers and 81% of dispensers shared that the CSMD system typically provides a patient report in less than 10 seconds after submitting a query for a Tennessee only patient request.

Increased Interstate Data Sharing

The Tennessee Prescription Safety Act of 2012 permits data sharing with other states. One of the areas of focus for 2015 was to enhance the sharing of prescription data with other authorized states. Tennessee CSMD is shared with Kentucky, Virginia, South Carolina, Mississippi, Arkansas and Michigan to give practitioners a more complete picture of a patient’s controlled substance prescription history. The CSMD Committee is pleased to see that interstate data sharing functionality was heavily utilized.
compared to the other states which indicate the CSMD use is becoming a part of the culture of providing healthcare in Tennessee. Figure 17 below provides the details related to interstate sharing for 2015. The CSMD program has been in communication with North Carolina, Maryland, Rhode Island, Louisiana, Minnesota and Alabama to share data. Each state has unique regulations and requirements that need to be addressed to share data.

Figure 15. Interstate Data Sharing Patient Requests for 2015

Security Measures

The individuals or entities that had access to the database in 2014 are: authorized committee, board or department of health personnel, pharmacists, prescribers, Office of Inspector General and other authorized TennCare personnel, the Medicaid Fraud Control Unit, healthcare extenders and hospital quality improvement committees. Law enforcement personnel engaged in an official investigation and enforcement of state and federal controlled substance laws are allowed to request information from the database pursuant to Tenn. Code Ann. § 53-10-306(a)(8). In order to ensure that only those authorized individuals and entities have access, the Board of Pharmacy / CSMD employs the following security measures:

- All authorized entities and individuals that have been granted access to the database pursuant to Tenn. Code Ann. § 53-10-306(a)(1-7) are allowed to enter the database through a registration process where credentials are validated and a unique user name and password are generated from the web application. If any credentials do not pass validation the user request will move to pending for review by CSMD Administrator to determine if user meets criteria for access or registrant may be denied.
- Healthcare extenders (prescriber / dispenser) are granted access to the database pursuant to Tenn. Code Ann. § 53-10-306(a)(10) through a registration procedure where their credentials are verified and a unique user name and password are generated by the web application after approval from their supervising prescriber/dispenser.
- Before the Office of Inspector General, the Medicaid Fraud Control Unit, and TennCare personnel are able to access the database, the individuals requesting access must submit a written request on their respective letterheads to the Board office verifying employment by the entities that they represent before they are supplied with unique individual user names and passwords.
• Authorized users having a unique user profile provides the Board of Pharmacy/CSMD staff complete oversight of what data has been accessed, updated or viewed by a specific user.

• Requests by law enforcement personnel for information sent to, contained in, and reported from the database pursuant to Tenn. Code Ann. § 53-10-306(a)(8) must submit a written request with a case number corresponding to a criminal investigation. Before releasing any information, the Board of Pharmacy/CSMD staff verifies that the law enforcement personnel are on the approved list submitted by the TBI director or the district attorney general in the judicial district in which the law enforcement agency or judicial district drug task force has jurisdiction.

• Requests for access by persons other than those individuals outlined in Tenn. Code Ann. § 53-10-306(a)(1-7) and (9) were reviewed by Board of Pharmacy staff and Legal Counsel to determine if the person requesting access could be granted access pursuant to applicable laws and rules. Legal staff also reviewed all subpoenas and court orders to ensure compliance with the law before releasing any information.

• The Board of Pharmacy staff monitors requests under Tenn. Code Ann. § 53-10-308(a) which provides that the committee may release confidential information from the database regarding practitioners, patients, or both, to a manager of any investigations or prosecution unit of a board, committee, or other governing body that licenses practitioners and is engaged in any investigation, adjudication, or a prosecution of a violation under any state or federal law that involves a controlled substance. In exercising its authority under this statutory section, the CSMD Committee voted to allow the Director of the Office of Investigations and licensed attorneys for the TDH to obtain access to the database about specific practitioners when there is an open complaint against a practitioner and the allegations involve that practitioner’s controlled substance prescribing practices.

• The CSMD database maintained by the vendor is stored in a secure facility with 24 hour per day 7 days per week on site security. Within that facility, the database is located in a locked and secured cage with additional layers of authentication for entry.

• The data stored in the CSMD at the vendor site is maintained in an encrypted format both during transmission and while at rest.

Background and Summary of the Law

The Controlled Substance Monitoring Act of 2002, enacted in the 2002 Public Acts, Chapter 840 and codified at TENN. CODE ANN. § 53-10-301 et seq., created the controlled substance database (“database”), which is administratively attached to the Board of Pharmacy (“Board”). TENN. CODE ANN. § 53-10-304(c) provides that the “purpose of the database is to assist in research, statistical analysis, criminal investigations, enforcement of state and federal laws involving controlled substances, and the education of health care practitioners concerning patients who, by virtue of their conduct in acquiring controlled substances, may require counseling or intervention for substance abuse[.]” Toward that end, dispensers (pharmacists and prescribers who dispense controlled substances and meet certain requirements) were required to submit data about the controlled substances dispensed (including strength and quantity) along with the patient’s name, twice each month to Optimum Technologies who contracted with the Board of Pharmacy to compile the data for the database. The law also provides that the Board along with the CSMD Committee shall establish, administer, maintain and direct the functioning of the database. TENN. CODE ANN. § 53-10-304(b).

In May of 2012, Public Chapter 880 renamed TENN. CODE ANN. § 53-10 Part 3 the “Tennessee Prescription Safety Act of 2012” and amended several requirements. It requires prescribers and
dispensers of controlled substances to register in the database. It also requires checking of the database before prescribing more than a one week course of benzodiazepines or opioids and once yearly thereafter if continued treatment is warranted. For the first time, a practitioner may designate agents to access the database on their behalf. Healthcare practitioner extenders register for separate password access after designation and approval from their supervising practitioner. Also of importance is the ability to connect with other states and share patient records with other providers who are also treating the patient. During 2015, dispensers were required to report all prescriptions dispensed every 7 days and submit source of payment with those submissions. Finally, the database capacity was increased in anticipation of more activity from practitioners and staffing of the database office was also increased to support the larger number of users.

TENN. CODE ANN. § 53-10-309 requires the CSMD Committee to report annually on the outcome of the program with respect to its effect on distribution and abuse of controlled substances along with recommendations for improving control and prevention of diversion of controlled substances. In addition, TENN. CODE ANN. § 53-10-309 requires the CSMD Committee to file an annual report with the Health and Welfare Committee of the Senate and the Health Committee of the House of Representatives starting on or by February 1, 2008 and each year thereafter to include a monthly analysis about tracking the individuals or entities that access the database and the security measures taken to ensure that only authorized persons or entities access the database. This report is submitted in compliance with these reporting mandates.

Educational Outreach

The TDH along with East Tennessee State University held a series of four symposia around the state to educate healthcare providers on the Chronic Pain Guidelines and the CSMD.

- Johnson City, TN on April 16, 2015
- Knoxville, TN on August 13, 2015
- Chattanooga, TN on August 27, 2015
- Memphis, TN on October 6, 2015

The TDH also partnered with Belmont University and Vanderbilt School of Nursing to host a symposium to educate healthcare providers on the Chronic Pain Guidelines and the CSMD. The symposium was held at Vanderbilt University and was recorded and is available to be viewed throughout the year to receive CME credit.

- Nashville, TN on October 15, 2015

The TDH presented at the University of Tennessee, College of Pharmacy winter series of seminars that was held around the state. These seminars educated participants on the Tennessee Board of Pharmacy Legal and Regulatory Issues and the CSMD.

- Chattanooga, TN on March 1, 2015
- Cookeville, TN on March 15, 2015
- Franklin, TN (Nashville) on March 7, 2015
- Jackson, TN on March 22, 2015
- Kingsport, TN on April 26, 2016
Murfreesboro, TN on February 7, 2015
Memphis, TN on May 2, 2015
Knoxville, TN on April 11, 2015

The TDH also presented at:
- East Tennessee State University and the Northeast Tennessee Prevention Advisory Council Meeting on September 12, 2015
- Tennessee Association of Nurse Anesthetists Conference on October 16, 2015
- Mental Health Association of East Tennessee, 18th Annual Fall Psychiatric Conference on November 5, 2016

Each of these educational opportunities allowed health care providers to earn Continuing Medical Education (CME) or other Continuing Education (CE) credits required by their respective professional licensure boards.

Goals for 2016

- CDC Grant – In September 2015, TDH was awarded a grant of $3.4 million from the Centers for Disease Control and Prevention (CDC) to assist with funding epidemiologic studies pertaining to the nation’s prescription drug overdose (PDO) epidemic. Funding for this initiative, “PDO: Prevention for States” (PFS), was awarded to sixteen states. The new grant will expand upon the work that was already under way through the “PDO: Boost” grant. The purpose of the PFS grant is to provide state health departments with additional resources and support needed to advance interventions for preventing prescription drug overdoses within their own jurisdictions.
  - The funding will support seven full-time staff (one Epidemiologist 3, two Epidemiologist 2s, one Epidemiologist 1, one Clinical Application Coordinator 2, one Public Health Nurse Consultant 2, and one Administrative Services Assistant 3) for four years. The team will be responsible for analyzing and disseminating data to support Tennessee’s response to the PDO problem. Lessons learned throughout this grant cycle will be shared amongst all state recipients and federal agencies to help address the epidemic not only in their own jurisdictions, but nationwide as well.
  - Projects will include:
    - **Enhancing and Maximizing CSMD** – using data to better understand the behavior of the prescription drug overdose epidemic
    - **Expanding and Improving Proactive CSMD Reporting** – to identify and address inappropriate prescribing patterns
    - **Implementing Community or Insurer/Health Systems Interventions** – improving opioid prescribing interventions for insurers and health systems, as well as enhancing the use of evidenced based opioid prescribing guidelines
    - **Conducting Policy Evaluations** – evaluation of policies and legislation currently in place to further understand what is working well and areas for improvement to prevent prescription drug overdoses
    - **Developing and Implementing Rapid Response Projects** – implementing a project to advance an innovative prevention approach and respond to new and emerging crises and opportunities
• Support Appriss (CSMD vendor for prescription collection) in working with the dispensers in transitioning to the once per business day as required for reporting to the CSMD as required by Public Chapter 1011 effective on January 1, 2016.
• Continue to work with the department and stakeholders to prioritize and develop new functionality– better utility for Law Enforcement, easier CSMD use in Emergency Departments, better integration with TennCare, and enhance models for high risk patients, prescribers and dispensers.
• Continue to evaluate and educate the value of the clinical decision support and other functionality to the prescriber and dispenser community across the state.
• Continue to move towards increased interstate data sharing during 2016, the CSMD program will continue to work with border states North Carolina and Alabama but currently these states do not have the functionality and approvals to share data with Tennessee.
• In addition to bordering states discussions are occurring with Minnesota, Maryland, Louisiana, and Rhode Island. TN CSMD is very interested in sharing data but one of the barriers to moving forward with some of these states is the CSMD Patient Report with information from other states in many cases cannot be placed in a patient medical record.
• Expand collaborations around aggregate data analysis with appropriate analytic partners.

Findings and Recommendations

The marked increases of the number of both authorized users and patient history reports requested from 2012 to 2015 indicate an increased use of the database by prescribers and dispensers. Since 2010, Tennessee has observed sustained improvement as the number of searches has increased the proportion of prescriptions written and dispensed without a search has decreased from 14:1 in 2010 to 3:1 in 2015. Much of this increase in utilization of the CSMD can be attributed to passage and implementation of the Prescription Safety Act of 2012. It indicates that health care providers are increasingly relying on the database as a tool used to detect the abuse and misuse of controlled substances and also as a tool to better treat the patient in providing competent, quality care.

The increased and appropriate usage of the database may be partially attributed to the efforts of the TDH to instruct and guide health care providers about the operations and the benefits of the CSMD. The CSMD team (TDH’s Medical Director of Special Projects, Director of CSMD, Executive Directors for the Boards of Pharmacy and Nursing with the Board of Nursing Advance Practice Nurse Consultant) has presented across the state to professional organizations and associations, Colleges of Medicine, Nursing and Pharmacy; medical practice groups, pharmacists, community drug coalitions, addiction and rehabilitation centers and law enforcement groups through continuing education programs.

The CSMD Committee and TDH are dedicated to using the database in innovative ways. Some areas of consideration are correlation of overdose data with CSMD. The purpose is to attempt to develop predictors of prescription overdose and overdose deaths for educational purposes. The CSMD Committee is also dedicated to analyzing data for overprescribing and over dispensing and continues to look for new ways to identify and evaluate those practices. The CSMD Committee will also continue to advocate for those who are identified as outliers to be referred to the appropriate board for disciplinary consideration as well as seek out opportunities to enhance the database and appropriately staff to increase its overall utilization as an educational and regulatory tool.
### Members of the CSMD Committee

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katherine N. Halls, DDS</td>
<td>Board of Dentistry</td>
</tr>
<tr>
<td>Michael J. Baron, MD</td>
<td>Board of Medical Examiners</td>
</tr>
<tr>
<td>Maegan Carr Martin, JD</td>
<td>Board of Medical Examiners Executive Director</td>
</tr>
<tr>
<td>Brent Earwood, APN, CRNA</td>
<td>Board of Nursing</td>
</tr>
<tr>
<td>Vacant (appointment expected at next board meeting)</td>
<td>Board of Optometry</td>
</tr>
<tr>
<td>Donald Polk, DO</td>
<td>Board of Osteopathy</td>
</tr>
<tr>
<td>Debra Wilson, D.Ph.</td>
<td>Board of Pharmacy</td>
</tr>
<tr>
<td>Reggie Dilliard, D.Ph.</td>
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<tr>
<td>David J. Sables, DPM</td>
<td>Board of Podiatry</td>
</tr>
<tr>
<td>Kim Johnson, DVM</td>
<td>Board of Veterinary Medical Examiners</td>
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<tr>
<td>Omar Nava, PA-C</td>
<td>Committee on Physician Assistants</td>
</tr>
<tr>
<td>Rosemarie Otto</td>
<td>Health Related Boards Director</td>
</tr>
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<td>Patricia Eller</td>
<td>Public Member Board of Medical Examiners</td>
</tr>
<tr>
<td>Joyce McDaniel</td>
<td>Public Member Board of Pharmacy</td>
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## Appendix

### Reference Tables

#### Table 1. Registered Users of CSMD, 2010 – 2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>Registrants</th>
<th>Change (%)</th>
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<tbody>
<tr>
<td>2010</td>
<td>13,182</td>
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</tr>
<tr>
<td>2011</td>
<td>15,323</td>
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<tr>
<td>2012</td>
<td>22,192</td>
<td>44.8</td>
</tr>
<tr>
<td>2013</td>
<td>34,802</td>
<td>56.8</td>
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<tr>
<td>2014</td>
<td>38,871</td>
<td>11.7</td>
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<tr>
<td>2015</td>
<td>42,835</td>
<td>10.2</td>
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</tbody>
</table>

*Includes VA registrants in 2013, 2014, and 2015

#### Table 2. Number of Requests from CSMD, 2010 – 2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>Healthcare Providers</th>
<th>Law Enforcement</th>
<th>Total</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,200,435</td>
<td>N/A</td>
<td>1,200,435</td>
<td>-</td>
</tr>
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<td>2011</td>
<td>1,486,932</td>
<td>551</td>
<td>1,487,483</td>
<td>23.9</td>
</tr>
<tr>
<td>2012</td>
<td>1,861,485</td>
<td>2,565</td>
<td>1,864,050</td>
<td>25.3</td>
</tr>
<tr>
<td>2013</td>
<td>4,497,866</td>
<td>1,938</td>
<td>4,499,804</td>
<td>141.4</td>
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<tr>
<td>2014</td>
<td>5,062,732</td>
<td>2,115</td>
<td>5,064,847</td>
<td>12.6</td>
</tr>
<tr>
<td>2015</td>
<td>6,442,965</td>
<td>2,138</td>
<td>6,445,103</td>
<td>27.3</td>
</tr>
</tbody>
</table>

*Includes VA data in 2013, 2014, and 2015
Table 3. Number of Prescriptions Dispensed in TN and Reported to the CSMD, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>All Patients in the CSMD</th>
<th>Change (%)</th>
<th>TN patients</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>16,545,406</td>
<td>-</td>
<td>15,932,445</td>
<td>-</td>
</tr>
<tr>
<td>2011</td>
<td>18,203,816</td>
<td>10.0</td>
<td>17,463,935</td>
<td>9.6</td>
</tr>
<tr>
<td>2012</td>
<td>18,481,446</td>
<td>1.5</td>
<td>17,730,947</td>
<td>1.5</td>
</tr>
<tr>
<td>2013</td>
<td>18,573,547</td>
<td>0.5</td>
<td>17,824,957</td>
<td>0.5</td>
</tr>
<tr>
<td>2014</td>
<td>18,514,436</td>
<td>-0.3</td>
<td>17,751,994</td>
<td>-0.4</td>
</tr>
<tr>
<td>2015</td>
<td>18,182,914</td>
<td>-1.8</td>
<td>17,442,519</td>
<td>-1.7</td>
</tr>
</tbody>
</table>

*Excludes prescriptions reported from VA pharmacies

Table 4A. Prescriptions Dispensed in TN and Reported to the CSMD by Class of Controlled Substances – Opioids, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>All Patients in CSMD</th>
<th>TN patients</th>
<th>FDA Approved Buprenorphine Products Indicated For Treatment of Opioid Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>7,885,431</td>
<td>7,622,814</td>
<td>277,534</td>
</tr>
<tr>
<td>2011</td>
<td>8,667,664</td>
<td>8,343,793</td>
<td>368,930</td>
</tr>
<tr>
<td>2012</td>
<td>8,778,561</td>
<td>8,454,098</td>
<td>505,380</td>
</tr>
<tr>
<td>2013</td>
<td>8,580,375</td>
<td>8,280,173</td>
<td>644,515</td>
</tr>
<tr>
<td>2014</td>
<td>8,372,088</td>
<td>8,073,950</td>
<td>753,907</td>
</tr>
<tr>
<td>2015</td>
<td>8,084,981</td>
<td>7,790,657</td>
<td>769,772</td>
</tr>
</tbody>
</table>

* The class of controlled substances was defined based on a CDC document. If a drug was not on the document, the drug was grouped into the 'Other'; and excludes prescriptions reported from VA pharmacies

** Excludes any MMEs contained in FDA Approved Buprenorphine Products Indicated For Treatment of Opioid Dependence Columns
### Table 4B. Prescriptions Dispensed in TN and Reported to the CSMD by the Class of Controlled Substances – Benzodiazepines and Muscle Relaxants, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>All Patients in CSMD</th>
<th>TN patients</th>
<th>All Patients in CSMD</th>
<th>TN patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>3,955,347</td>
<td>3,842,708</td>
<td>11,709</td>
<td>11,431</td>
</tr>
<tr>
<td>2011</td>
<td>4,161,231</td>
<td>4,025,860</td>
<td>301,085</td>
<td>293,529</td>
</tr>
<tr>
<td>2012</td>
<td>4,071,918</td>
<td>3,940,448</td>
<td>387,618</td>
<td>377,714</td>
</tr>
<tr>
<td>2013</td>
<td>4,099,562</td>
<td>3,975,184</td>
<td>329,476</td>
<td>321,736</td>
</tr>
<tr>
<td>2014</td>
<td>4,209,852</td>
<td>4,086,182</td>
<td>255,915</td>
<td>249,881</td>
</tr>
<tr>
<td>2015</td>
<td>4,129,436</td>
<td>4,014,001</td>
<td>212,275</td>
<td>207,188</td>
</tr>
</tbody>
</table>

*The class of controlled substances was defined based on a CDC document. If a drug was not on the document, the drug was grouped into the 'Other'; and excludes prescriptions reported from VA pharmacies.

### Table 4C. Number of Prescriptions Dispensed in TN and Reported to the CSMD by the Class of Controlled Substances - Stimulants, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>All Patients in CSMD</th>
<th>TN Patients Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,056,752</td>
<td>1,028,268</td>
</tr>
<tr>
<td>2011</td>
<td>1,191,205</td>
<td>1,155,558</td>
</tr>
<tr>
<td>2012</td>
<td>1,287,247</td>
<td>1,248,247</td>
</tr>
<tr>
<td>2013</td>
<td>1,364,371</td>
<td>1,322,991</td>
</tr>
<tr>
<td>2014</td>
<td>1,441,116</td>
<td>1,396,781</td>
</tr>
<tr>
<td>2015</td>
<td>1,521,016</td>
<td>1,470,934</td>
</tr>
</tbody>
</table>

*The class of controlled substances was defined based on a CDC document. If a drug was not on the document, the drug was grouped into the 'Other'; and excludes prescriptions reported from VA pharmacies.

### Table 4D. Number of Prescriptions Dispensed in TN and Reported to the CSMD by the Class of Controlled Substances, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>All Patients in CSMD</th>
<th>TN patients</th>
<th>All Patients in CSMD</th>
<th>TN patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,182,023</td>
<td>1,148,956</td>
<td>2,176,610</td>
<td>2,019,222</td>
</tr>
<tr>
<td>2011</td>
<td>1,260,637</td>
<td>1,223,682</td>
<td>2,253,132</td>
<td>2,078,180</td>
</tr>
<tr>
<td>2012</td>
<td>1,247,860</td>
<td>1,208,579</td>
<td>2,202,862</td>
<td>2,029,485</td>
</tr>
<tr>
<td>2013</td>
<td>1,167,712</td>
<td>1,132,923</td>
<td>2,387,536</td>
<td>2,188,516</td>
</tr>
<tr>
<td>2014</td>
<td>1,115,738</td>
<td>1,083,895</td>
<td>2,365,820</td>
<td>2,150,159</td>
</tr>
<tr>
<td>2015</td>
<td>1,059,208</td>
<td>1,025,400</td>
<td>2,406,226</td>
<td>2,193,757</td>
</tr>
</tbody>
</table>

*The class of controlled substances was defined based on a CDC document. If a drug was not on the document, the drug was grouped into the 'Other'; and excludes prescriptions reported from VA pharmacies.
Table 5A. The Top 10 Most Frequently Reported Controlled Substances in 2015*

<table>
<thead>
<tr>
<th>Name of Product</th>
<th>Number of Prescriptions</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocodone Products</td>
<td>3,832,203</td>
<td>29.8</td>
</tr>
<tr>
<td>Oxycodone Products</td>
<td>2,150,035</td>
<td>16.7</td>
</tr>
<tr>
<td>Alprazolam</td>
<td>1,822,619</td>
<td>14.2</td>
</tr>
<tr>
<td>Zolpidem</td>
<td>1,105,685</td>
<td>8.6</td>
</tr>
<tr>
<td>Tramadol</td>
<td>1,005,177</td>
<td>7.8</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>896,263</td>
<td>7.0</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>667,243</td>
<td>5.2</td>
</tr>
<tr>
<td>Diazepam</td>
<td>509,430</td>
<td>4.0</td>
</tr>
<tr>
<td>Morphine Products</td>
<td>464,600</td>
<td>3.6</td>
</tr>
<tr>
<td>Suboxone</td>
<td>410,918</td>
<td>3.2</td>
</tr>
</tbody>
</table>

* Includes all prescriptions reported to the CSMD in 2015

Table 5B. The Highest 10 Controlled Substances Reported to the CSMD, 2012-2015*

<table>
<thead>
<tr>
<th>Rank</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hydrocodone Products</td>
<td>Hydrocodone Products</td>
<td>Hydrocodone Products</td>
<td>Hydrocodone Products</td>
</tr>
<tr>
<td>2</td>
<td>Oxycodone Products</td>
<td>Alprazolam</td>
<td>Alprazolam</td>
<td>Alprazolam</td>
</tr>
<tr>
<td>3</td>
<td>Alprazolam</td>
<td>Oxycodone Products</td>
<td>Oxycodone Products</td>
<td>Oxycodone Products</td>
</tr>
<tr>
<td>4</td>
<td>Zolpidem</td>
<td>Zolpidem</td>
<td>Zolpidem</td>
<td>Zolpidem</td>
</tr>
<tr>
<td>5</td>
<td>Tramadol</td>
<td>Tramadol</td>
<td>Tramadol</td>
<td>Tramadol</td>
</tr>
<tr>
<td>6</td>
<td>Clonazepam</td>
<td>Clonazepam</td>
<td>Clonazepam</td>
<td>Clonazepam</td>
</tr>
<tr>
<td>7</td>
<td>Lorazepam</td>
<td>Lorazepam</td>
<td>Lorazepam</td>
<td>Lorazepam</td>
</tr>
<tr>
<td>8</td>
<td>Diazepam</td>
<td>Diazepam</td>
<td>Diazepam</td>
<td>Diazepam</td>
</tr>
<tr>
<td>9</td>
<td>Morphine Products</td>
<td>Phentermine Products</td>
<td>Diazepam</td>
<td>Phentermine Products</td>
</tr>
<tr>
<td>10</td>
<td>Suboxone</td>
<td>Morphine Products</td>
<td>Morphine Products</td>
<td>Buprenorphine Products</td>
</tr>
</tbody>
</table>

* Includes all prescriptions reported to the CSMD
Table 6 is included as a historical reference only, even though we have from experience learned the importance of analyzing the MMEs as better indicator of actual changes in prescribing habits.

**Table 6. Comparison of Number of Overall Prescriptions, Number of Prescriptions of Opioids and Their MMEs Dispensed and Reported to CSMD, 2010 – 2015***

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall Prescriptions of Controlled Substances</th>
<th>Number of Opioid Prescriptions</th>
<th>MMEs Dispersed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>16,545,357</td>
<td>8,162,110</td>
<td>8,793,992,411</td>
</tr>
<tr>
<td>2011</td>
<td>18,203,816</td>
<td>9,034,582</td>
<td>9,628,096,974</td>
</tr>
<tr>
<td>2012</td>
<td>18,476,714</td>
<td>9,279,700</td>
<td>9,881,362,610</td>
</tr>
<tr>
<td>2013</td>
<td>18,568,200</td>
<td>9,221,022</td>
<td>9,828,521,165</td>
</tr>
<tr>
<td>2014</td>
<td>18,397,382</td>
<td>8,823,317</td>
<td>9,381,171,456</td>
</tr>
<tr>
<td>2015</td>
<td>18,182,914</td>
<td>8,084,981</td>
<td>9,027,110,528</td>
</tr>
</tbody>
</table>

* All MMEs including FDA approved buprenorphine products indicated for treatment of opioid dependence and excludes prescriptions reported from VA pharmacies

**Table 7. Associated MMEs of FDA Approved Buprenorphine Products Indicated for Treatment of Opioid Dependence to TN Patients and Reported to CSMD, 2010-2015***

<table>
<thead>
<tr>
<th>Year</th>
<th>Buprenorphine MMEs</th>
<th>MMEs per Rx</th>
<th>MMEs dispensed to TN patients</th>
<th>MMEs per Rx for TN patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>571,864,372</td>
<td>2,061</td>
<td>527,268,152</td>
<td>2,035</td>
</tr>
<tr>
<td>2011</td>
<td>652,575,884</td>
<td>1,769</td>
<td>597,710,424</td>
<td>1,741</td>
</tr>
<tr>
<td>2012</td>
<td>712,090,231</td>
<td>1,409</td>
<td>649,277,653</td>
<td>1,374</td>
</tr>
<tr>
<td>2013</td>
<td>920,623,734</td>
<td>1,428</td>
<td>846,701,309</td>
<td>1,403</td>
</tr>
<tr>
<td>2014</td>
<td>1,144,508,820</td>
<td>1,518</td>
<td>1,063,913,860</td>
<td>1,500</td>
</tr>
<tr>
<td>2015</td>
<td>1,193,573,986</td>
<td>1,551</td>
<td>1,133,719,915</td>
<td>1,531</td>
</tr>
</tbody>
</table>

*Due to federal regulation, the CSMD Program does not receive reports of Methadone use by Opioid Treatment Programs across Tennessee and excludes prescriptions reported from VA pharmacies
Table 8. Methadone Prescriptions and Associated MMEs Dispensed and Reported to CSMD, 2010 – 2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>Methadone Prescriptions</th>
<th>Change (%)</th>
<th>Methadone MME</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>78,551</td>
<td>--</td>
<td>373,562,223</td>
<td>--</td>
</tr>
<tr>
<td>2011</td>
<td>80,650</td>
<td>2.7</td>
<td>380,250,036</td>
<td>1.8</td>
</tr>
<tr>
<td>2012</td>
<td>78,470</td>
<td>-2.7</td>
<td>362,061,834</td>
<td>-4.8</td>
</tr>
<tr>
<td>2013</td>
<td>72,580</td>
<td>-7.5</td>
<td>311,328,671</td>
<td>-14.0</td>
</tr>
<tr>
<td>2014</td>
<td>62,578</td>
<td>-13.8</td>
<td>251,250,843</td>
<td>-19.3</td>
</tr>
<tr>
<td>2015</td>
<td>53,191</td>
<td>-15.0</td>
<td>197,747,519</td>
<td>-21.3</td>
</tr>
</tbody>
</table>

*Due to federal regulation, the CSMD Program does not receive reports of Methadone use by Opioid Treatment Programs across Tennessee and excludes prescriptions reported from VA pharmacies

Table 9. Number of Potential Doctor and Pharmacy Shoppers Identified in CSMD, 2010-2015*

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>7,657</td>
<td>-</td>
</tr>
<tr>
<td>2011</td>
<td>9,230</td>
<td>20.5</td>
</tr>
<tr>
<td>2012</td>
<td>8,667</td>
<td>-6.1</td>
</tr>
<tr>
<td>2013</td>
<td>6,189</td>
<td>-28.6</td>
</tr>
<tr>
<td>2014</td>
<td>5,415</td>
<td>-12.5</td>
</tr>
<tr>
<td>2015</td>
<td>4,602</td>
<td>-15.0</td>
</tr>
</tbody>
</table>

*An Individual visiting five or more prescribers and five or more dispensers in a 3 month period and excluding prescriptions reported from VA pharmacies
**Survey**

**Why do prescribers and dispensers check the CSMD?**

**Prescribers**

- Mandatory check: 67%
- New Patient: 52%
- Other: 36%
- ED Visit: 15%
- Planned Surgery: 4%

**Dispensers**

- New Patient: 82%
- Suspected Doctor Shopping: 72%
- Suspected Pharmacy Shopping: 79%
- Suspected Alteration of Prescription: 27%
- Other: 30%

Source: 2015 CSMD Prescriber and Dispenser Survey
Prescribers and Dispensers believe data contained in CSMD is an accurate representation of a patient’s controlled substance usage.

Source: 2015 CSMD Prescriber and Dispenser Survey
Prescribers and Dispensers discuss CSMD Report with Patient

Prescribers

- Very Often: 27.3%
- Somewhat Often: 16.5%
- Sometimes: 27.0%
- Not Very Often: 11.5%

Dispensers

- Very Often: 34.4%
- Somewhat Often: 17.8%
- Sometimes: 11.7%
- Not Very Often: 16.0%
- Rarely or Never: 20.2%

Source: 2015 CSMD Prescriber and Dispenser Survey
Prescribers and Dispensers think the CSMD helps them decrease doctor shoppers

Source: 2015 CSMD Prescriber and Dispenser Survey
After viewing information Prescribers changed treatment plan or if a Dispenser refused to fill prescription as written

70% of Prescribers have changed treatment plan

81% of Dispensers Less Likely to Fill Prescription as Written

Source: 2015 CSMD Prescriber and Dispenser Survey
Prescriber and Dispenser Practice Changes

**Prescribers:** Has checking the CSMD changed your practice of referring patients for substance abuse treatment?

- More Likely to Refer: 54.1%
- No Change: 35.1%
- Less Likely to Refer: 0.8%
- Other: 10.0%

**Dispenser:** The CSMD has changed my practice of communicating with the physician regarding a patient whom I believe needs referred for substance abuse treatment.

- Strongly Agree: 22.2%
- Somewhat Agree: 34.4%
- Neutral/No Opinion: 34.4%
- Somewhat Disagree: 5.1%
- Strongly Disagree: 4.0%

35% of Prescribers More Likely to Refer

56% of Dispensers More Likely to Communicate with Prescriber

Source: 2015 CSMD Prescriber and Dispenser Survey
What is an average response time for a patient request when only Tennessee data is being requested from the CSMD?

Prescribers
- 5 seconds or less: 41.1%
- 6-9 seconds: 36.8%
- 10 seconds or more: 22.1%

Dispensers
- 5 seconds or less: 46.3%
- 6-9 seconds: 34.7%
- 10 seconds or more: 19.0%

Source: 2015 CSMD Prescriber and Dispenser Survey
### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>CE</td>
<td>Continuing Education</td>
</tr>
<tr>
<td>CME</td>
<td>Continuing Medical Education</td>
</tr>
<tr>
<td>CSMD</td>
<td>Controlled Substance Monitoring Database</td>
</tr>
<tr>
<td>CSMD Committee</td>
<td>Controlled Substance Monitoring Database Committee</td>
</tr>
<tr>
<td>MME</td>
<td>Morphine Milligram Equivalents</td>
</tr>
<tr>
<td>NAS</td>
<td>Neonatal Abstinence Syndrome</td>
</tr>
<tr>
<td>Rx</td>
<td>Prescription</td>
</tr>
<tr>
<td>PDMP</td>
<td>Prescription Drug Monitoring Program</td>
</tr>
<tr>
<td>PDO</td>
<td>Prescription Drug Overdose</td>
</tr>
<tr>
<td>PFS</td>
<td>Prevention for States</td>
</tr>
<tr>
<td>TN</td>
<td>Tennessee</td>
</tr>
<tr>
<td>TDH</td>
<td>Tennessee Department of Health</td>
</tr>
<tr>
<td>VA</td>
<td>Veterans Affairs</td>
</tr>
</tbody>
</table>

The Tennessee Department of Health, including local health departments, boards and commissions, has implemented protocols and policies to verify that every adult applicant for “public benefits” is a United States citizen or a “qualified alien”, within the meaning of Chapter 1061.