Mississippi State Department of Health

Mississippi Morbidity Report

Volume 34, Number 1 November 2018

A Comprehensive Evaluation of Mississippi Opioid Prescribing Practices by Strength and Days of Supply, 2012-2017; Summary of Updated Mississippi Board of Medical Licensure Opioid Prescribing Rules

Key Messages

- **While the total number of opioid analgesic prescriptions decreased slightly between 2012 and 2017, there was a disturbing increase in both the strength of opioids (measured in MME) and the days' supply prescribed.**
- **Combined, the overall six-year increase in total MMEs and total days of supply was driven by a spike in prescriptions for one opioid: oxycodone.**
- **During this same timeframe the number of opioid overdose deaths continued to climb, from 107 in 2012 to 172 in 2016.**
- **Providers should follow the 2018 Mississippi State Board of Medical Licensure's Opioid Prescribing Regulations for acute or chronic pain and "Start low and go slow".**

Background: Though slight decreases in the state's prescribing rates for opioid analgesics have been observed, during 2017 Mississippi had the fourth highest opioid prescription rate in the nation, exceeded only by Tennessee, Arkansas, and Alabama.[1] Even though there were slight decreases, a disturbing trend has emerged in the opioid prescribing practices in Mississippi, with increases in both morphine milligram equivalents (MME) prescribed and in the duration of prescription measured in days' supply.

A comprehensive assessment of opioid prescribing requires an evaluation of both the dose and duration of opioid prescriptions in addition to looking at prescription rates. Using metrics suggested by the Centers for Disease Control and Prevention, we analyzed Mississippi Prescription Monitoring Program (MPMP) from 2012 through 2017 for high-dose opioid prescriptions, MME totals, MME per prescription, total days' supply, and prescriptions by days of supply (≥30 days and <30 days) (available at https://www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf).[2] Only opioids used as analgesics were included in the analysis (opioids indicated for addiction treatment and cough suppression were excluded). What follows is a brief overview of those prescribing trends in Mississippi between 2012 and 2017.

Prescriptions for Opioid Analgesics in MS, 2012-2017 (see Table):

Opioid Prescribing Numbers and Rates: High-dose prescriptions, defined as opioid prescriptions ≥ 90 MME per day, accounted for 7.2% of the total 3,107,616 prescriptions for opioid analgesics in 2017. While the annual prescribing rate for opioid analgesics decreased by 7.9% between 2012 and 2017 (113.0 to 104.1 prescriptions per 100 persons), the annual prescribing rate for high-dose opioid prescriptions remained relatively consistent during the same timeframe (8.0 in 2012 compared to 7.5 in 2017).

Prescribing Dosages: During 2017, the total amount of MME prescribed in Mississippi was 2,203,336,886 and the average amount of MME per prescription was 709.0. The total amount of MME prescribed increased cumulatively by 4.1% between 2012 and 2016; but, this uptrend started to reverse in 2016. For the six-year period, the average MME per prescription

increased significantly by 7.6%, from 658.8 MME/prescription in 2012 to 709.0 MME/prescription in 2017, but this metric also demonstrated a small decrease since 2016.

Table: Prescriptions for Opioid Analgesics in MS, 2012-2017

PRESCRIPTION OPIOIDS	2012	2013	2014	2015	2016	2017	Change 2012-2017	Change 2016-2017
Prescriptions (Rx)	3,373,334	3,353,854	3,350,348	3,269,040	3,233,684	3,107,616	-7.9%	-3.9%
Dosage (MME)								
Total MME	2,222,314,716	2,251,444,107	2,340,706,702	2,351,026,633	2,312,774,965	2,203,336,886	-0.9%	-4.7%
Mean MME/ Rx	658.8	671.3	698.6	719.2	715.2	709.0	+7.6%	-0.9%
Days' supply								
Total days' supply	54,647,583	55,406,994	56,809,275	57,298,147	57,986,245	56,427,649	+3.3%	-2.7%
Days per Rx								
< 30 days	2,211,714	2,155,103	2,081,417	1,946,563	1,882,523	1,782,736	-19.4%	-5.3%
≥ 30 days	1,161,620	1,198,751	1,268,931	1,322,477	1,351,161	1,324,880	+14.1%	-1.9%
Major opioids								
Hydrocodone	2,165,252	2,130,928	2,020,591	1,805,216	1,745,745	1,629,054	-24.8%	-6.7%
Oxycodone	370,217	392,107	449,145	518,754	541,298	560,660	+51.4%	+3.6%
Tramadol	485,907	483,350	517,318	553,072	556,248	543,550	+11.9%	-2.3%

Prescribed Supply in Days: The total days' supply reached 56,427,649 days in 2017, an increase of 3.3% compared to 2012, albeit with a small dip of 2.7% between 2016 and 2017. The overall increase in days' supply for the six-year period was due to two opposing trends: a downtrend in the number of prescriptions for < 30 days and an uptrend in the number of long-term prescriptions for ≥30 days. The analysis of prescription duration revealed that 42.6% of all prescriptions had duration of 30 days in 2017 as compared to 34.4% in 2012.

Prescribed Opioids: The top three prescribed opioids between 2012 and 2017 were hydrocodone, oxycodone, and tramadol, accounting for around 90.0% of the total opioid prescriptions each year. Prescriptions for oxycodone, an opioid 1.5 times stronger than hydrocodone, jumped by 51.4% between 2012 and 2017, fueling the overall increases seen in MME. Although several opioids contributed to the increase in the days of supply, oxycodone was the driving force behind this uptrend. Between 2012 and 2017, the total days' supply for oxycodone doubled from 6,508,235 days in 2012 to 11,128,216 days in 2017, an increase of 71.0%.

Discussion: Between2012 and 2017, the overall rate of opioid prescriptions went down due to a 24.8% decrease in the number of hydrocodone prescriptions. This is a promising change, although the state's opioid prescribing rate has remained among the highest in the country. The decline in the opioid prescription was offset by the increase in the total MME and total opioid days' supply. Such a spike in the dose and duration of opioid prescriptions occurred in parallel with an escalating number of opioid-related overdose deaths.[3] Our analyses suggested that these diverging trends may be driven, in part, by a shift in prescribing practices toward prescribing more potent opioid formulations for longer periods of time. The decrease in total prescription rates, therefore, masked the fact that potent opioids, such as oxycodone, were being prescribed in higher numbers and length than previously, intensifying the strength and duration of the opioids remaining in circulation and leading to a spike in adverse outcomes.

What Can Mississippi Providers Do? Evidence suggests that the duration of opioid use is the strongest predictor of future addiction, reinforcing the need to use the shortest course of opioids possible.[4] In addition, research has demonstrated that a daily dosage of ≥ 50 MME increases the risk of overdoses.5 To mitigate such risks, prescribers should comply with the Mississippi State Board of Medical Licensure's opioid prescribing rules which became effective October 29, 2018 and are highlighted below:

1. Use the lowest effective dose for acute or chronic non-cancerous/non-terminal pain and should not exceed 90 MME daily
2. Do not prescribe opioids for acute pain for more than three days

3. Utilize the Mississippi Prescription Monitoring Program upon initial contact with new patients in need of opioid treatment
4. Perform drug screening tests for chronic opioid treatments

For a complete list of rules, please visit: http://www.msbml.ms.gov/Regulation_Filings . A summary version is provided below:

Mississippi State Board of Medical Licensure Prescribing Rules Summary

Acute Pain	◦ **Recommended < 3 days** ◦ **Max 10 days, may give 1 additional (max 10 day) prescription**
Chronic Pain	◦ Use lowest effective dose ◦ Recommend ≤ 50 MME daily ◦ Should not exceed 90 MME daily ◦ If > 100 MME must be in pain clinic ◦ Methadone for chronic pain only through pain clinics (by physician)

Benzodiazepines	◦ Max 90 days per prescription
	◦ Should not co-administer with opioids
	  ◦ Short term acceptable
	  ◦ Patients on chronic benzodiazepines and opioids should be gradually weaned off one or both
	  ◦ Chronic co-administration in rare, extreme circumstances

Mississippi Prescription Monitoring Program (MPMP)	◦ All licensees must register with MPMP ◦ Must check on all opioid prescriptions for acute and/or chronic non-cancerous/non-terminal pain upon issuance ◦ Must utilize the MPMP upon initial contact with new patients and at least every 3 months thereafter for all controlled medications other than opioids ◦ Must document MPMP review (must include time from last check) ◦ PMP check not required for inpatients but must be checked if discharged on opioids
Drug Screening	◦ Point of Service Drug Testing must be done at least 3 times per calendar year when Schedule II medications is written for the treatment of chronic non-cancerous/non-terminal pain ◦ Applies also for Benzodiazepines for chronic medical and/or psychiatric conditions which are non-cancerous/non-terminal ◦ Inpatient treatment/hospice patients exempt
Exemptions	◦ Terminal/Cancer treatment ◦ Hospice patients ◦ Inpatients (nursing home, rehab, hospitals, etc.) ◦ Prescriptions for Pseudoephedrine, Lomotil, Lyrica, Testosterone, and/or Amphetamines prescribed for patients under the age of 16 for the treatment of Attention Deficit Hyperactivity Disorder
Pain Management	◦ If ≥ 50% of patients receive controlled substances for chronic pain, must register as pain clinic ◦ If advertises as pain clinic, must register ◦ Must check MPMP every time controlled substance prescribed ◦ Must see a pain management physician prior to initiating controlled substance

***MME = Morphine Milligram Equivalent**

References:

1. Centers for Disease Control and Prevention. 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes — United States. Surveillance Special Report. Centers for Disease Control and Prevention. U.S. Department of Health and Human Services. Published. August 31, 2018.
2. Centers for Disease Control and Prevention.U.S. Opioid Prescribing Rate Maps.
3. Drug Overdose Deaths Involving Opioids in Mississippi, 2011-2016.Misissippi State Department of Health. Published. 2/2/2018. Jackson. Mississippi.
4. Brat Gabriel A, Agniel Denis, Beam Andrew, Yorkgitis Brian, Bicket Mark, Homer Mark et al. Postsurgical prescriptions for opioid naive patients and association with overdose and misuse: retrospective cohort study BMJ 2018; 360 :j5790.
5. Dunn KM, Saunders KW, Rutter CM, Banta-Green CJ, Merrill JO, Sullivan MD, et al. Opioid Prescriptions for Chronic Pain and Overdose: A Cohort Study. Ann Intern Med. 2010;152:85–92. doi: 10.7326/0003-4819-152-2-201001190-00006: http://annals.org/aim/article-abstract/745518/opioid-prescriptions-chronic-pain-overdose-cohort-study.

Mississippi
Provisional Reportable Disease Statistics*

September 2018

Monthly statistics are provisional*. *Disease totals may change depending on additional reporting from healthcare providers and public health investigation. These numbers do **not reflect the final case counts.*

		Public Health District									State Totals**			
		I	II	III	IV	V	VI	VII	VIII	IX	Sept 2018	Sept 2017	YTD 2018	YTD 2017
Sexually Transmitted Diseases	**Primary & Secondary Syphilis**	3	1	3	1	1	2	1	3	5	**20**	24	290	234
	Early Latent Syphilis	2	4	6	3	3	6	1	0	7	**32**	46	592	386
	Gonorrhea	107	80	65	72	184	101	21	79	78	**787**	743	7,018	6,291
	Chlamydia	234	192	168	133	427	154	83	162	210	**1,763**	1,864	15,936	14,415
	HIV Disease	3	3	3	1	9	4	4	3	7	**37**	38	400	351
Myco-bacterial Diseases	**Pulmonary Tuberculosis (TB)**	0	0	0	0	1	0	2	0	0	**3**	2	50	28
	Extrapulmonary TB	0	0	0	0	0	0	0	0	0	**0**	0	8	6
	Mycobacteria Other Than TB	2	3	1	2	5	3	0	5	6	**27**	45	231	336
Vaccine Preventable Diseas	**Diphtheria**	0	0	0	0	0	0	0	0	0	**0**	0	0	0
	Pertussis	0	0	0	0	4	0	0	0	0	**4**	3	34	28
	Tetanus	0	0	0	0	0	0	0	0	0	**0**	0	0	0
	Poliomyelitis	0	0	0	0	0	0	0	0	0	**0**	0	0	0
	Measles	0	0	0	0	0	0	0	0	0	**0**	0	0	0
	Mumps	1	0	1	0	0	0	1	0	1	**4**	2	7	23
	Hepatitis B (acute)	0	0	0	1	2	0	0	0	1	**4**	4	34	30
	Invasive *H. influenzae* disease	2	1	0	0	2	2	0	2	0	**9**	3	59	42
	Invasive Meningococcal disease	0	0	0	0	0	0	0	0	0	**0**	0	1	2
Enteric Diseases	**Hepatitis A (acute)**	0	0	0	0	0	0	0	0	1	**1**	0	11	2
	Salmonellosis	13	41	5	24	27	12	10	9	15	**156**	154	793	826
	Shigellosis	1	0	0	0	19	0	1	2	5	**28**	18	182	118
	Campylobacteriosis	4	7	3	2	15	5	1	1	9	**47**	36	459	364
	***E. coli* O157:H7/STEC/HUS**	0	1	0	0	0	0	0	0	0	**1**	2	63	19
Zoonotic Diseases	**Animal Rabies**	0	0	0	0	0	0	0	0	0	**0**	0	0	1
	Lyme disease	0	0	0	0	0	0	0	0	0	**0**	0	2	1
	Rocky Mountain spotted fever	0	2	1	3	0	1	1	1	0	**9**	17	118	155
	West Nile virus	0	0	0	1	3	0	0	0	1	**5**	10	42	59

** Totals include reports from Department of Corrections and those not reported from a specific District.