Mississippi State Department of Health

Mississippi Morbidity Report

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Opioid Related Hospitalizations in Mississippi 2010 & 2011; an analysis of the Mississippi Hospital Discharge Data

Key Messages:

- Opioid prescribing has risen markedly over the past two decades.
- Adverse events related to opioid over-prescribing lead to unnecessary deaths and hospitalizations, and increased health expenditures, many of which are not reimbursed.
- This analysis of data from the Hospital Discharge Data System at the Mississippi State Department of Health identifies key demographics related to opioid related hospitalizations from 2010 and 2011 in Mississippi.
- From this analysis, opioid-related hospitalizations were highest in Caucasians and females, and were associated with an inpatient cost of approximately $200 million for the two year period.

Background:

In 1999 an estimated 5.0% of American adults used a prescription opioid substance during the last thirty days, while in 2011-12 this percentage increased to 6.9% (22 million) according to the National Center for Health Statistics. [1] Along with this increase in prescription opioid use, the rate of inpatient stays that included a diagnosis of opioid misuse among American adults increased more than 150% between 1993 and 2012, from 12 to 30 stays per 10,000 persons. [2]

Opioid-related Hospitalizations in Mississippi:

Nationwide, 47 states currently compile hospital discharge data from the administrative claims filed by individual hospitals. In 2009, the Mississippi State Department of Health began collecting discharge codes from all hospitals and storing the information in a centralized reporting system, the Hospital Discharge Data System. Opioid-related hospitalizations are defined as dependent abuse, non-dependent abuse, poisoning (overdose), and adverse effects based on the *International Classification of Diseases, 9th Revision, Clinical Modification* codes. The inpatient discharge data set, which contains extensive information regarding patient demographics, expected payers, length of stay, hospital charges, admission and discharge status, medical diagnoses, and performed procedures, was used to identify trends and associations relevant to opioid-related hospitalizations.

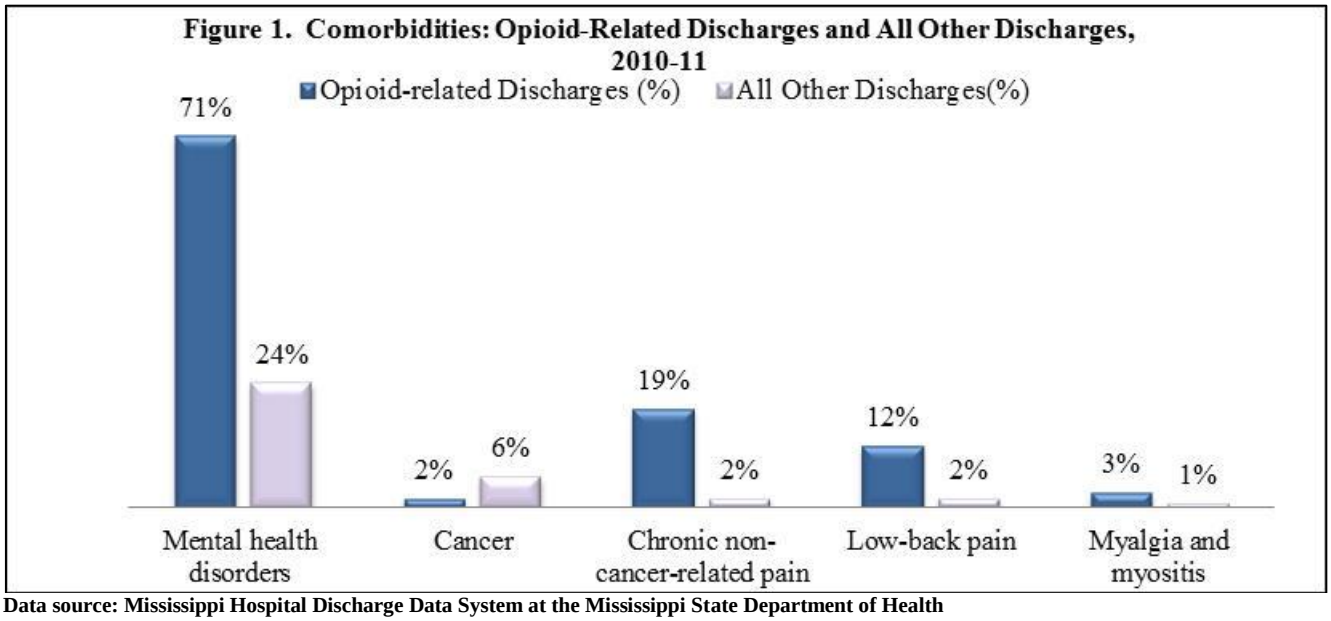
Number and Rates of Hospitalizations: 4,784 opioid related hospitalizations were identified in 2010 and 4,997 in 2011, totaling 9,781 hospitalizations during the two-year period. Mississippi residents accounted for 9,148 or 94% of all opioid-related hospital discharges. The state's two-year average rate was 15 opioid-related hospitalizations per 10,000 residents. The hospitalization rates varied widely among different counties with a cluster of high hospitalization rates in the Southeast region of the state. Four counties, Forrest, Perry, Marion, and Lauderdale, each had a hospitalization rate of over 30 stays per 10,000 residents for the two year period 2010 through 2011, a finding that warrants additional investigation to identify confounding influences.

Types of Opioid-related Hospitalizations: The majority of opioid-related hospitalizations in 2010-11 were coded as dependent opioid drug abuse (6,337 or 65%), while non-dependent drug abuse was recorded during 1,595 hospitalizations (16%). The rest of the opioid-related hospitalizations were associated with opioid overdoses or adverse effects after the therapeutic use of opioids. Opioid overdose was the recorded diagnosis for 1,273 (13%) of opioid-related hospitalizations. An analysis of co-existing drug abuse revealed that over one third (35%) of all discharges for opioid misuse had a coexisting diagnosis of another type of drug misuse, with sedatives/hypnotics/anxiolytics being most frequently recorded.

Demographics: Caucasians were disproportionately affected by opioid-related hospitalizations: 8,090 or 83% were among this racial group. For comparison, there were 21 Caucasian hospitalizations and 6 African-American hospitalizations per 10,000 Mississippi residents for the two year period. Females were more frequently hospitalized than males (54% versus 46%) with a rate of 16 and 15 hospitalizations per 10,000 respectively. When compared with all other non-opioid-related hospitalizations, patients with an opioid-related diagnosis were younger than other hospitalized patients (44 years versus 50 years). Over 40% of all opioid-related hospitalizations were 25-44 years of age. Further stratification by age and sex revealed that females between the age of 25 and 44 years had the highest hospitalization rate among all age and sex groups - 28 hospital admissions per 10,000 persons.

Resource Utilization: The average length of stay for an opioid-related hospitalization was 5.6 days, the average charges per stay were $20,439 and the average charges per day were $3,650. The total amount of charges submitted for opioid-related hospitalizations for 2010-11 was $199,918,316 over 54,805 patient days. The publically funded payers, Medicare and Medicaid, accounted for 31% and 23% respectively of all charges for opioid-related hospitalizations. Compared to patients hospitalized for all other causes, the uninsured were more likely to be hospitalized with a diagnosis indicating opioid misuse (17% versus 7%).

Opioids and Mental Health: As displayed in Figure 1, 71% of all hospitalized patients with an opioid-related diagnosis had a co-existing mental health disorder coded, while this percentage was 24% for all other patients. Further analysis revealed that among all hospital admissions for attempted suicide (2,481) during 2010-11, 362 (15%) had a coexisting diagnosis of opioid drug misuse.



Data source: Mississippi Hospital Discharge Data System at the Mississippi State Department of Health

Opioids and Chronic Non-Cancer-Related Pain: Compared to all other hospitalizations, patients hospitalized with a diagnosis of opioid misuse were more likely to have a co-exiting diagnosis of chronic non-cancer-related pain (19% versus 2%), lower back pain (12% versus 2%), and myalgia (3% versus 1%). Patients hospitalized with an opioid-related diagnosis were less likely to have a coexisting cancer diagnosis (2% versus 6%).

What Mississippi Providers Can Do:

Mississippi providers should be aware of the considerable risks with prescribing opioid analgesics. Nationwide, more than 100,000 deaths have been attributed to the increase in opioid prescription practices starting in the late 1990s. [3] Currently, medical licensure requirements mandate that all providers receive five hours of CME every two years related to controlled substance prescribing. In addition to live events, high quality online programs are available through the Mississippi State Medical Association and the University of Mississippi Medical Center. The Mississippi Prescription Monitoring Program (MS PMP) is a resource for reviewing previously administered controlled substances to Mississippi patients. In Mississippi, every physician that prescribes controlled substances must register with the MS PMP, but review of this valuable information is not mandated in Mississippi. In other states, mandates to review Prescription Drug Monitoring Program data prior to prescribing controlled substances have led to marked declines in over prescribing and doctor shopping.[4] MSDH advocates for the use of the MS PMP prior to any prescription of opioids or other controlled substances.

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Mississippi
Provisional Reportable Disease Statistics

November 2015

		Public Health District									State Totals*			
		I	II	III	IV	V	VI	VII	VIII	IX	Nov 2015	Nov 2014	YTD 2015	YTD 2014
Sexually Transmitted Diseases	**Primary & Secondary Syphilis**	0	0	3	1	4	3	0	2	2	**15**	13	192	176
	Early Latent Syphilis	1	4	5	2	11	0	1	1	7	**32**	24	364	313
	Gonorrhea	40	31	44	35	137	36	24	62	66	**475**	456	5,072	5,170
	Chlamydia	136	107	180	126	378	138	81	139	167	**1,452**	1,603	15,274	17,959
	HIV Disease	3	2	2	1	10	2	0	2	4	**26**	35	510	470
Myco-bacterial Diseases	**Pulmonary Tuberculosis (TB)**	1	1	0	0	3	1	0	2	0	**8**	2	53	58
	Extrapulmonary TB	0	0	0	1	0	0	0	0	0	**1**	2	8	10
	Mycobacteria Other Than TB	2	4	0	1	11	4	1	3	9	**35**	37	398	350
Vaccine Preventable Diseases	**Diphtheria**	0	0	0	0	0	0	0	0	0	**0**	0	0	0
	Pertussis	0	1	0	0	0	1	0	0	0	**2**	3	17	63
	Tetanus	0	0	0	0	0	0	0	0	0	**0**	0	0	1
	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	0	0	0	0	0	0	0	0	0	**0**	0	0	0
	Hepatitis B (acute)	0	2	0	1	0	0	0	0	2	**5**	3	50	42
	Invasive *H. influenzae* disease	1	1	0	0	2	1	0	0	1	**6**	7	41	29
	Invasive Meningococcal disease	0	0	0	0	0	0	0	0	0	**0**	0	0	1
Enteric Diseases	**Hepatitis A (acute)**	0	0	0	0	0	0	0	0	0	**0**	0	1	3
	Salmonellosis	12	8	1	3	6	4	4	6	3	**47**	52	1,010	948
	Shigellosis	0	1	0	0	1	1	0	0	1	**4**	13	90	191
	Campylobacteriosis	1	2	0	0	4	0	0	2	1	**10**	4	165	101
	***E. coli* O157:H7/STEC/HUS**	0	0	0	0	0	0	0	0	0	**0**	2	23	32
Zoonotic Diseases	**Animal Rabies (bats)**	0	0	0	0	0	0	0	0	1	**1**	0	4	1
	Lyme disease	0	0	0	0	0	0	0	0	0	**0**	0	3	2
	Rocky Mountain spotted fever	0	0	0	0	0	0	0	0	0	**0**	0	82	50
	West Nile virus	0	0	0	0	0	1	0	0	0	**1**	0	37	43

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