Division of Medicaid
Office of the Governor
State of Mississippi
Drug Utilization Review (DUR) Board Meeting

MISSISSIPPI DIVISION OF
MEDICAID

June 9, 2022 at 1:00pm

Woolfolk Building, Room 145

Jackson, MS

Prepared by:

MS | DUR Evidence-Based DUR Initiative
The University of Mississippi School of Pharmacy

Drug Utilization Review Board

Lauren Bloodworth, PharmD
University of MS School of Pharmacy
201D Faser Hall
University, MS 38677
Term Expires: June 30, 2024

Terrence Brown, PharmD
GA Carmichael Family Health Center
1668 West Peace Street
Canton, MS 39046
Term Expires: June 20, 2023

Patrick Bynum, MD
MEA Vicksburg Ambulatory Care Clinic
4204 Clay Street
Vicksburg, MS 39183
Term Expires: June 30, 2022

Rhonda Dunaway, RPh (Co-Chair)
Coastal Family Health Center
9113 Hwy 49 Suite 200
Gulfport, MS 39503
Term Expires: June 30, 2023

Tanya Fitts, MD
Lafayette Pediatric Clinic
1300 Access Road, Suite 400
Oxford, MS 38655
Term Expires: June 30, 2024

Ray Montalvo, MD
KDMC Specialty Clinic
940 Brookway Boulevard
Brookhaven, MS 39601
Term Expires: June 30, 2023

Holly R. Moore, PharmD
Anderson Regional Medical Center
2124 14th Street
Meridian, MS 39301
Term Expires: June 30, 2023

Joshua Pierce, PharmD
McGuffee Drugs
102 Main St.
Magee, MS 39111
Term Expires: June 30, 2024

Cheryl Sudduth, RPh
Funderburk's Pharmacy
134 West Commerce Street
Hernando, MS 38632
Term Expires: June 30, 2022

James Taylor, PharmD (Chair)
North MS Medical Center
830 S. Gloster Street
Tupelo, MS 38801
Term Expires: June 30, 2022

Alan Torrey, MD
Merit Health Medical Group
Pain Management
2080 South Frontage Road
Vicksburg, MS 39180
Term Expires: June 30, 2022

2022 DUR Board Meeting Dates

March 3, 2022
June 9, 2022
September 15, 2022
December 8, 2022

As with any analysis, great efforts are made to ensure that the information reported in this document is accurate. The most recent administrative claims data available are being used at the time the reports are generated, which includes the most recent adjudication history. As a result, values may vary between reporting periods and between DUR Board meetings, reflecting updated reversals and claims adjustments.

Unless otherwise indicated, all MS-DUR analyses are conducted for the entire Mississippi Medicaid program including beneficiaries receiving services through the Medicaid fee-for-service (FFS) and the two Mississippi Medicaid Coordinated Care Organizations (CCOs). When dollar figures are reported, the reported dollar figures represent reimbursement amounts paid to providers and are not representative of final Medicaid costs after rebates. Any reported enrollment data presented are unofficial and are only for general information purposes for the DUR Board.

Please refer to the Mississippi Division of Medicaid website for the current official Universal Preferred Drug List (PDL).

http://www.medicaid.ms.gov/providers/pharmacy/preferred-drug-list/

MISSISSIPPI DIVISION OF MEDICAID
OFFICE OF THE GOVERNOR
DRUG UTILIZATION REVIEW BOARD
AGENDA
June 9, 2022

Welcome

Old Business

Resource Utilization Review

Follow-up and Discussion from the Board

New Business

Pharmacy Program Update Terri Kirby, RPh

Next Meeting Information
Remaining 2022 DUR Board Meeting Dates: September 15,2022 & December 8, 2022

DUR Board Meeting Minutes

MISSISSIPPI DIVISION OF MEDICAID
DRUG UTILIZATION REVIEW (DUR) BOARD
MINUTES OF THE MARCH 3, 2022 MEETING

DUR Board Roster: State Fiscal Year 2022 (July 1, 2021 – June 30, 2022)	Jun 2021	Sep 2021	Dec 2021	Mar 2022
Lauren Bloodworth, PharmD	✓	✓	✓	✓
Terrence Brown, PharmD		✓	✓	✓
Patrick Bynum, MD	✓	✓	✓	✓
Cesar Cardenas, MD	NA	NA	✓	✓
Rhonda Dunaway, RPh	✓	✓	✓	✓
Tanya Fitts, MD		✓		✓
Ray Montalvo, MD	✓	✓	✓	
Holly Moore, PharmD		✓		
Joshua Pierce, PharmD	NA	NA	✓	✓
Cheryl Sudduth, RPh	✓			✓
James Taylor, PharmD (Chair)		✓		✓
Alan Torrey, MD	✓			
TOTAL PRESENT**	**7**	**9**	**7**	**9**

** *Total Present may not be reflected by individual members marked as present above due to members who either resigned or whose terms expired being removed from the list.*

Also Present:

Division of Medicaid (DOM) Staff:
Terri Kirby, RPh, CPM, Pharmacy Director; Dennis Smith, RPh, DUR Coordinator; Gail McCorkle, RPh, Clinical Pharmacist; Chris Yount, MA, PMP, Staff Officer – Pharmacy; Sue Reno, RN, Program Integrity; Brenda Washington, RN, BSN, Program Integrity;

University of Mississippi School of Pharmacy - MS-DUR Staff:
Eric Pittman, PharmD, MS-DUR Project Director; Kaustuv Bhattacharya, PhD, Research Assistant Professor;

Gainwell:
Lew Anne Snow, RN, BSN, Advisor Business Analyst;

Change Healthcare Staff:
Paige Clayton, PharmD, On-Site Clinical Pharmacist; Shannon Hardwick, RPh, CPC Pharmacist;

Coordinated Care Organization (CCO) Staff:
Jenni Grantham, PharmD, Director of Pharmacy, Magnolia Health;

Alliant Health Staff:
Catherine Brett, MD, Quality Director, MS UM/QIO;

Visitors:
Michelle Shirley, Indivior; Paula Whatley, Novo Nordisk; Brent Young, Global Blood Therapeutics; Julie Young, Abbvie; Frank Alvarado, Janssen; Shawn Headley, Gilead; J.J. Lovegrove, Sunovion; Matthew Majure, Capital Resources; Cathy Prine Eagle, Merck.

Call to Order/Welcome:
Dr. Taylor called the meeting to order at 1:02 pm. DOM staff and Board members took a few moments for introductions.

OLD BUSINESS:
Ms. Dunaway moved to approve the minutes from the December 2021 DUR Board Meeting, seconded by Dr. Bloodworth, and unanimously approved by the DUR Board.

Resource Utilization Review:
Dr. Pittman presented the resource utilization report for December 2021. Enrollment numbers continue to climb. Mr. Smith pointed out the shift in enrollment numbers. The proportion of those in the managed care organizations (MCOs) has declined while the proportion in fee-for-service (FFS) has increased. This shift is primarily a result of the public health emergency that was declared as a result of COVID-19. Dr. Pittman continued the review by walking board members through the resource report pointing out highlights.

NEW BUSINESS:

Update on MS-DUR Educational Interventions:
Dr. Pittman provided an overview of all DUR mailings and educational notices that occurred between December 2021 – February 2022.

Special Analysis Projects:

Maternal Health Topics –
MS-DUR presented a series of reports focusing on maternal health and drug utilization issues. This report included 4 projects: prenatal vitamin use among pregnant women, opioid use among pregnant women, low-dose aspirin use among pregnant women at high risk of preeclampsia, and angiotensin-converting enzyme (ACE) inhibitor and angiotensin receptor blocker (ARB) use among women of childbearing age.

Prenatal Vitamin Use Among Pregnant Women
Claims data analysis showed that prenatal vitamins were utilized in only 30.9% of pregnancy events between 2018 and 2021. Prenatal vitamin use may have been negatively impacted by supply-chain issues related to prenatal vitamins. Supply chain issues potentially pushed more beneficiaries to use over-the-counter vitamins in prenatal care. To increase access to prenatal vitamins, DOM recently expanded the number of prenatal vitamins included in their preferred drug list (PDL).

The following recommendations were presented:

1. DOM should initiate educational activities to increase awareness of their expanded PDL list of prenatal vitamins.
2. DOM should explore innovative approaches to increase prenatal vitamin use among beneficiaries.

A robust discussion around various ways of increasing prenatal vitamin use occurred among the Board. Some of the ideas discussed included: encouraging prenatal vitamin use among teens of childbearing age; engaging pharmacists in initiating prenatal vitamin use among women of childbearing age by incentivizing pharmacists and pursuing prescriptive authority of pharmacists to prescribe prenatal vitamins; and removing obstacles that delay Medicaid enrollment of pregnant women.

Following the discussion, Dr. Bynum made a motion to approve recommendation #1, seconded by Dr. Fitts, and unanimously approved by the Board to accept the recommendation presented. Ms. Sudduth made a motion to approve recommendation #2, seconded by Dr. Bloodworth, and unanimously approved by the Board to accept the recommendation.

Opioid Use Among Pregnant Women

The rates of opioid use among pregnant women in Mississippi Medicaid appear to be in line with rates published in the literature. Reductions in maximum MEDD levels, chronic use, and concomitant use with psychotropic medications all occurred following the implementation of Medicaid's opioid initiatives in 2019.

No formal recommendations occurred as a result of this report.

Use of Low-dose Aspirin Among Pregnant Women at High-Risk for Preeclampsia

Low-dose aspirin is recommended for use among pregnant women at high risk for developing preeclampsia. Claims data analysis revealed a low rate of low-dose aspirin use among this high-risk population. However, limitations in claims data likely prohibit capturing the true rate of low-dose aspirin use among high-risk Medicaid beneficiaries.

Board members engaged in a healthy discussion around ways to improve the use of low-dose aspirin among pregnant beneficiaries at high-risk for preeclampsia. The board noted that part of the issue may be a lack of knowledge of this recommendation among prescribers and pharmacists. The following recommendations were presented:

1. MS-DUR recommends that DOM explore and implement policies that encourage the prescribing and coverage of daily low-dose aspirin for women at high risk for preeclampsia as recommended by ACOG.
2. DOM should develop an educational piece to be included in an upcoming provider bulletin and distributed to professional member associations.

Following the discussion, Ms. Dunaway made a motion to approve the recommendations, seconded by Dr. Brown, and unanimously approved by the Board.

Use of ACE Inhibitors and ARBs Among Women of Childbearing Age

Despite well-documented risks of teratogenic effects associated with the use of ACE inhibitors and ARBs during pregnancy, there is significant use of these agents to treat hypertension among women of childbearing age. Our analysis indicated that among female Medicaid beneficiaries of childbearing age diagnosed with hypertension and treated with ACE inhibitors or ARBs, only 23.26% had concomitant use of contraception documented in claims data. This rate is well below other published rates of contraception use in women of childbearing age. Results from this analysis present great opportunities for future education and intervention activities.

The Board reiterated the idea of DOM developing mechanisms that would enable and encourage pharmacists to be more actively involved in patient management. Pharmacists could directly impact the provision of care related to maternal health and improve outcomes. Following a robust discussion, the below recommendation was presented:

1. DOM should include results from this analysis in future provider communications and should explore opportunities to increase contraception use rates among female beneficiaries of childbearing age prescribed ACE inhibitors or ARBs.

Dr. Bynum made a motion to approve the recommendation, seconded by Dr. Fitts, and unanimously approved by the Board.

Use of Long-acting Injectable (LAI) Antipsychotics (APs) Among Medicaid Beneficiaries

The creation of the Clinician-Administered Drugs and Implantable Drug System Devices (CADD) List in 2018 was intended to increase beneficiary access to needed Medicaid services. Since their addition to the CADD List, utilization of atypical LAI APs has consistently increased. Our analysis also found that when comparing outcomes in the 12-month period prior to and after LAI AP initiation, ED visits, hospitalizations, and continuity of care all improved.

Following discussion by the Board, the below recommendation was presented:

1. MS-DUR recommends DOM continue its current policies supporting access to long-acting injectable antipsychotic medications.

Dr. Cardenas made a motion to approve the recommendation, seconded by Dr. Bloodworth, and unanimously approved by the Board.

FDA Drug Safety Updates:
Dr. Pittman presented FDA drug safety communications for December 2021 – February 2022.

Pharmacy Program Update:
Ms. Kirby provided a pharmacy program update highlighting the following areas:

1) Medicaid will be changing their fiscal agent from Conduent to Gainwell. A tentative 'go live' date is proposed for October 2022. Providers are being sought to test the new system.
2) DOM recently updated the Prenatal Vitamin NDC List and the list of Physician Administered Drugs that require prior authorization.

Next Meeting Information:
The next meeting is scheduled for June 9, 2022.

Dr. Taylor motioned to adjourn the meeting at 3:09 pm, seconded by Dr. Bloodworth, and unanimously approved by the Board.

Submitted,

Eric Pittman, PharmD
Evidence-Based DUR Initiative, MS-DUR

Drug Utilization Review Board

March 3, 2022 DUR Board Registration – *now open*

Registration for the upcoming March 3 DUR Board Meeting is now open. Registration will close at 12pm on March 2. As a reminder, only one representative per company may attend. The registration link in addition to a list of companies that have registered are provided below. Meeting time will be 1:00 PM. DUR Packet may be downloaded at link provided below.

DUR Board Overview

The Mississippi Division of Medicaid's Drug Utilization Review (DUR) Board is a quality assurance body which seeks to assure appropriate drug therapy to include optimal beneficiary outcomes and appropriate education for providers and beneficiaries. The Board reviews utilization of drug therapy and evaluates the long-term success of the treatments.

Meetings

Meetings will be held in Woolfolk Building Room 145 unless otherwise noted. 2022 dates are as follows:

- March 3, 2022;
- June 9, 2022;
- September 15, 2022; and,
- December 8, 2022

Important Updates: Beginning October 1, 2021, pharmaceutical and industry members, vendors, and general public must register to attend. Registration will open thirty (30) days prior to the meeting date. Registration will close at 12pm (noon) the day before the meeting. Due to the ongoing pandemic, *only one representative per company may register/attend*. Public speaking is not allowed at DUR meetings unless called on by the Board.

Parking: parking may be found on the perimeter of the Woolfolk Building, on the north side of the Woolfolk Building located at the old Wright and Ferguson building (yellow/brown building), and at the Division of Medicaid and First Baptist Church main parking lots at the corner of High Street and North President Street. *Guests may not park at the Woolfolk Building or in any parking space marked "Reserved".*

The following companies have met the one representative per company limit (as of 3/2/2022):

1. AbbVie
2. Biogen
3. Biohaven
4. Capitol Resources, LLC
5. Gilead
6. Global Blood Therapeutics
7. Indivior
8. Janssen
9. Merck
10. Novartis
11. Novo Nordisk
12. Regeneron
13. Sobi
14. Sunovion

CLICK HERE to register online! You must register to attend DUR Board meetings.
NOTE: Registration is **required** for all pharmaceutical industry and advocacy representatives to be able to attend DUR Board meetings.

Resource Utilizaton Review

TABLE 04A: ENROLLMENT STATISTICS FOR LAST 6 MONTHS
October 1, 2021 through March 31, 2022

			Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
Total enrollment			799,766	802,737	805,661	808,673	809,591	810,501
Dual-eligibles			165,812	166,055	166,238	166,408	165,995	165,796
Pharmacy benefits			684,604	687,465	690,314	693,274	694,199	695,002
	LTC		15,050	15,035	15,015	14,960	14,756	14,616
	PLAN %	**FFS**	37.2%	38.8%	40.1%	41.5%	42.7%	43.8%
		MSCAN-UHC	24.3%	23.7%	23.2%	22.8%	22.3%	21.9%
		MSCAN-Magnolia	25.7%	25.0%	24.5%	23.9%	23.4%	23.0%
		MSCAN-Molina	12.8%	12.5%	12.2%	11.8%	11.6%	11.3%

TABLE 04B: PHARMACY UTILIZATION STATISTICS FOR LAST 6 MONTHS
October 1, 2021 through March 31, 2022

		Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
# Rx Fills	**FFS**	148,988	160,411	162,586	163,640	150,728	172,342
	MSCAN-UHC	158,110	163,656	158,029	158,873	140,618	152,204
	MSCAN-Mag	160,873	165,600	157,862	152,991	137,700	151,286
	MSCAN-Mol	56,157	58,048	55,877	53,295	48,031	52,881
# Rx Fills / Bene	**FFS**	0.6	0.6	0.6	0.6	0.5	0.6
	MSCAN-UHC	1.0	1.0	1.0	1.0	0.9	1.0
	MSCAN-Mag	0.9	1.0	0.9	0.9	0.8	0.9
	MSCAN-Mol	0.6	0.7	0.7	0.7	0.6	0.7
$ Paid Rx	**FFS**	$15,637,489	$16,632,795	$17,225,383	$16,935,675	$16,866,115	$19,003,742
	MSCAN-UHC	$18,529,009	$19,301,566	$18,998,517	$20,178,140	$18,493,964	$20,761,061
	MSCAN-Mag	$16,448,197	$16,995,842	$16,467,452	$16,255,853	$15,306,392	$17,195,283
	MSCAN-Mol	$4,944,329	$5,302,168	$5,195,340	$5,076,414	$4,675,756	$5,476,524
$ /Rx Fill	**FFS**	$104.96	$103.69	$105.95	$103.49	$111.90	$110.27
	MSCAN-UHC	$117.19	$117.94	$120.22	$127.01	$131.52	$136.40
	MSCAN-Mag	$102.24	$102.63	$104.32	$106.25	$111.16	$113.66
	MSCAN-Mol	$88.04	$91.34	$92.98	$95.25	$97.35	$103.56
$ /Bene	**FFS**	$61.40	$62.36	$62.23	$58.86	$56.90	$62.43
	MSCAN-UHC	$111.38	$118.47	$118.63	$127.66	$119.47	$136.40
	MSCAN-Mag	$93.49	$98.89	$97.37	$98.11	$94.23	$107.57
	MSCAN-Mol	$56.42	$61.70	$61.69	$62.05	$58.06	$69.73

NOTE: Paid amounts represent amount reported on claims as paid to the pharmacy. These amounts do not reflect final actual costs after rebates, etc.

In April 2021, UHC changed their claims reporting procedure, and the estimates presented in these tables may be slightly higher than the amount actually paid by UHC

TABLE C: TOP 10 DRUG CATEGORIES BY NUMBER OF CLAIMS IN MAR 2022 (FFS AND CCOs)

Category	Month Year	Rank Volume	# RXs	$ Paid	# Unique Benes
CNS stimulants	Mar 2022	1	26,544	$4,176,064	22,052
	Feb 2022	1	24,236	$3,971,044	20,610
	Jan 2022	1	24,674	$4,067,484	20,896
antihistamines	Mar 2022	2	17,453	$250,159	16,391
	Feb 2022	4	13,926	$201,025	13,262
	Jan 2022	5	14,839	$216,192	13,951
SSRI antidepressants	Mar 2022	3	15,830	$194,642	14,266
	Feb 2022	2	14,165	$174,976	13,082
	Jan 2022	7	14,608	$180,947	13,308
nonsteroidal anti-inflammatory agents	Mar 2022	4	15,401	$224,222	14,417
	Feb 2022	3	13,985	$214,359	13,183
	Jan 2022	4	15,026	$212,470	14,127
atypical antipsychotics	Mar 2022	5	15,236	$4,605,676	12,446
	Feb 2022	6	13,681	$3,968,917	11,591
	Jan 2022	8	14,326	$4,341,388	11,894
adrenergic bronchodilators	Mar 2022	6	15,043	$974,216	12,504
	Feb 2022	5	13,905	$857,476	11,792
	Jan 2022	3	16,384	$1,006,274	13,948
aminopenicillins	Mar 2022	7	13,595	$176,590	13,191
	Feb 2022	7	12,171	$157,656	11,873
	Jan 2022	9	12,851	$162,193	12,439
narcotic analgesic combinations	Mar 2022	8	12,799	$608,116	11,488
	Feb 2022	9	11,444	$514,851	10,526
	Jan 2022	11	11,716	$525,472	10,674
proton pump inhibitors	Mar 2022	9	12,775	$440,993	11,876
	Feb 2022	8	11,746	$398,008	11,119
	Jan 2022	10	11,860	$399,062	11,157
antiadrenergic agents, centrally acting	Mar 2022	10	11,586	$220,101	10,197
	Feb 2022	12	10,574	$201,788	9,632
	Jan 2022	13	10,881	$210,125	9,747

TABLE D: TOP 10 DRUG CATEGORIES BY DOLLARS PAID IN MAR 2022 (FFS AND CCOs)

Category	Month Year	Rank Paid Amt	# RXs	$ Paid	# Unique Benes
antirheumatics	Mar 2022	1	929	$4,673,946	724
	Feb 2022	1	835	$4,081,654	686
	Jan 2022	2	835	$4,085,769	653
atypical antipsychotics	Mar 2022	2	15,236	$4,605,676	12,446
	Feb 2022	3	13,681	$3,968,917	11,591
	Jan 2022	1	14,326	$4,341,388	11,894
CNS stimulants	Mar 2022	3	26,544	$4,176,064	22,052
	Feb 2022	2	24,236	$3,971,044	20,610
	Jan 2022	3	24,674	$4,067,484	20,896
interleukin inhibitors	Mar 2022	4	644	$3,487,861	471
	Feb 2022	4	515	$2,844,918	413
	Jan 2022	4	577	$3,036,197	428
antiviral combinations	Mar 2022	5	942	$2,857,202	834
	Feb 2022	5	853	$2,587,151	775
	Jan 2022	5	910	$2,835,371	808
insulin	Mar 2022	6	5,663	$2,524,599	4,020
	Feb 2022	6	5,288	$2,395,478	3,905
	Jan 2022	6	5,423	$2,499,308	3,933
CFTR combinations	Mar 2022	7	91	$2,149,701	68
	Feb 2022	7	81	$1,899,977	66
	Jan 2022	7	81	$1,858,948	67
factor for bleeding disorders	Mar 2022	8	154	$1,795,020	120
	Feb 2022	8	149	$1,707,874	111
	Jan 2022	8	120	$1,763,374	92
miscellaneous uncategorized agents	Mar 2022	9	173	$1,545,681	153
	Feb 2022	9	137	$1,335,004	119
	Jan 2022	9	150	$1,330,759	130
bronchodilator combinations	Mar 2022	10	4,186	$1,370,029	3,684
	Feb 2022	10	3,833	$1,241,619	3,428
	Jan 2022	10	4,038	$1,310,565	3,593

TABLE E: TOP 25 DRUG MOLECULES
BY NUMBER OF CLAIMS IN MAR 2022 (FFS and CCOs)

Drug Molecule Therapeutic Category	Feb 2022 # Claims	Mar 2022 # Claims	Mar 2022 $ Paid	Mar 2022 # Unique Benes
albuterol / adrenergic bronchodilators	13,305	14,278	$748,973	12,008
amoxicillin / aminopenicillins	12,146	13,555	$175,787	13,154
cetirizine / antihistamines	9,355	12,302	$165,255	11,697
ondansetron / 5HT3 receptor antagonists	9,286	10,782	$167,018	10,282
montelukast / leukotriene modifiers	8,512	10,514	$164,409	9,996
azithromycin / macrolides	10,562	9,721	$159,450	9,479
fluticasone nasal / nasal steroids	6,970	9,232	$142,346	8,929
gabapentin / gamma-aminobutyric acid analogs	7,781	8,532	$130,168	7,826
acetaminophen-hydrocodone / narcotic analgesic combinations	7,012	7,810	$100,722	7,223
amphetamine-dextroamphetamine / CNS stimulants	6,741	7,586	$223,574	6,349
methylphenidate / CNS stimulants	6,759	7,583	$1,197,678	6,521
ibuprofen / nonsteroidal anti-inflammatory agents	6,468	7,153	$86,517	6,877
clonidine / antiadrenergic agents, centrally acting	6,455	7,068	$93,654	6,463
amlodipine / calcium channel blocking agents	5,959	6,592	$81,078	6,172
lisdexamfetamine / CNS stimulants	6,241	6,470	$2,111,248	6,029
omeprazole / proton pump inhibitors	5,459	5,851	$65,389	5,579
sertraline / SSRI antidepressants	5,198	5,826	$71,870	5,265
cefdinir / third generation cephalosporins	4,957	5,347	$122,222	5,204
oseltamivir / neuraminidase inhibitors	3,805	5,106	$213,607	4,867
prednisolone / glucocorticoids	4,599	4,950	$77,229	4,767
amoxicillin-clavulanate / penicillins/beta-lactamase inhibitors	4,342	4,832	$100,933	4,667
triamcinolone topical / topical steroids	4,314	4,773	$77,254	4,453
atorvastatin / HMG-CoA reductase inhibitors (statins)	4,322	4,590	$51,175	4,237
guanfacine / antiadrenergic agents, centrally acting	4,115	4,517	$123,117	4,130
pantoprazole / proton pump inhibitors	4,007	4,382	$50,087	4,084

TABLE F: TOP 25 DRUG MOLECULES
BY DOLLARS PAID IN MAR 2022 (FFS and CCOs)

Drug Molecule Therapeutic Category	Feb 2022 $ Paid	Mar 2022 $ Paid	Mar 2022 # Claims	Mar 2022 # Unique Benes
adalimumab / antirheumatics	$2,802,440	$3,285,319	433	344
lisdexamfetamine / CNS stimulants	$2,038,319	$2,111,248	6,470	6,029
elexacaftor/ivacaftor/tezacaftor / CFTR combinations	$1,837,186	$2,024,117	85	63
paliperidone / atypical antipsychotics	$1,512,476	$1,872,986	711	607
bictegravir/emtricitabine/tenofovir / antiviral combinations	$1,296,269	$1,430,813	423	386
dupilumab / interleukin inhibitors	$1,168,171	$1,402,995	450	321
aripiprazole / atypical antipsychotics	$1,037,040	$1,259,724	4,212	3,760
methylphenidate / CNS stimulants	$1,074,570	$1,197,678	7,583	6,521
carglumic acid / miscellaneous uncategorized agents	$411,191	$1,027,976	5	2
insulin glargine / insulin	$923,374	$971,856	2,105	1,956
liraglutide / GLP-1 receptor agonists	$832,316	$943,658	1,137	1,049
ustekinumab / interleukin inhibitors	$785,605	$801,146	37	31
albuterol / adrenergic bronchodilators	$687,464	$748,973	14,278	12,008
emicizumab / factor for bleeding disorders	$977,529	$744,886	35	27
somatropin / growth hormones	$598,102	$718,155	169	137
lacosamide / miscellaneous anticonvulsants	$593,112	$667,912	705	595
etanercept / antirheumatics	$666,740	$656,504	123	98
corticotropin / corticotropin	$239,209	$598,029	8	6
budesonide-formoterol / bronchodilator combinations	$512,211	$583,533	1,730	1,644
ixekizumab / interleukin inhibitors	$445,842	$583,364	70	51
empagliflozin / SGLT-2 inhibitors	$546,094	$570,895	741	698
palivizumab / immune globulins	$745,017	$557,515	200	144
cannabidiol / miscellaneous anticonvulsants	$489,982	$552,193	175	140
insulin aspart / insulin	$528,719	$552,006	1,505	1,352
lenalidomide / other immunosuppressants	$284,793	$514,441	30	19

TABLE G: TOP 25 DRUG MOLECULES
BY CHANGE IN NUMBER OF CLAIMS FROM JAN 2022 TO MAR 2022 (FFS and CCOs)

Drug Molecule	Jan 2022 # Claims	Feb 2022 # Claims	Mar 2022 # Claims	Mar 2022 $ Paid	Mar 2022 # Unique Benes
oseltamivir / neuraminidase inhibitors	1,660	3,805	5,106	$213,607	4,867
cetirizine / antihistamines	9,911	9,355	12,302	$165,255	11,697
ondansetron / 5HT3 receptor antagonists	8,894	9,286	10,782	$167,018	10,282
fluticasone nasal / nasal steroids	7,653	6,970	9,232	$142,346	8,929
montelukast / leukotriene modifiers	8,985	8,512	10,514	$164,409	9,996
methylphenidate / CNS stimulants	6,615	6,759	7,583	$1,197,678	6,521
amphetamine-dextroamphetamine / CNS stimulants	6,801	6,741	7,586	$223,574	6,349
amoxicillin / aminopenicillins	12,821	12,146	13,555	$175,787	13,154
triamcinolone topical / topical steroids	4,079	4,314	4,773	$77,254	4,453
acetaminophen-hydrocodone / narcotic analgesic combinations	7,117	7,012	7,810	$100,722	7,223
sertraline / SSRI antidepressants	5,322	5,198	5,826	$71,870	5,265
metronidazole / miscellaneous antibiotics	2,539	2,573	3,019	$36,630	2,915
gabapentin / gamma-aminobutyric acid analogs	8,052	7,781	8,532	$130,168	7,826
mupirocin topical / topical antibiotics	2,423	2,477	2,870	$41,621	2,787
clonidine / antiadrenergic agents, centrally acting	6,626	6,455	7,068	$93,654	6,463
sulfamethoxazole-trimethoprim / sulfonamides	2,958	2,990	3,351	$49,737	3,246
dexmethylphenidate / CNS stimulants	3,400	3,429	3,789	$220,835	3,064
trazodone / phenylpiperazine antidepressants	3,347	3,353	3,733	$42,336	3,428
hydroxyzine / miscellaneous anxiolytics, sedatives and hypnotics	3,877	3,844	4,238	$65,118	3,972
pantoprazole / proton pump inhibitors	4,032	4,007	4,382	$50,087	4,084
fluoxetine / SSRI antidepressants	3,810	3,631	4,159	$48,095	3,746
olopatadine ophthalmic / ophthalmic antihistamines and decongestants	341	383	682	$15,487	643
aripiprazole / atypical antipsychotics	3,880	3,684	4,212	$1,259,724	3,760
escitalopram / SSRI antidepressants	2,913	2,931	3,243	$39,314	2,960
amlodipine / calcium channel blocking agents	6,270	5,959	6,592	$81,078	6,172

TABLE H: TOP 25 DRUG MOLECULES
BY CHANGE IN AMOUNT PAID FROM JAN 2022 TO MAR 2022 (FFS and CCOs)

Drug Molecule	Jan 2022 $ Paid	Feb 2022 $ Paid	Mar 2022 $ Paid	Mar 2022 # Claims	Mar 2022 # Unique Benes
carglumic acid / miscellaneous uncategorized agents	$411,191	$411,191	$1,027,976	5	2
adalimumab / antirheumatics	$2,800,055	$2,802,440	$3,285,319	433	344
elexacaftor/ivacaftor/tezacaftor / CFTR combinations	$1,669,031	$1,837,186	$2,024,117	85	63
lenalidomide / other immunosuppressants	$295,956	$284,793	$514,441	30	19
leuprolide / antineoplastic hormones	$136,950	$137,706	$329,683	41	36
methylphenidate / CNS stimulants	$1,030,316	$1,074,570	$1,197,678	7,583	6,521
oseltamivir / neuraminidase inhibitors	$64,785	$164,116	$213,607	5,106	4,867
everolimus / mTOR inhibitors	$308,918	$282,492	$455,540	41	32
anti-inhibitor coagulant complex / factor for bleeding disorders	$320,610	$181,665	$454,886	4	3
cannabidiol / miscellaneous anticonvulsants	$437,129	$489,982	$552,193	175	140
aripiprazole / atypical antipsychotics	$1,144,678	$1,037,040	$1,259,724	4,212	3,760
ustekinumab / interleukin inhibitors	$686,419	$785,605	$801,146	37	31
secukinumab / interleukin inhibitors	$92,617	$92,592	$199,285	32	20
c1 esterase inhibitor, human / hereditary angioedema agents	$117,717	$101,750	$213,475	6	5
ivacaftor / CFTR modulators	$23,907	$47,815	$119,537	5	3
paliperidone / atypical antipsychotics	$1,787,886	$1,512,476	$1,872,986	711	607
selexipag / agents for pulmonary hypertension	$103,820	$115,491	$186,983	7	4
dupilumab / interleukin inhibitors	$1,320,804	$1,168,171	$1,402,995	450	321
coagulation factor ix / factor for bleeding disorders	$133,344	$145,850	$213,913	9	4
corticotropin / corticotropin	$518,285	$239,209	$598,029	8	6
alpha 1-proteinase inhibitor / miscellaneous respiratory agents	$48,515	$49,409	$128,094	12	6
buprenorphine-naloxone / narcotic analgesic combinations	$386,814	$378,653	$456,907	1,509	1,205
bosentan / agents for pulmonary hypertension	$32,630	$78,426	$96,672	12	11
voxelotor / miscellaneous uncategorized agents	$96,787	$106,135	$155,002	16	12
elosulfase alfa / lysosomal enzymes	$58,040	$0	$116,081	2	1

TABLE I: TOP 15 DRUG SOLID DOSAGE FORM HIGH VOLUME (100+ RX FILLS LAST MONTH) PRODUCTS WITH UNIT COST > $1
BY PERCENT CHANGE IN AMOUNT PAID PER UNIT JAN 2022 TO MAR 2022 (FFS and CCOs)

Drug Product Therapeutic Category	Mar 2022 # Claims	Mar 2022 $ Paid	Mar 2022 Avr. Paid Per Rx	Mar 2022 Avr. Units Per Rx	Jan 2022 Paid Per Unit	Feb 2022 Paid Per Unit	Mar 2022 Paid Per Unit	Percent Change
buprenorphine-naloxone 8 mg-2 mg tablet / narcotic analgesic combinations (P)	144	$10,180	$70.69	47	$1.00	$1.06	$1.16	15.5%
dexmethylphenidate 15 mg capsule, extended release / CNS stimulants (P)	574	$40,196	$70.03	30	$1.90	$1.93	$1.96	3.0%
atomoxetine 40 mg capsule / noradrenergic uptake inhibitors for ADHD (P)	282	$13,333	$47.28	30	$1.17	$1.17	$1.20	2.4%
dexmethylphenidate 25 mg capsule, extended release / CNS stimulants (P)	259	$21,700	$83.78	30	$2.35	$2.37	$2.41	2.4%
Genvoya (cobicistat/elvitegravir/emtricitabine/tenofov) 150 mg-150 mg-200 mg-10 mg tablet / antiviral combinations (P)	118	$406,470	$3,444.66	33	$104.40	$104.07	$106.75	2.3%
Linzess (linaclotide) 290 mcg capsule / guanylate cyclase-C agonists (P)	110	$55,541	$504.92	35	$14.49	$14.53	$14.70	1.4%
Entresto (sacubitril-valsartan) 97 mg-103 mg tablet / angiotensin receptor blockers and neprilysin inhibitors (P)	182	$114,362	$628.36	66	$9.14	$9.27	$9.27	1.4%
Vraylar (cariprazine) 3 mg capsule / atypical antipsychotics (N)	107	$132,933	$1,242.36	30	$39.83	$40.26	$40.31	1.2%
Vimpat (lacosamide) 100 mg tablet / miscellaneous anticonvulsants (P)	165	$165,497	$1,003.01	69	$14.62	$14.74	$14.77	1.1%
Tradjenta (linagliptin) 5 mg tablet / dipeptidyl peptidase 4 inhibitors (P)	199	$137,497	$690.94	46	$14.96	$14.92	$15.11	1.0%
Trintellix (vortioxetine) 20 mg tablet / miscellaneous antidepressants (P)	200	$91,278	$456.39	33	$13.26	$13.29	$13.35	0.7%
atomoxetine 25 mg capsule / noradrenergic uptake inhibitors for ADHD (P)	260	$13,699	$52.69	30	$1.38	$1.39	$1.38	0.7%

Products are only included if 100 or more fills in last month and average cost per unit in reference month was >= $1.

TABLE I: TOP 15 DRUG SOLID DOSAGE FORM HIGH VOLUME (100+ RX FILLS LAST MONTH) PRODUCTS WITH UNIT COST > $1
BY PERCENT CHANGE IN AMOUNT PAID PER UNIT JAN 2022 TO MAR 2022 (FFS and CCOs)

Drug Product Therapeutic Category	Mar 2022 # Claims	Mar 2022 $ Paid	Mar 2022 Avr. Paid Per Rx	Mar 2022 Avr. Units Per Rx	Jan 2022 Paid Per Unit	Feb 2022 Paid Per Unit	Mar 2022 Paid Per Unit	Percent Change
QuilliChew ER (methylphenidate) 40 mg/24 hr tablet, chewable, extended release / CNS stimulants (P)	355	$130,342	$367.16	30	$11.76	$11.85	$11.83	0.6%
Viibryd (vilazodone) 40 mg tablet / miscellaneous antidepressants (P)	114	$39,373	$345.38	34	$9.41	$9.37	$9.46	0.6%
Slynd (drospirenone) 4 mg tablet / progestins (P)	119	$27,097	$227.70	32	$6.58	$6.61	$6.61	0.5%

Products are only included if 100 or more fills in last month and average cost per unit in reference month was >= $1.

New Business

Special Analysis Projects

MISSISSIPPI DIVISION OF MEDICAID

MS-DUR INTERVENTION / EDUCATIONAL INITIATIVE UPDATE

March 2022 – May 2022

Ongoing Intervention(s):

PROVIDER SHOPPING FOR OPIOIDS (≥4 Prescribers AND ≥4 Pharmacies)				CONCOMITANT USE OF OPIOIDS AND ANTIPSYCHOTICS		
Month	Prescribers Mailed	Pharms Mailed	Benes Addressed	Month	Prescribers Mailed	Benes Addressed
21-Jun	4	4	8	21-Jun	60	80
21-Jul	3	2	5	21-Jul	44	48
21-Aug	6	4	10	21-Aug	45	47
21-Sep	5	4	9	21-Sep	46	50
21-Oct	5	1	6	21-Oct	51	88
21-Nov	4	3	7	21-Nov	43	49
21-Dec	4	2	6	21-Dec	54	66
22-Jan	4	2	6	22-Jan	28	34
22-Feb	6	5	11	22-Feb	63	71
22-Mar	6	4	10	22-Mar	39	41
22-Apr	3	2	5	22-Apr	42	47
22-May	4	3	7	22-May	42	48

One-time Mailing:

Updated Asthma Guidelines		
	Prescribers Mailed	Benes Addressed
22-Jun	284	181

{Date}

IMPORTANT INFORMATION REGARDING THE TREATMENT OF ASTHMA

Dear Dr. {Prescriber Name},

Significant changes have occurred in the recommendations for asthma management in recent years. Following recommendations by the Global Initiative for Asthma (GINA) that all adults and adolescents with asthma receive symptom-driven or regular low-dose inhaled corticosteroids (ICS) containing controller treatment, the National Asthma Education and Prevention Program (NAEPP) released their recommendations supporting Single Maintenance and Reliever Therapy (SMART) for people with moderate to severe asthma.[1,2] Specifically, guidelines recommend the use of a single combination agent with low-dose ICS and the long-acting beta agonist formoterol. These changes represent a shift in asthma treatment recommendations away from the use of short-acting beta agonists (SABA) in these individuals and were based on clinical evidence that **the use of ICS-containing agents significantly reduces risks of severe exacerbations compared to using a SABA as the rescuer**.[3]

Recently, Medicaid's Drug Utilization Review Board affirmed their support of SMART for the treatment of asthma and recommended changes to the preferred drug list allowing providers to appropriately utilize this evidence-based prescribing in the management of asthma among Medicaid beneficiaries. To make it easier to prescribe SMART for Medicaid beneficiaries, the following branded products are preferred and available without prior authorization for both maintenance and rescue use:

Drug	Strength	PDL Status
Symbicort (budesonide/formoterol)	80mcg/4.5mcg 160mcg/4.5mcg	Preferred
Dulera (mometasone/formoterol)	50mcg/5mcg 100mcg/5mcg 200mcg/5mcg	Preferred

Drug utilization analyses of Medicaid claims data from 2020 revealed that 63.1% of adults and 82.3% of children diagnosed with persistent asthma were appropriately dispensed controller medications. Subsequently, it was found that rates of emergency department visits for both children and adults were significantly lower for those appropriately prescribed controller medications compared to those that did not receive appropriate controller medications to treat their persistent asthma.

[1] Global Initiative for Asthma - GINA. Published April 2019. Accessed January 30, 2022. https://ginasthma.org/1809-2/

[2] Expert Panel Working Group of the National Heart, Lung, and Blood Institute (NHLBI) administered and coordinated National Asthma Education and Prevention Program Coordinating Committee (NAEPPCC), Cloutier MM, Baptist AP, Blake KV, Brooks EG, Bryant-Stephens T, DiMango E, Dixon AE, Elward KS, Hartert T, Krishnan JA, Lemanske RF Jr, Ouellette DR, Pace WD, Schatz M, Skolnik NS, Stout JW, Teach SJ, Umscheid CA, Walsh CG. 2020 Focused Updates to the Asthma Management Guidelines: A Report from the National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group. J Allergy Clin Immunol. 2020 Dec;146(6):1217-1270. doi: 10.1016/j.jaci.2020.10.003. Erratum in: J Allergy Clin Immunol. 2021 Apr;147(4):1528-1530. PMID: 33280709; PMCID: PMC7924476.

[3] Beasley R, Holliday M, Reddel HK, et al. Controlled Trial of Budesonide-Formoterol as Needed for Mild Asthma. *N Engl J Med*. 2019;380(21):2020-2030. doi:10.1056/NEJMoa1901963

Evidence-Based DUR Initiative

WHY YOU ARE RECEIVING THIS LETTER?

Our analysis of prescription claims data identified the following beneficiary(ies) with persistent asthma that did not receive appropriate controller medications and experienced an asthma-related hospitalization or emergency department visit during the previous year.

INSERT TABLE IDENTIFYING BENEFICIARY

OUR GOAL FOR ASTHMA PATIENTS

Medicaid is looking to improve the health of individuals experiencing asthma. We support the use of SMART in individuals with moderate to severe asthma and encourage providers to engage in shared clinical decision-making discussions with eligible beneficiaries. To help facilitate those discussions, we have included a flyer that can be duplicated and utilized in your practice.

We want to thank you for the care you provide to Medicaid beneficiaries. If we can be of any assistance, please do not hesitate to contact us.

Sincerely,

Terri R. Kirby, RPh, CPM
Director, Office of Pharmacy
Mississippi Division of Medicaid

Eric Pittman, PharmD
Project Director
MS-DUR

In case you missed it...

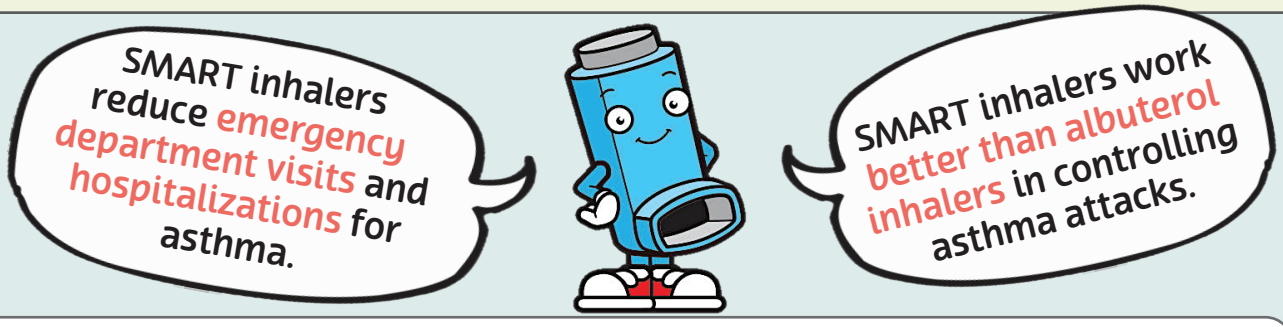
IT'S TIME TO THINK SMART ABOUT ASTHMA!

What is SMART?

In 2020, the National Asthma Education and Prevention Program endorsed **Single Maintenance and Reliever Therapy (SMART)** for individuals with moderate to severe asthma.

How does SMART change treatment?

Single-combination **inhaled corticosteroid and long-acting beta agonist** treatments are recommended as **both daily controller and as-needed rescue** therapy.



What SMART medications are preferred?

Drug	Strength	PDL Status
Symbicort (budesonide/formoterol)	80mcg/4.5mcg 160mcg/4.5mcg	Preferred
Dulera (mometasone/formoterol)	50mcg/5mcg 100mcg/5mcg 200mcg/5mcg	Preferred

MISSISSIPPI DIVISION OF MEDICAID

Questions?
Scan for MS Division of Medicaid **Preferred Drug List.**

METABOLIC MONITORING FOR CHILDREN AND ADOLESCENTS ON ANTIPSYCHOTICS (APM) QUALITY MEASURE

BACKGROUND

The use of antipsychotic medications in children and adolescents can increase a child's risk of developing serious metabolic issues.[1,2] The American Psychiatric Association (APA) and the American Diabetes Association (ADA) recommend that patients receiving antipsychotic medications be monitored for metabolic risk factors at baseline and routinely during therapy.[3] In accordance with these guidelines, the National Committee for Quality Assurance (NCQA) has developed a Healthcare Effectiveness Data and Information Set (HEDIS) measure that assesses the percentage of children and adolescents with ongoing antipsychotic medication use that had metabolic testing during the year.

METHODS

The "Metabolic Monitoring for Children and Adolescents on Antipsychotics" is included in the Medicaid Child Core Set for reporting (APM-CH). The APM-CH assesses the percentage of children and adolescents 1–17 years of age who had two or more antipsychotic prescriptions dispensing events and had metabolic testing. The APM-CH measure includes three rates: 1) The percentage of children and adolescents on antipsychotics who received blood glucose testing; 2) The percentage of children and adolescents on antipsychotics who received cholesterol testing; 3) The percentage of children and adolescents on antipsychotics who received blood glucose and cholesterol testing. The measurement specifications are summarized in Table 1.

For this report, calendar year 2021 (January 1, 2021 – December 31, 2021) was used as the assessment period. The measure identified beneficiaries ages 1 to 17 years as of December 31 of the measurement year with at least two antipsychotic medication dispensing events of the same or different medications on different dates of service during the measurement year. To be included, eligible beneficiaries had to maintain continuous enrollment in Medicaid with no more than one gap in enrollment of up to 45 days during the measurement year.

TABLE 1: Metabolic Monitoring for Children and Adolescents on Antipsychotics (APM) - Measurement Specifications	
Measurement Year	January 1, 2021 - December 31, 2021
Denominator	1–17 years as of December 31 of the measurement year, with at least two antipsychotic medication dispensing events of the same or different medications, on different dates of service during the measurement year.
Continuous Enrollment	Continuous enrollment with no more than one gap in enrollment of up to 45 days during the measurement year.
Anchor Date for Age	December 31 of the measurement year.
Numerator	Blood Glucose: Members who received at least one test for blood glucose or HbA1c
	Cholesterol: Members who received at least one test for LDL-C or cholesterol
	Blood Glucose and Cholesterol: Members who received both of the following during the measurement year on the same or different dates of service: 1) At least one test for blood glucose or HbA1c; 2) At least one test for LDL-C or cholesterol
Exclusions	Members in hospice or without full medical or pharmacy benefits during the measurement year.
Note: The updated NDC list for FFY 2022 was used for analysis; all other value sets were based on FFY 2021 data	

RESULTS

Table 2 shows the number of eligible beneficiaries included in the denominator and the number of beneficiaries excluded for each of the inclusion/exclusion criteria. A total of 378,060 beneficiaries aged 1 -17 years were enrolled in Mississippi Medicaid for some period during the measurement year (January 1, 2021 – December 31, 2021). Of these, 7,131 beneficiaries met the criteria for inclusion in the denominator for the quality measure.

TABLE 2: Number of Beneficiaries in Measure Denominator Selection
Mississippi Medicaid January 1, 2021 - December 31, 2021
Includes Medicaid ONLY - No CHIP

Sequential Steps in Denominator Selection	TOTAL	Medicaid Program			
		FFS	UHC	MAG	MOL
Total population 1-17 years	**378,060**	**97,853**	**108,658**	**116,916**	**54,633**
Not continuously enrolled for measurement year or not having full medical/pharmacy benefits	20,944	7,484	5,114	4,106	4,240
Excluded due to hospice	14	7	4	3	0
Not having at least two antipsychotic medication dispensing events of the same or different medications, on different dates of service during the measurement year	349,971	88,774	101,309	110,175	49,713
DENOMINATOR FOR MEASURE	**7,131**	**1,588**	**2,231**	**2,632**	**680**

Table 3 shows the characteristics of beneficiaries included in the denominator for the APM-CH quality measure. Overall, a majority of the beneficiaries were male (63.65%) and Caucasian (48.25%), followed by African American (46.21%).

TABLE 3: Characteristics of Beneficiaries
In Denominator for Metabolic Monitoring for Children and Adolescents on Antipsychotics (APM) Quality Measure
Mississippi Medicaid January 1, 2021 - December 31, 2021
Includes Medicaid ONLY - No CHIP

Beneficiary Characteristics		Age 1 to 17 years		Age 1 to 11 years										Age 12 to 17 years									
		Overall		Total		Medicaid Program								Total		Medicaid Program							
						FFS		UHC		MAG		MOL				FFS		UHC		MAG		MOL	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total		7,131		2,595		459		841		1,068		227		4,536		1,129		1,390		1,564		453	
Gender	Female	2,592	36.35	706	27.21	118	25.71	229	27.23	301	28.18	58	25.55	1,886	41.58	404	35.78	632	45.47	658	42.07	192	42.38
	Male	4,539	63.65	1,889	72.79	341	74.29	612	72.77	767	71.82	169	74.45	2,650	58.42	725	64.22	758	54.53	906	57.93	261	57.62
Race	Caucasian	3,441	48.25	1,300	50.10	242	52.72	416	49.46	525	49.16	117	51.54	2,141	47.20	506	44.82	661	47.55	721	46.10	253	55.85
	African American	3,295	46.21	1,133	43.66	186	40.52	366	43.52	487	45.60	94	41.41	2,162	47.66	540	47.83	666	47.91	782	50.00	174	38.41
	American Indian	18	0.25	6	0.23	2	0.44	1	0.12	3	0.28	0	0.00	12	0.26	7	0.62	2	0.14	3	0.19	0	0.00
	Hispanic	70	0.98	21	0.81	3	0.65	6	0.71	9	0.84	3	1.32	49	1.08	12	1.06	16	1.15	20	1.28	1	0.22
	Other	307	4.31	135	5.20	26	5.66	52	6.18	44	4.12	13	5.73	172	3.79	64	5.67	45	3.24	38	2.43	25	5.52

Note: FFS - Fee-for-Service; UHC - UnitedHealthcare; MAG - Magnolia; MOL - Molina

Table 4 shows the three APM quality measure rates for CY 2021 for all Mississippi Medicaid beneficiaries meeting the inclusion criteria for the denominator: 1) Blood Glucose monitoring; 2) Cholesterol; 3) Blood Glucose and Cholesterol. The overall rate for blood glucose monitoring (Numerator#1) was 43.9%, for cholesterol monitoring (numerator #2) was 28.3%, and for both blood glucose and cholesterol monitoring (numerator #3) was 25.7%. The rate for fee for service (FFS) was the highest for all three measures compared to the three coordinated care organizations (CCOs).

TABLE 4: Measure Rates for Metabolic Monitoring for Children and Adolescents on Antipsychotics (APM)
Quality Measure
Mississippi Medicaid January 1, 2021 - December 31, 2021
1-17 years
Includes Medicaid ONLY - No CHIP

Beneficiary Characteristics		Denominator	Numerator 1 (Blood Glucose)		Numerator 2 (Cholesterol)		Numerator 3 (Blood Glucose and Cholesterol)	
			Numerator	Rate	Numerator	Rate	Numerator	Rate
TOTAL		7,131	3,130	43.9%	2,017	28.3%	1,836	25.7%
Gender	Female	2,592	1,312	50.6%	774	29.9%	690	26.6%
	Male	4,539	1,818	40.1%	1,243	27.4%	1,146	25.2%
Race	Caucasian	3,441	1,612	46.8%	1,003	29.1%	932	27.1%
	African American	3,295	1,344	40.8%	911	27.6%	818	24.8%
	American Indian	18	7	38.9%	3	16.7%	3	16.7%
	Hispanic	70	38	54.3%	24	34.3%	19	27.1%
	Other	307	129	42.0%	76	24.8%	64	20.8%
Pharmacy Program	FFS	1,588	752	47.4%	484	30.5%	453	28.5%
	UHC	2,231	954	42.8%	629	28.2%	565	25.3%
	MAG	2,632	1,137	43.2%	721	27.4%	658	25.0%
	MOL	680	287	42.2%	183	26.9%	160	23.5%

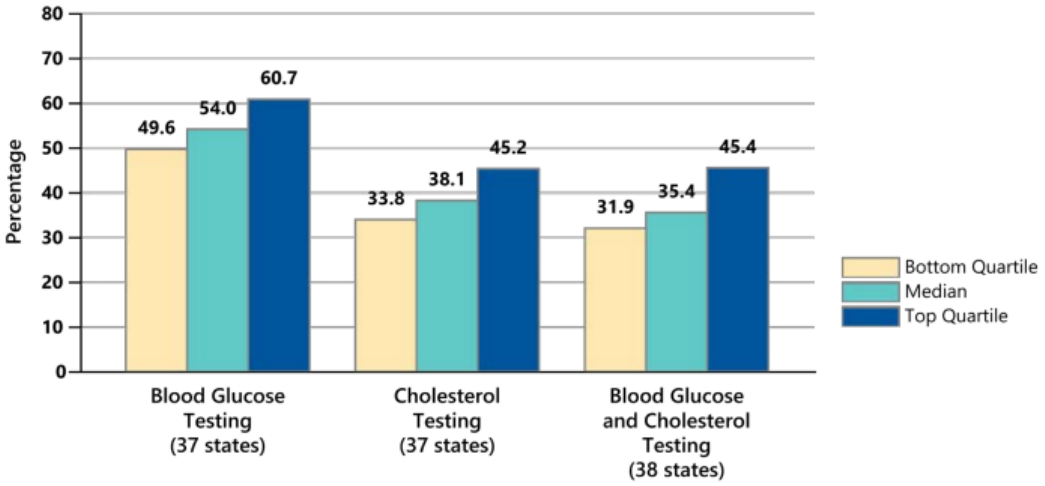
Note: FFS - Fee-for-Service; UHC - UnitedHealthcare; MAG - Magnolia; MOL - Molina

These numbers do indicate improvement over previous years. In 2014, MS-DUR assessed Medicaid's performance on this measure. At that time, only 30% had blood glucose monitoring, 14% had cholesterol monitoring, and 13% had received both during the measurement year.[4] After conducting an educational intervention, the rates improved only slightly. Performance was assessed again during 2017-2018 prior to conducting a second educational intervention. At that time, it was found that 30% had documentation of glucose monitoring, 16.5% had cholesterol monitoring, and 15% had both within the previous year.

In comparison to other states, Mississippi's performance lags behind most states. According to the 2021 Annual Report on the Child Core Set Measures, Mississippi ranks in the bottom quartile for all three measures. The median rates for the states that reported the measure for FFY 2020 reporting were 54.0% for blood glucose monitoring, 38.1% for cholesterol monitoring, and 35.4% for both.[5] (Figure 2)

FIGURE 2: Medicaid Children's Healthcare Quality Measures 2021 Annual Report – Child Core Set – APM[5]

Percentage of Children and Adolescents Ages 1 to 17 who had Two or More Antipsychotic Prescriptions and had Metabolic Testing for Blood Glucose, Cholesterol, and Both Blood Glucose and Cholesterol (APM-CH), FFY 2020



Source: Mathematica analysis of MACPro reports for the FFY 2020 reporting cycle as of June 18, 2021.

Notes: This measure shows the percentage of children and adolescents ages 1 to 17 who had two or more antipsychotic prescriptions and had metabolic testing during the measurement year. Three rates are reported: (1) the percentage who received blood glucose testing; (2) the percentage who received cholesterol testing; and (3) the percentage who received both blood glucose and cholesterol testing. When a state reported separate rates for its Medicaid and CHIP populations, the rate for the larger measure-eligible population was used.

CONCLUSIONS

It is well documented that the use of antipsychotics in children and adolescents increases their risks of developing metabolic complications. It is recommended that glucose and lipid monitoring occur prior to and routinely throughout treatment with these medications in children and adolescents. MS-DUR has conducted multiple educational initiatives in the past to improve performance on this measure. Although performance has improved, continued work is needed.

RECOMMENDATIONS

1. MS-DUR recommends DOM work the MCOs to develop innovative, targeted intervention(s) for improving metabolic monitoring for children and adolescents prescribed antipsychotics.

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ADHERENCE TO ANTIPSYCHOTIC MEDICATIONS FOR INDIVIDUALS WITH SCHIZOPHRENIA (SAA) AND ASSOCIATED OUTCOMES

BACKGROUND

Schizophrenia is a chronic, severe psychiatric disorder that impacts the way individuals think, feel, and interact with others.[1] Because of the nature of the disorder, treatment often involves the long-term use of antipsychotic medications. The goal of antipsychotic medication treatment is to help individuals effectively manage symptoms, improve daily functioning, and minimize the likelihood of relapse.[2] Medication non-adherence is a concern when dealing with any chronic illness, but has been shown to be of particular importance in treating schizophrenia. Non-adherence to antipsychotic medications has been found to be a primary cause of relapse and hospital readmission.[3–5] Reducing preventable hospital admissions related to mental health issues is a focus identified in Mississippi Medicaid's Comprehensive Quality Strategy (CQS).[6]

The National Committee for Quality Assurance (NCQA) has developed a Healthcare Effectiveness Data and Information Set (HEDIS) measure, the "Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA)" measure, that assesses the percentage of beneficiaries ages 18 and older during the measurement year with schizophrenia or schizoaffective disorder who were dispensed and remained on an antipsychotic medication for at least 80 percent of their treatment period.[7] This measure is included in the Medicaid Adult Core Set.

For this analysis, MS-DUR:

- Assessed performance on the "Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA)" measure among Medicaid beneficiaries.
- Explored associations between adherence to antipsychotic medications with inpatient hospitalizations and emergency department (ED) visits.

METHODS

A retrospective analysis of Medicaid medical and pharmacy POS claims data from fee-for-service (FFS) and the three coordinated care organizations (CCOs) [UnitedHealthcare (UHC), Magnolia Health (MAG), and Molina Healthcare (MOL)] was conducted. For the first part of the analysis, MS-DUR ran the SAA measure for calendar year 2020 (January 1, 2020 – December 31, 2020). The measure specifications are detailed in Table 1. A list of antipsychotic medications included in the measure can be found in Appendix A of this report. Adherence was calculated as the Proportion of Days Covered (PDC) for antipsychotic medication for the time between the date of the first dispensing event for an antipsychotic medication through the last day of the measurement year. A PDC of 80% or more was required for this measure.

TABLE 1: SAA-AD Measurement Specifications	
Measurement Year	January 1, 2020 - December 31, 2020
Denominator	Medicaid enrollees 18 years and older with diagnosis of schizophrenia or schizoaffective disorder and 2 or more dispensing events for antipsychotic medications.
Continuous Enrollment	Beneficiary must be enrolled for entire measurement year with no more than one gap in continuous enrollment of up to 45 days.
Anchor Date for Age	Age is calculated for first day of measurement year.
Treatment Period	The beneficiary's treatment period is the time between the date of the first dispensing event for an antipsychotic medication and the last day of the measurement year.
Exclusions	Beneficiaries are excluded if: - any hospice services during the observation year. - diagnosis of dementia during the measurement year. - age 66 to 80 with claim/encounter for frailty during measurement year and diagnosis is of advanced illness during measurement year or prior year. - age 81 and older with claim/encounter for frailty during measurement year.
Numerator	Any beneficiaries with a Proportion of Days Covered (PDC) for antipsychotic medications of 80% or more during their treatment period.

For each beneficiary included in the SAA measure, outcomes of inpatient hospitalizations (all-cause and mental health-related) and ED visits (all-cause and mental health-related) were identified during the follow-up period between January 1, 2021 and December 31, 2021 using the methodology adapted from Karve et. al.[8] Bivariate associations were assessed between adherence and each of the outcomes assessed (all-cause hospitalization, mental health-related hospitalization, all-cause ED visit, and mental health-related ED visit). Multivariable logistic regression was also employed to examine the association between adherence and each of the outcomes assessed, controlling for age, sex, race, prior hospitalization, prior ED visit, and comorbidity (Charlson Comorbidity Index[9]).

RESULTS

Table 2 shows the number of eligible beneficiaries included in the denominator and the number of beneficiaries excluded for each of the inclusion/exclusion criteria. A total of 367,731 beneficiaries age 18 and above were enrolled in Mississippi Medicaid for some period during the measurement year (January 1, 2020 – December 31, 2020). Of these, 3,722 beneficiaries met the criteria for inclusion in the denominator for the quality measure.

TABLE 2: Number of Beneficiaries in Measure Denominator Selection *Mississippi Medicaid January 1, 2020 - December 31, 2020*					
		Medicaid Program			
Sequential Steps in Denominator Selection	Total	FFS	UHC	MAG	MOL
Population 18 and older enrolled during year	**367,731**	**261,557**	**40,114**	**44,350**	**21,710**
- Excluded for hospice services	-3,331	3,131	78	77	45
Total population 18 and older	**364,400**	**258,426**	**40,036**	**44,273**	**21,665**
Not continuously enrolled for measurement year	-54,751	-39,995	-4546	-3660	-6550
No diagnosis for schizophrenia or schizoaffective disorder	-300,677	-213892	-33736	-38376	-14673
Met any exclusion criteria	-5250	-3865	-549	-684	-152
- Did not have 2 or more AP dispensing events	5136	3800	527	658	151
- Dementia diagnosis	487	440	23	22	2
- Age 66 to 80, frail with advanced illness	579	571	5	3	0
- Age 81+ and frail	80	80	0	0	0
Denominator for measure	**3,722**	**674**	**1,205**	**1,553**	**290**

Table 3 shows the characteristics of beneficiaries included in the denominator for the SAA-AD quality measure. The majority of beneficiaries included in the measure were African American, male, and aged 41-64 years.

TABLE 3: Characteristics of Beneficiaries in Denominator for SAA-AD Quality Measure Quality Measure											
Beneficiary Characteristics		TOTAL		Medicaid Program							
				FFS		UHC		MAG		MOL	
Total		**3,722**		**674**		**1,205**		**1,553**		**290**	
Gender	Female	1,685	45.3%	336	49.9%	530	44.0%	700	45.1%	119	41.0%
	Male	2,037	54.7%	338	50.1%	675	56.0%	853	54.9%	171	59.0%
Age	18-25	394	10.6%	102	15.1%	116	9.6%	121	7.8%	55	19.0%
	26-40	194	5.2%	167	24.8%	439	36.4%	570	36.7%	118	40.7%
	41-64	2,017	54.2%	395	58.6%	646	36.4%	859	55.3%	117	40.3%
	65+	17	0.5%	10	1.5%	4	0.3%	3	0.2%	0	0.0%
Race	Caucasian	879	23.6%	187	27.7%	278	23.1%	338	21.8%	76	26.2%
	Afr. Amer.	2,340	62.9%	410	60.8%	758	62.9%	1,007	64.8%	165	56.9%
	Amer. Indian	5	0.1%	4	0.6%	1	0.1%	0	0.0%	0	0.0%
	Hispanic	22	0.6%	2	0.3%	7	0.6%	10	0.6%	3	1.0%
	Other	476	12.8%	71	10.5%	161	13.4%	198	12.7%	46	15.9%

Table 4 shows the SAA-AD quality measure rates for CY 2020 for all Mississippi Medicaid beneficiaries meeting the inclusion criteria for the denominator.

- The overall rate within Mississippi Medicaid was 53.9%. This is a slight increase from the rate of 52.7% for CY 2019.
- The measure rate was consistent across all pharmacy plans with the exception of Molina.
- Males had a higher rate of adherence to AP medications as compared to females.
- The rate among African Americans was lower than that for other groups.
- In comparison to other states that reported the SAA measure for FFY 2020 reporting, Mississippi ranks in the bottom quartile. (Figure 1)

TABLE 4: Adherence to Antipsychotic Medication for Individuals with Schizophrenia

Includes all Medicaid Beneficiaries Meeting Inclusion Criteria

Mississippi Medicaid January 1, 2020 - December 30, 2020

Beneficiary		Denominator	Numerator	Rate
TOTAL		**3,722**	**2,008**	**53.9%**
Gender	Female	1,685	857	50.9%
	Male	2,037	1,151	56.5%
AGE	18-25	394	188	47.7%
	26-40	1,294	656	50.7%
	41-64	2,017	1,154	57.2%
	65+	17	10	58.8%
Race	Caucasian	879	509	57.9%
	Afr. Amer.	2,340	1,209	51.7%
	Amer. Indian	5	3	60.0%
	Hispanic	22	14	63.6%
	Other	476	273	57.4%
Medicaid Program	FFS	674	367	54.5%
	UHC	1,205	675	56.0%
	MAG	1,549	840	54.2%
	MOL	290	125	43.1%

FIGURE 1: Medicaid Adult Core Set Measures 2021 Annual Report - SAA[10]

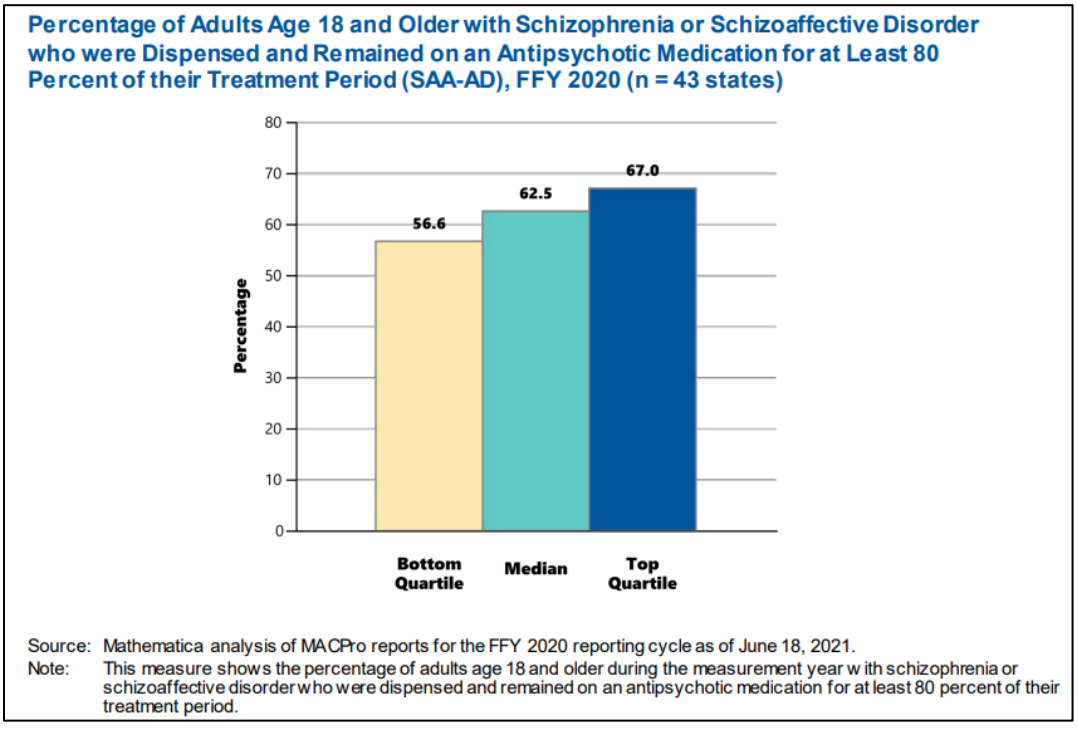

Table 5: Characteristics of Beneficiaries Based on Adherence to Antipsychotic Medication
Includes all Medicaid Beneficiaries Meeting Inclusion Criteria
Mississippi Medicaid January 1, 2020 - December 30, 2020

Total		3,722			
Characteristics		Adherent (N = 2,008)		Non-adherent (N= 1714)	
Gender	Female	857	42.68%	828	48.31%
	Male	1,151	57.32%	886	51.69%
Age	18-25	188	9.36%	206	12.02%
	26-40	656	32.67%	638	37.22%
	41-64	1,154	57.47%	863	50.35%
	65+	10	0.50%	7	0.41%
Race	Caucasian	509	25.35%	370	21.59%
	Afr. Amer.	1,209	60.21%	1131	65.99%
	Amer. Indian	3	0.15%	2	0.12%
	Hispanic	14	0.70%	8	0.47%
	Other	273	13.60%	203	11.84%
Medicaid Program	FFS	367	18.28%	307	17.91%
	UHC	675	33.62%	530	30.92%
	MAG	840	41.83%	712	41.54%
	MOL	125	6.23%	165	9.63%
Hospitalizations	Mental Health	153	7.62%	168	9.80%
	All-cause	363	18.08%	342	19.95%
ED Visits	Mental Health	87	4.33%	102	5.95%
	All-cause	722	35.96%	841	49.07%

Table 5 describes beneficiary characteristics based on adherence to antipsychotic medication. Included in this table is information related to hospitalizations and ED visits during the follow-up period.

Outcomes Associated with Adherence:
When we examined **bivariate** associations between adherence and each outcome measured we found:
Mental health-related hospitalizations

- 7.62% (153/2008) of adherent beneficiaries experienced a mental health-related hospitalization during the follow-up period as compared to 9.8% (168/1714) of non-adherent beneficiaries. This difference was found to be statistically different. (p= 0.018)

All-cause hospitalizations

- 18.08% (363/2008) of adherent beneficiaries experienced an all-cause hospitalization during the follow-up period as compared to 19.95% (342/1714) of non-adherent beneficiaries. This difference was not found to be statistically different. (p=.1455)

Mental health-related ED Visits

- 4.33% (87/2008) of adherent beneficiaries experienced a mental health-related ED visit during the follow-up period as compared to 5.95% (102/1714) of non-adherent beneficiaries. This difference was found to be statistically different. (p=.0296)

All-cause ED Visits

- 35.96% (722/2008) of adherent beneficiaries experienced an all-cause ED visits during the follow-up period as compared to 49.07% (841/1714) of non-adherent beneficiaries. This difference was found to be statistically different. (p<.001)

Results from the multivariate logistic regression analysis with adjusted results showed that beneficiaries who were adherent to antipsychotic medications had significantly lower odds of all-cause ED visits in the next year (Odds Ratio: 0.68, 95% Confidence Interval: 0.59-0.79). No other significant differences were found between adherent and non-adherent beneficiaries on any of the other outcomes assessed after controlling for covariates.

It must be noted that there are limitations to this analysis. Claims data for individuals that have a stay in an inpatient, state-operated psychiatric facility are not routinely captured by Medicaid. This creates a gap in data related to mental health services. However, emergency department claims would not be impacted by this fact. Another limitation assessing data during this period is the potential impact of COVID-19 on healthcare utilization such as hospitalizations, ED visits, outpatient visits, and prescription claims. It should also be noted that claims data can only provide a partial picture related to outcomes associated with mental health care. Additionally, adherence was measured per the standards set forth in the SAA measure and outcomes were assessed following the methodology used by Karve, et. al.[8]Different results could have been obtained had alternative methods for assessing either adherence or outcomes been utilized.

CONCLUSIONS

Medication non-adherence is a major concern for individuals being treated for schizoaffective disorder or schizophrenia as it has been found to be a major cause of relapse and hospital readmission. When running the SAA quality measure, we found that 53.9% of the eligible beneficiaries had 80% or more adherence to antipsychotic medications during the measurement period, which is lower than the national median (62.5%) for other Medicaid programs that reported this measure. While bivariate associations between adherence and outcomes of interest were statistically significant, significant associations were only observed for all-cause ER visits when outcomes were assessed in the adjusted analysis. This points toward the need to explore the impact of adherence on outcomes among vulnerable individuals (i.e. those with comorbidities, previous hospitalizations or ED visits, etc.) and to develop targeted interventions.

RECOMMENDATIONS

1. DOM should work with the MCOs to develop interventions that can improve performance on the SAA measure and bring Mississippi's rate in line with the national median. Interventions may look to specifically target vulnerable individuals.

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APPENDIX A

Antipsychotic Agents Included in the SAA Measure	
Oral Agents	
	Generic Name
Miscellaneous antipsychotic agents	Aripiprazole
	Asenapine
	Brexpiprazole
	Cariprazine
	Clozapine
	Haloperidol
	Iloperidone
	Loxapine
	Lurasadone
	Molindone
	Olanzapine
	Paliperidone
	Quetiapine
	Risperidone
	Ziprasidone
Phenothiazine antipsychotics	Chlorpromazine
	Fluphenazine
	Perphenazine
	Prochlorperazine
	Thioridazine
	Trifluoperazine
Psychotherapeutics combinations	Amitriptyline-perphenazine
Thioxanthenes	Thiothixene
Injectable Agents	
Long-acting injections (14 days supply)	Risperidone (excluding Perseris)
Long-acting injection (28 days supply)	Aripiprazole
	Fluphenazine decanoate
	Haloperidol decanoate
	Olanzapine
	Paliperidone palmitate
Long-acting injections (30 days supply)	Risperidone (Perseris)

UTILIZATION OF TOBACCO CESSATION THERAPY

BACKGROUND

Tobacco use has long been associated with negative health effects. In fact, tobacco use is the leading cause of preventable disease, disability, and death in the United States.[1] In 2020 it was reported that approximately 12.5% of adults aged 18 years or older in the United States currently smoked cigarettes which translates to 30.8 million individuals.[2] Smoking has been shown to cause multiple conditions including cancer, heart disease, stroke, lung diseases, and diabetes; with more than 16 million Americans living with a disease caused by smoking.[1] Cigarette smoking accounts for 480,000 deaths in the United States every year, or 1 in every 5 deaths.[1] The total economic impact of smoking, including direct medical costs and lost productivity, has been estimated at over $300 billion annually in the United States.[1] In Mississippi, the CDC reports that 20.1% of adults report smoking, the fourth highest prevalence of adult cigarette smoking in the United States.[3] Mississippi ranks number 7 in per capita consumption of tobacco annually with 54.5 packs per adult vs the US average of 34.2 packs per adult.[3] The use of electronic cigarettes has increased in recent years, especially among teens and young adults. It is estimated that approximately 7.8% of adult Mississippians use electronic cigarettes, with 18-24-year-old adults making up the largest of users.[3] The prevalence of current electronic cigarette use has increased by 1,675% among high schoolers and 1,333% among middle schoolers since 2010.[3] Approximately 5,400 Mississippians die annually due to smoking-related illnesses.[4]

Higher tobacco use has been reported among Medicaid populations. According to findings from the Nationwide Adult Medicaid Consumer Assessment of Healthcare Providers and Systems (NAM CAHPS) survey from 2014-2015, 27% of adult Medicaid beneficiaries reported use of tobacco.[5] Among Mississippi Medicaid beneficiaries, the numbers were even higher. The survey found that 33.8% of adult Mississippi Medicaid enrollees smoked. In 2017 the total direct and indirect cost of tobacco-related illness to Mississippi Medicaid was an estimated $396 million.[6,7]

Quitting smoking has positive health benefits for smokers at any age and reduces the risks of developing smoking-related illnesses.[8,9] In 2015, 68% of US adult smokers said they wanted to quit smoking.[9] In 2018, over half of the adult smokers in the US reported attempting to quit smoking in the previous year.[10] Quitting smoking is very difficult, but medications and counseling have been shown to improve an individual's chances of quitting.

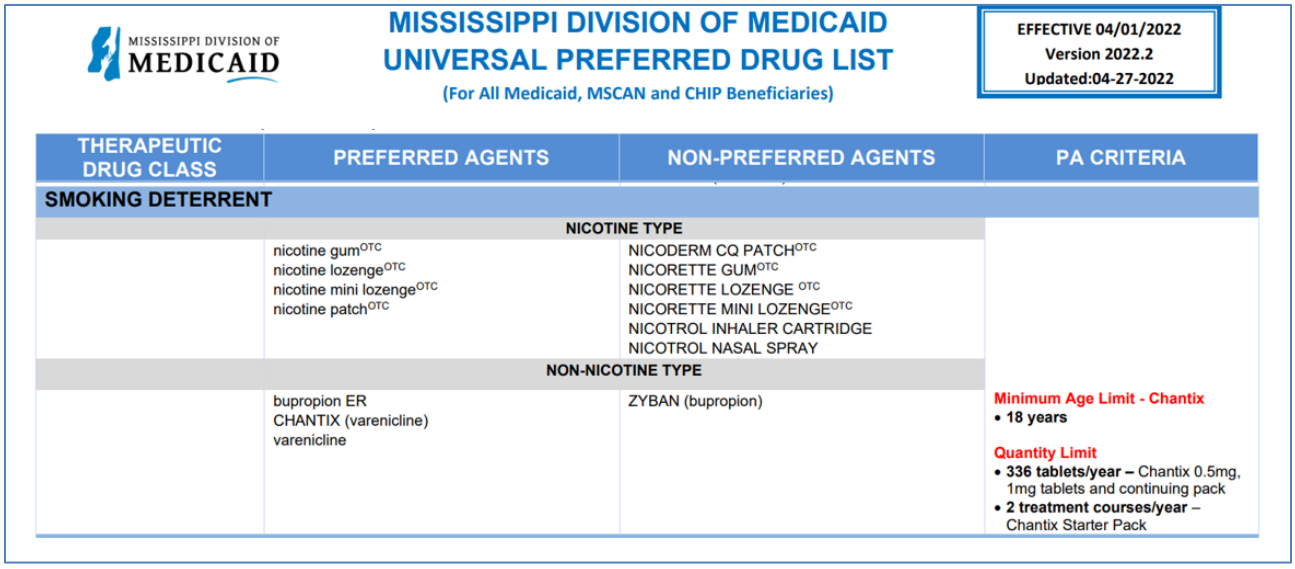
Medication therapy to aid in smoking cessation can be divided into two categories: nicotine replacement therapy (NRT) and non-nicotine medications. The Food and Drug Administration (FDA) has made NRT available by prescription or over-the-counter for adults 18 years or older.[11] Nicotine replacement therapy is available as gum, lozenge, patch, inhaler (prescription only), or nasal spray (prescription only). Prescription non-nicotine medications include bupropion hydrochloride (Zyban) and varenicline tartrate (Chantix), both available as generics.[11] In September 2021, Pfizer, the manufacturer of Chantix, began voluntarily recalling Chantix products from the market due to the presence of unacceptable N-nitroso-varenicline levels. Although

supply levels were impacted, generic and branded products with acceptable levels of N-nitroso-varenicline levels continue to be available.

In addition to medication therapy, behavioral support has also been shown to be effective in treating tobacco dependence. Evidence supports that both behavioral support and medication therapy are effective when used alone for the treatment of tobacco dependence; however, the combination of behavioral support and medication therapy is more effective than when receiving one alone.[12–14]

Medicaid coverage for medication treatment and counseling services varies across the US. According to data compiled by the American Lung Association in 2017, 32 states, including Mississippi, covered all seven FDA-approved cessation medications.[15] Figure 1 displays Mississippi Medicaid's current Universal Preferred Drug List (UPDL) for smoking cessation medications.

FIGURE 1: Medicaid Universal Preferred Drug List Version 2022.2[16]



MISSISSIPPI DIVISION OF MEDICAID

MISSISSIPPI DIVISION OF MEDICAID
UNIVERSAL PREFERRED DRUG LIST
(For All Medicaid, MSCAN and CHIP Beneficiaries)

EFFECTIVE 04/01/2022
Version 2022.2
Updated:04-27-2022

THERAPEUTIC DRUG CLASS	PREFERRED AGENTS	NON-PREFERRED AGENTS	PA CRITERIA
SMOKING DETERRENT			
	NICOTINE TYPE		
	nicotine gum[OTC] nicotine lozenge[OTC] nicotine mini lozenge[OTC] nicotine patch[OTC]	NICODERM CQ PATCH[OTC] NICORETTE GUM[OTC] NICORETTE LOZENGE [OTC] NICORETTE MINI LOZENGE[OTC] NICOTROL INHALER CARTRIDGE NICOTROL NASAL SPRAY	
	NON-NICOTINE TYPE		
	bupropion ER CHANTIX (varenicline) varenicline	ZYBAN (bupropion)	**Minimum Age Limit - Chantix** • **18 years** **Quantity Limit** • **336 tablets/year –** Chantix 0.5mg, 1mg tablets and continuing pack • **2 treatment courses/year** – Chantix Starter Pack

According to the same report, coverage for smoking cessation counseling varies depending on the type of therapy. Thirty-three states covered individual counseling for all beneficiaries, and 10 states covered individual counseling for certain beneficiaries. Ten states covered group counseling for all beneficiaries, and 20 states covered group counseling for certain beneficiaries.[15] Currently, Mississippi Medicaid covers smoking cessation counseling services for pregnant beneficiaries only.[17]

In addition to services covered by Medicaid, the Mississippi State Department of Health (MSDH) offers the Mississippi Tobacco Quitline. The Quitline offers a variety of tools that include "coaching and counseling, referrals, mailed materials, training to healthcare providers, web-based services and free nicotine replacement therapy (NRT)."[18]

For this report, MS-DUR assessed the utilization of smoking cessation medication treatment and counseling services.

METHODS

A retrospective analysis was conducted using medical and pharmacy point-of-sale (POS) claims for Mississippi Medicaid fee-for-service (FFS) and the coordinated care organizations [CCOs: UnitedHealthcare (UHC), Magnolia Health (MAG), and Molina Healthcare (MOL)] for the period of January 1, 2018 to December 31, 2021 to assess utilization of smoking cessation medication treatment among all Mississippi Medicaid beneficiaries and smoking cessation counseling use among pregnant beneficiaries.

POS Claims for bupropion, varenicline, and nicotine replacement therapy were identified using NDC codes. Acknowledging bupropion's use as an antidepressant, beneficiaries who had a diagnosis of nicotine dependence (ICD-10-CM code: F17.x) on or before the bupropion fill date were considered for this analysis when assessing utilization for smoking cessation. As a sensitivity analysis, smoking cessation treatment utilization was also assessed excluding claims for bupropion. For both scenarios, utilization was also assessed among a subgroup of pregnant beneficiaries during each year of the study period. All smoking cessation treatment claims in a particular year for beneficiaries with any pregnancy-related medical claims (using the CMS chronic conditions warehouse pregnancy-related codes) at any point in time during the particular year were considered for the pregnant beneficiaries' subgroup. Additionally, medical claims for smoking cessation counseling were identified using the following HCPCS codes: 99406, 99407, S9453, and 4000F (in accordance with the American Academy of Family Physicians coding reference for tobacco cessation counseling).[19] For analyses stratified by plan, plan was determined as of the claim date for the medical or pharmacy claim.

RESULTS

Table 1 displays the utilization of all smoking cessation medication products from 2018 through 2021. Of note:

- The total number of claims and beneficiaries treated showed minimal fluctuation from 2018 to 2021.
- A small portion of adult beneficiaries utilized these products.
- Bupropion products accounted for 72.6% of products prescribed, followed by varenicline at 15.5% and nicotine replacement at 11.5%.

Table 1: Utilization of All Smoking Cessation Products, 2018-2021										
Year	Total		FFS		UHC		MAG		MOL	
	#claims	#benes	#claims	#benes	#claims	#benes	#claims	#benes	#claims	#benes
	All Claims									
2018	11,573	4,346	1,818	911	4,238	1,602	5,437	1,990	80	66
2019	12,406	4,612	1,788	946	4,247	1,525	5,287	1,888	1,084	486
2020	11,898	4,135	1,758	882	4,103	1,369	4,569	1,533	1,468	578
2021	12,263	4,001	2,540	1,057	4,230	1,293	3,755	1,258	1,738	593
	All Claims for beneficiaries who were **pregnant** at any time during a particular year									
2018	618	324	64	49	261	141	276	144	17	14
2019	582	299	52	47	155	86	216	96	159	89
2020	623	297	158	101	163	76	171	84	131	72
2021	692	286	229	103	193	85	123	61	147	64

FFS: Fee-for-Service; UHC: United HealthCare; MAG: Magnolia; MOL: Molina
Pharmacy Plan identified as of prescription fill date.
Smoking cessation products included all NDCs for bupropion (72.6%), nicotine (11.5%), and varenicline (15.9%).
Since bupropion is also commonly used for depression, only those claims were considered for which the beneficiaries had an antecedent nicotine dependence diagnosis (ICD-10-CM code: F17.*).
For a particular year, all claims for beneficiaries with a pregnancy-related claim were considered for the subgroup of claims for pregnant beneficiaries.

Factoring out bupropion products, we see even fewer beneficiaries utilized the remaining cessation products. The total number of claims and beneficiaries treated decreased between 2018 and 2021.

Table 2: Utilization of Non-Bupropion Smoking Cessation Products, 2018-2021										
Year	Total		FFS		UHC		MAG		MOL	
	#claims	#benes	#claims	#benes	#claims	#benes	#claims	#benes	#claims	#benes
	All Claims									
2018	3,557	2,242	723	492	1,261	795	1,553	981	20	19
2019	3,987	2,385	793	524	1,303	751	1,567	959	324	201
2020	3,172	1,928	611	412	1,076	638	1,123	691	362	230
2021	2,476	1,513	519	349	897	490	735	489	325	198
	All Claims for beneficiaries who were **pregnant** at any time during a particular year									
2018	136	107	17	15	64	49	51	43	4	4
2019	151	97	17	15	43	27	47	33	44	25
2020	122	88	25	20	35	26	39	28	23	18
2021	78	61	17	14	32	20	15	14	14	13

FFS: Fee-for-Service; UHC: United HealthCare; MAG: Magnolia; MOL: Molina
Pharmacy Plan identified as of prescription fill date.
For a particular year, all claims for beneficiaries with a pregnancy-related claim were considered for the subgroup of claims for pregnant beneficiaries.

As referenced earlier in the report, smoking cessation counseling is currently only available for pregnant beneficiaries in Mississippi Medicaid. A far greater number of pregnant beneficiaries received smoking cessation counseling compared to the number that received medication therapy.

Table 3: Utilization of Smoking Cessation Counseling, 2018-2021

Year	Total		FFS		UHC		MAG		MOL	
	#claims	#benes	#claims	#benes	#claims	#benes	#claims	#benes	#claims	#benes
2018	6,428	3,476	1,605	957	2,156	1,198	2,598	1,369	41	21
2019	8,709	3,670	2,561	1,170	2,337	1,069	3,252	1,306	507	224
2020	9,454	3,291	2,164	1,079	2,492	956	3,938	1,064	803	269
2021	7,541	3,203	2,236	1,164	1,965	869	2,656	911	658	324

FFS: Fee-for-Service; UHC: United HealthCare; MAG: Magnolia; MOL: Molina
Pharmacy Plan identified as of prescription fill date.
HCPCS codes used to identify medical claims for smoking cessation counseling: 99406, 99407, S9453, 4000F
(source: American Academy of Family Physicians Coding Reference.
https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/codes-tobacco-cessation-counseling.pdf)

CONCLUSIONS

Smoking is a major health concern with many negative effects associated with its use. Smoking rates have been found to be higher among Medicaid populations compared to the general population. Although smoking cessation medications are currently available on the UPDL, limited utilization has occurred in recent years. Currently through Medicaid, smoking cessation counseling is only available to pregnant beneficiaries and utilization exceeds that of medication therapy in this population. Medicaid should seek opportunities to increase beneficiary uptake of smoking cessation therapy.

RECOMMENDATIONS

1. DOM should conduct educational interventions to increase the awareness of smoking cessation services offered and products covered. These interventions should target prescribers, pharmacists, and beneficiaries.

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ASSESSMENT OF PREDICTORS OF SEVERE MATERNAL MORBIDITY AMONG PREGNANT MEDICAID BENEFICIARIES
-PROJECT PROPOSAL -

BACKGROUND

Maternal health can be considered a key indicator of the overall health of a society. The United States has the highest maternal mortality rate among developed countries with approximately 700 maternal deaths occurring annually.[1,2] Additionally, it is estimated that as many as 60,000 incidences of severe maternal morbidity (SMM) occur annually.[1] SMM is defined by the CDC as "unexpected outcomes of labor and delivery that result in significant short- or long-term consequences to a woman's health."[3] The annual rate of severe maternal morbidity per 10,000 delivery hospitalizations in the US has consistently increased over the years from 49.5 in 1993 to 144 in 2014.[4] Improving maternal morbidity and overall maternal health is a priority focus area for the Mississippi Division of Medicaid.

Several risk factors associated with severe maternal morbidity and mortality have been identified in the literature. Factors such as increased maternal age, certain racial/ethnic minorities, pre-pregnancy obesity, preexisting chronic medical conditions, and cesarean delivery have all been potentially associated with increased maternal morbidity and mortality.[5–12] In addition to these risk factors, social determinants of health, such as unmarried status, lower education, and rural residence, have also been found to be associated with higher maternal mortality.[12,13]

The objective of this project is to assess the relationship between risk factors and severe maternal morbidity events among pregnant Medicaid beneficiaries in Mississippi. For this report, MS-DUR is presenting a project proposal along with descriptive characteristics of the study sample identified in claims data.

METHODS

A retrospective analysis was conducted using Mississippi Medicaid fee-for-service (FFS) and coordinated care organization [CCOs: UnitedHealthcare (UHC), Magnolia (MAG), and Molina (MOL)] claims for the period of January 1, 2018 to December 31, 2021 to assess predictors of Severe Maternal Morbidity (SMM). Medicaid beneficiaries between the ages of 12-55 years with a pregnancy episode were identified between January 1, 2018 to December 31, 2020 (identification period).

Beneficiaries with pregnancy episodes were identified using the ICD 10 codes for live birth (Z37.0, Z37.2, Z37.50, Z37.51, Z37.52, Z37.53, Z37.54, Z37.59, Z37.3, Z37.60, Z37.61, Z37.62, Z37.63, Z37.64, Z37.69, O80) or stillbirth (Z37.1, Z37.4, Z37.7, O36.4XX0, O36.4XX1, O36.4XX2, O36.4XX3, O36.4XX4, O36.4XX5, O36.4XX9) from any diagnosis field in medical claims (Inpatient, Outpatient and Medical files) as per the criteria used by Moll et.al.[14] The date of service for the claim for live

or stillbirth thus identified was assigned as the pregnancy end date. The type of term associated with the delivery was determined using ICD-10-CM codes for preterm status (O6010X0-9, O6012X0-9, O6013X0-9, O6014X0-9, O42011-9, O42111-9, O42911-9) or full-term status (O6020X0-9, O6022X0-9, O6023X0-9, O4202, O4292, O471, O80). Only the first pregnancy episode within the identification period was included in this analysis. The start date of each pregnancy event was determined using the criteria of 245 days before the pregnancy end date for pregnancies that were identified as preterm and 270 days before the pregnancy end date for all other pregnancies.[15] For those pregnancy end dates for which the term could not be identified using the previous step, the week of gestation associated with the end date was determined using ICD codes Z3A01-42 and the start date was calculated using the formula: (pregnancy end date - week of gestation*7 +1) following the methodology of Moll et.al.[14] Finally, those individuals that were not continuously enrolled during the pregnancy episode, were age less than 12 years or more than 55 years, or had missing plan information were excluded from the final sample. Due to a very low number of beneficiaries who died within 365 days following the cohort entry date, this outcome could not be analyzed. Therefore, beneficiaries who died were excluded from the cohort.

Predictor Variables

Sociodemographics:

Sociodemographic predictors such as age as of cohort entry date and race will be included in the regression analysis as maternal characteristics associated with SMM such as higher maternal age at delivery and race, especially Black women and women residing in the southern region, have been reported to have a higher likelihood of experiencing SMM after delivery.[16]

Continuity of Care:

Prenatal (time period from pregnancy start to pregnancy end date) and post-natal (time period from the pregnancy end date to the occurrence of 1st SMM episode) Continuity of Care Index (COCI) will be assessed. COCI is a numeric indicator reflecting the extent to which an individual's total number of visits during a specific period are with a given provider or a group of referred providers.[17] COCI is an indicator reflecting the extent to which an individual sees a given provider (or provider group) over a specified period of time. Lack of continuity of care has been highlighted as a risk factor for worse maternal outcomes making it an important predictor of SMM. However, there is a dearth of literature on the characterization of COCI among pregnant women using claims data.

Social Determinants of Health

Social determinants, such as unmarried status, lower education, and rural residence, have been reported in the literature to be associated with worse maternal outcomes.[12,13] To account for the physical environment of the patient, their 5 digit Federal Information Processing System (FIPS) code for their county of residence will be mapped to the CDC's Social Vulnerability Index (SVI) for counties in Mississippi in 2018, which summarizes the socioeconomic status, disability, transportation, housing conditions, etc. in a community. County-level factors will be assessed and categorized.[18] Additionally, since food environment is not summarized in the SVI, the Food

Environment Index from County Health Rankings for all counties in Mississippi in the year 2018 will be used to summarize this factor.[19]

Clinical Characteristics

The Maternal Comorbidity Index will be measured and the association between the Maternal Comorbidity Index and study outcomes will be assessed. The Maternal Comorbidity Index is a simple measure that captures the burden of chronic, behavioral, and pregnancy-induced conditions at an individual level.[20] (Figure 1) It was developed and validated to predict the occurrence of acute maternal end-organ injury and mortality.[20] It has been found that Maternal Comorbidity Index is associated with an increased risk of SMM and delivery-related mortality.[21,22]

Figure 1. Maternal Comorbidity Index

Condition	Weight	ICD-10 Codes
Severe preeclampsia	5	O14.1
Chronic congestive heart failure	5	I50.22, I50.23, I50.32, I50.33, I50.42, I50.43
Congenital heart disease	4	Q20, Q21, Q22, Q23, Q24, Q25, Q26
Sickle cell disease	3	D57.00 , D57.01, D57.02, D57.211, D57.212, D57.219, D57.411, D57.412, D57.419, D57.811, D57.812, D57.819, (5th digit: unspecified, acute chest syndrome or splenic sequestration)
Multiple gestations	2	O30
Cardiac valvular disease	2	I05.0, I05.1, I05.2, I05.8
Systemic lupus erythematosus	2	M32
Human immunodeficiency virus	2	B20, Z21
Mild preeclampsia or unspecified preeclampsia	2	O14.0, O14.9
Drug abuse	2	F11.1, F12.1, F13.1, F14.1, F15.1, F16.1, F18.1, F19.1
Placenta previa	2	O44
Chronic renal disease	1	N26.9, N18
Preexisting hypertension	1	O10
Previous cesarean birth	1	O34.21, O34.22
Gestational hypertension	1	O13
Alcohol abuse	1	F10.1
Asthma	1	J45
Preexisting diabetes mellitus	1	O24.0, O24.1, O24.3, O24.8
Maternal Age		-
35-39 years	1	-

40-44 years	2	-
45-49 years	3	-

The Centers for Disease Control and Prevention (CDC)'s Maternal Mortality Review Committees (MMRCs) have identified a series of critical underlying causes of pregnancy-related death.[23] The underlying cause of death is the disease or injury that initiated the chain of events leading to death or the circumstances of the accident or violence which produced the fatal injury. The diseases or injuries that are listed on the MMRC Decision form and not included in the Maternal Comorbidity Index will also be captured. Both Maternal Comorbidity Index and underlying cause of pregnancy-related death will be identified in the medical claims (from pregnancy start to occurrence of 1st SMM episode) for each study subject.

Case and control definitions

Cases will be defined as beneficiaries who had any severe maternal morbidity (SMM) - identified in accordance with the criteria put forth by the Centers for Disease Control Prevention (CDC), which defines SMM as one of the 21 conditions in Figure 2. [24] The ICD-10-CM diagnosis and procedure codes will be used to identify SMM in the 365 days post the cohort entry date (date of delivery) which is the outcome identification period. Controls will be defined as beneficiaries from the study cohort who did not have any SMM at the time of matching. Two controls will be identified for each case using risk set sampling. This method allows for random sampling from eligible controls, such that each control has an equal or greater time at risk of SMM as compared to the matched case. This approach further allows for controls to serve as future cases and for one beneficiary to serve as a control for more than one case. Cases and controls will be matched on time of cohort entry, and controls will be assigned the matched case index date.

Figure 2: Severe Maternal Morbidity Indicators

1. Acute myocardial infarction	I21.01, I21.02, I21.09, I21.11, I21.19, I21.21, I21.29, I21.3, I21.4, I21.9, I21.A1 and I21.A9, I22.0, I22.1, I22.2, I22.8, I22.9
2. Aneurysm	I71.00 – I71.03, I71.1, I71.2, I71.3, I71.4, I71.5, I71.6, I71.8, I71.9, I79.0
3. Acute renal failure	N17.0, N17.1, N17.2, N17.8, N17.9, O90.4
4. Adult respiratory distress syndrome	J80, J95.1, J95.2, J95.3, J95.821, J95.822, J96.00, J96.01, J96.02, J96.20, J96.21, J96.22, R09.2
5. Amniotic fluid embolism	O88.11x*, O88.12 (childbirth), O88.13 (puerperium) * x=1st, 2nd and 3rd trimester
6. Cardiac arrest/ventricular fibrillation	I46.2, I46.8, I46.9, I49.01*, I49.02**; * Ventricular fibrillation, ** Ventricular flutter
7. Conversion of cardiac rhythm	5A2204Z, 5A12012

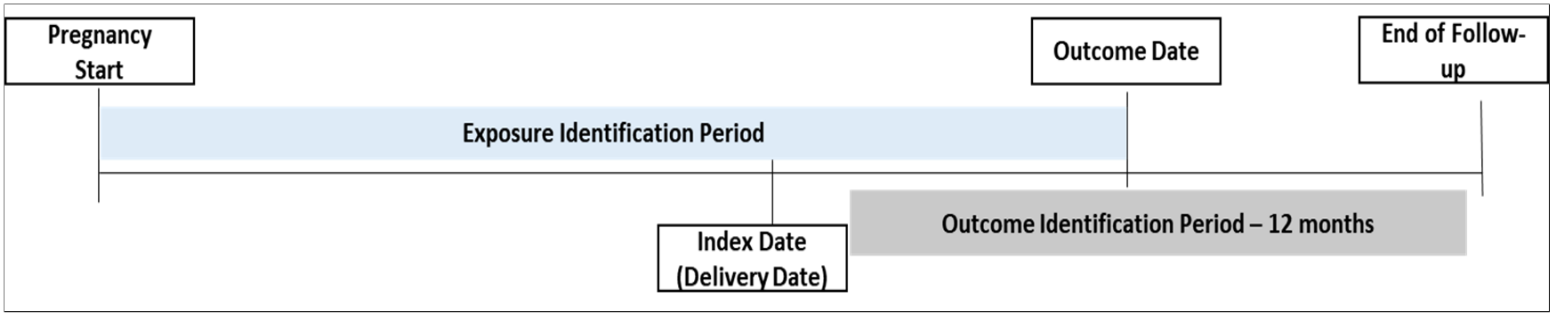
8. Disseminated intravascular coagulation	D65, D68.8, D68.9, O72.3* *see comments for pregnancy-related codes
9. Eclampsia	O15.00, O15.02, O15.03, O15.1, O15.2, O15.9, O14.22 – HELLP syndrome (HELLP), second trimester, O14.23 – HELLP syndrome (HELLP), third-trimester HELLP syndrome is not included currently (ranges in severity, more research is needed)
10. Heart failure/arrest during surgery or procedure	I97.120, I97.121, I97.130, I97.131, I97.710, I97.711
11. Puerperal cerebrovascular disorders	- I60.0x, I60.1x, I60.2, I60.3x, I60.4, I60.5x, I60.6, I60.7, I60.8, I60.9; I61.1, I61.2, I61.3, I61.4, I61.5, I61.6, I61.8, I61.9; I62.0x, I62.1, I62.9;I63.0xx, I63.1xx, I63.2xx, I63.3xx, I63.4xx , I63.5xx, I63.6, I63.8, I63.9; I65.0x, I65.1, I65.2x, I65.8, I65.9; I66.0x, I66.1x, I66.2x, I66.3, I66.8, I66.9; I67.0, I67.1, I67.2, I67.3, I67.4, I67.5, I67.6, I67.7, I67.8xx, I67.9; I68.0, I68.2, I68.8; O22.51, O22.52, O22.53, I97.810, I97.811, I97.820, I97.821, O87.3 674.0x – no crosswalk
12. Pulmonary edema and acute heart failure	J81.0, I50.1, I50.20, I50.21, I50.23, I50.30, I50.31, I50.33, I50.40, I50.41, I50.43, I50.9; (-) Add 5th character: 0=unspecified 1=acute 2=chronic 3=acute on chronic 0=unspecified – keep since it is commonly used among health care providers terminology in medical records
13. Severe anesthesia complications	O74.0 , O74.1, O74.2, O74.3, O89.01*, O89.09, O89.1, O89.2 *O89.01 Aspiration – decided to keep due to difficulties of separation from "Aspiration Pneumonitis"
14. Sepsis	- O85, O86.04, T80.211A, T81.4XXA, T81.44, T81.44XA, T81.44XD, T81.44XS Or severity: R65.20, or A40.0, A40.1 , A40.3 , A40.8, A40.9, A41.01, A41.02, A41.1, A41.2, A41.3, A41.4, A41.50, A41.51, A41.52, A41.53, A41.59, A41.81, A41.89, A41.9, A32.7
15. Shock	O75.1, R57.0, R57.1, R57.8, R57.9, R65.21, T78.2XXA, T88.2XXA , T88.6XXA, T81.10XA, T81.11XA, T81.19XA
16. Sickle cell disease with crisis	D57.00 , D57.01, D57.02, D57.211, D57.212, D57.219, D57.411, D57.412, D57.419, D57.811, D57.812, D57.819, (5th digit: unspecified, acute chest syndrome or splenic sequestration)
17. Air and thrombotic embolism	I26.01, I26.02, I26.09, I26.90, I26.92, I26.99 O88.011-O88.019, 088.02, O88.03, O88.211-O88.219, O88.22, O88.23, O88.311-O88.319, O88.32, O88.33, O88.81, O88.82, O88.83 * I26.0 – Pulmonary embolism with acute cor pulmonale external icon (acute right ventricle heart failure)
18. Blood products transfusion	99.0x à 160 ICD-10-PCS codes The most common, •30233H1 Transfusion of Nonautologous Whole Blood into Peripheral Vein, Percutaneous Approach •30233K1 Transfusion of Nonautologous Frozen Plasma into Peripheral Vein, Percutaneous Approach •30233L1 Transfusion of Nonautologous Fresh Plasma into Peripheral Vein, Percutaneous Approach

	•30233M1 Transfusion of Nonautologous Plasma Cryoprecipitate into Peripheral Vein, Percutaneous Approach •30233N1 Transfusion of Nonautologous Red Blood Cells into Peripheral Vein, Percutaneous Approach •30233P1 Transfusion of Nonautologous Frozen Red Cells into Peripheral Vein, Percutaneous Approach •30233R1 Transfusion of Nonautologous Platelets into Peripheral Vein, Percutaneous Approach •30233T1 Transfusion of Nonautologous Fibrinogen into Peripheral Vein, Percutaneous Approach •30240H1 Transfusion of Nonautologous Whole Blood into Central vein, open approach •30240K1 Transfusion of Nonautologous Frozen Plasma into Central vein, open approach •30240L1 Transfusion of Nonautologous Fresh Plasma into Central vein, open approach •30240M1 Transfusion of Nonautologous Plasma Cryoprecipitate into Central vein, open approach •30240N1 Transfusion of Nonautologous Red Blood Cells into Central vein, open approach •30240P1 Transfusion of Nonautologous Frozen Red Cells into Central vein, open approach •30240R1 Transfusion of Nonautologous Platelets into Central vein, open approach •30240T1 Transfusion of Nonautologous Fibrinogen into Central vein, open approach •30243H1 Transfusion of Nonautologous Whole Blood into Central vein, percutaneous approach •30243K1 Transfusion of Nonautologous Frozen Plasma into Central vein, percutaneous approach •30243L1 Transfusion of Nonautologous Fresh Plasma into Central vein, percutaneous approach •30243M1 Transfusion of Nonautologous Plasma Cryoprecipitate into Central vein, percutaneous approach •30243N1 Transfusion of Nonautologous Red Blood Cells into Central vein, percutaneous approach •30243P1 Transfusion of Nonautologous Frozen Red Cells into Central vein, percutaneous approach •30243R1 Transfusion of Nonautologous Platelets into Central vein, percutaneous approach •30243T1 Transfusion of Nonautologous Fibrinogen into Central vein, percutaneous approach •30233N0 Transfusion of Autologous Red Blood Cells into Peripheral Vein, Percutaneous Approach •30233P0 Transfusion of Autologous Frozen Red Cells into Peripheral Vein, Percutaneous Approach

	•30240N0 Transfusion of Autologous Red Blood Cells into Central vein, open approach •30240P0 Transfusion of Autologous Frozen Red Cells into Central vein, open approach •30243N0 Transfusion of Autologous Red Blood Cells into Central vein, percutaneous approach •30243P0 Transfusion of Autologous Frozen Red Cells into Central vein, percutaneous approach
19. Hysterectomy	0UT90ZZ, 0UT94ZZ, 0UT97ZZ, 0UT98ZZ, 0UT9FZZ
20. Temporary tracheostomy	0B110Z4, 0B110F4, 0B113Z4, 0B113F4, 0B114Z4, 0B114F4
21. Ventilation	5A1935Z, 5A1945Z, 5A1955Z

Figure 3 provides a visual model of the study design.

Figure 3: Study Design



RESULTS

Information on beneficiary age, race, and plan (FFS/MAG/UHC/MOL) for each pregnancy episode were summarized in the analysis (Table 1). Age and plan were determined as of the start date of the pregnancy episode.

- The majority of the study sample were in the 18-30 years age group (75.3%), African American (64.4%), and enrolled in fee-for-service (52.4%).

Table 1: Demographics of Beneficiaries Enrolled in Mississippi Medicaid with a Pregnancy Episode January 1, 2018 - December 31, 2020

Characteristics	Total		Plan at Pregnancy Start							
			FFS		UHC		MAG		MOL	
	N	%	N	%	N	%	N	%	N	%
Age Category										
12-18	881	7.9%	136	2.3%	288	14.3%	403	15.0%	54	9.1%
18-30	8,375	75.3%	4,813	82.6%	1,356	67.6%	1,776	65.9%	430	72.5%
31-40	1,798	16.2%	847	14.5%	351	17.5%	492	18.3%	108	18.2%
41-55	65	0.6%	30	0.5%	12	0.6%	22	0.8%	1	0.2%
Total	**11,119**		**5,826**		**2,007**		**2,693**		**593**	
Race										
Caucasian	3,553	32.0%	2,020	34.7%	636	31.7%	740	27.5%	157	26.48%
African American	7,158	64.4%	3,580	61.4%	1,303	64.9%	1,866	69.3%	409	69.0%
Hispanic	120	1.1%	50	0.9%	32	1.6%	30	1.1%	8	1.3%
American Indian	68	0.6%	62	1.1%	-	0.0%	3	0.1%	3	0.5%
Other	220	2.0%	114	2.0%	36	1.8%	54	2.0%	16	2.7%
Total	**11,119**		**5,826**		**2,007**		**2,693**		**593**	

Note: *FFS - Fee-for-Service; UHC - UnitedHealthcare; MAG - Magnolia Health; MOL - Molina Healthcare; *Pregnancy episodes included were live birth and still births and only the 1st pregnancy episode was included.

Table 2 describes the SMM conditions identified for the included pregnancy episodes, stratified by plan.

- 359 beneficiaries had any SMM.
- The most common SMMs observed were shock (N=83, 23.1%), pulmonary edema, and acute heart failure (N=83, 23.1%). These were followed by puerperal cerebrovascular disorders (N=49, 13.6%), eclampsia (N=41, 11.4%), and air and thrombotic embolism (N=40, 11.1%).

Table 2: Description of Severe Maternal Morbidity among Beneficiaries Enrolled in Mississippi Medicaid with a Pregnancy Episode January 1, 2018 - December 31, 2020

Conditions	Total		Plan at Pregnancy Start							
			FFS		UHC		MAG		MOL	
	N	%	N	%	N	%	N	%	N	%
Any SMM**	**359**		**157**		**83**		**97**		**22**	
1. Acute myocardial infarction	9	2.5%	5	3.2%	2	2.4%	2	2.1%	0	0.0%
2. Aneurysm	2	0.6%	2	1.3%	0	0.0%	0	0.0%	0	0.0%
3. Acute renal failure	41	11.4%	23	14.6%	7	8.4%	10	10.3%	1	4.5%
4. Adult respiratory distress syndrome	53	14.8%	31	19.7%	10	12.0%	11	11.3%	1	4.5%
5. Amniotic fluid embolism	4	1.1%	0	0.0%	2	2.4%	1	1.0%	1	4.5%
6. Cardiac arrest/ventricular fibrillation	4	1.1%	1	0.6%	2	2.4%	1	1.0%	0	0.0%
7. Conversion of cardiac rhythm	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
8. Disseminated intravascular coagulation	26	7.2%	9	5.7%	6	7.2%	10	10.3%	1	4.5%
9. Eclampsia	41	11.4%	18	11.5%	13	15.7%	8	8.2%	2	9.1%
10. Heart failure/arrest during surgery or procedure	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
11. Puerperal cerebrovascular disorders	49	13.6%	20	12.7%	10	12.0%	18	18.6%	1	4.5%
12. Pulmonary edema and acute heart failure	83	23.1%	39	24.8%	16	19.3%	23	23.7%	5	22.7%
13. Severe anesthesia complications	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
14. Sepsis	83	23.1%	38	24.2%	19	22.9%	21	21.6%	5	22.7%
15. Shock	23	6.4%	11	7.0%	5	6.0%	3	3.1%	4	18.2%
16. Sickle cell disease with crisis	9	2.5%	2	1.3%	5	6.0%	2	2.1%	0	0.0%
17. Air and thrombotic embolism	40	11.1%	21	13.4%	9	10.8%	9	9.3%	1	4.5%
18. Blood products transfusion	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19. Hysterectomy	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
20. Temporary tracheostomy	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
21. Ventilation	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Note: *FFS - Fee-for-Service; UHC - UnitedHealthcare; MAG - Magnolia Health; MOL - Molina Healthcare; *Pregnancy episodes included were live birth and stillbirths, only the first pregnancy was considered for analysis. **SMM (Severe Maternal Morbidity) conditions were identified using ICD Codes in the 365 days following the end date of the pregnancy episode. SMM was identified using ICD-10-CM diagnosis and procedure codes as defined by CDC. ** Individuals could have multiple SMMs, therefore, the total percentage will add up to more than 100%.

Table 3 describes the age and race distribution among the cases and matched controls, stratified by plan.

Table 3: Demographics of Cases and Matched Controls Enrolled in Mississippi Medicaid with Pregnancy Episodes January 1, 2018 - December 31, 2020

Characteristics	Plan at Pregnancy Start									
	Total		FFS		UHC		MAG		MOL	
	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls
Age Category										
12-18	24	53	2	11	9	15	10	25	3	2
18-30	239	542	116	300	49	95	59	138	15	9
31-40	88	120	37	46	21	33	26	37	4	4
41-55	8	3	2	0	4	0	2	3	0	0
Total	**359**	**718**	**157**	**357**	**83**	**143**	**97**	**203**	**22**	**15**
Race										
Caucasian	99	234	43	133	31	41	16	57	9	3
African American	249	453	106	209	49	96	0	137	13	11
Hispanic	0	15	0	6	0	3	0	6	0	0
American Indian	4	4	4	3	0	0	81	1	0	0
Other	7	12	4	6	3	3	0	2	0	1
Total	**359**	**718**	**157**	**357**	**83**	**143**	**97**	**203**	**22**	**15**

Note: *Cases were beneficiaries with any SMM (Severe Maternal Morbidity) conditions . Controls were beneficiaries with no SMM and were matched to the cases in 2:1 ratio based on index date(delivery date) using incidence density sampling . *FFS - Fee-for-Service; UHC - UnitedHealthcare; MAG - Magnolia Health; MOL - Molina Healthcare .

INPUT

MS-DUR is seeking input from the DUR board on the overall design of the project with specific insights in reference to:

- How should COCI be defined in this study? (prenatal vs postnatal; length of time to include; which provider visits should be considered for inclusion in the COCI calculations in each of the two phases)
- Are there any additional risk factors or predictor variables that should be included?

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FDA DRUG SAFETY COMMUNICATIONS

March 2022 – June 2022

- 6/1/2022 FDA approval of lymphoma medicine Ukoniq (umbralisib) is withdrawn due to safety concerns

- 3/30/2022 FDA recommends thyroid monitoring in babies and young children who receive injections of iodine-containing contrast media for medical imaging

APPENDIX

Division of Medicaid
Drug Utilization Review Board
By-Laws

Article I. Purpose

The Drug Utilization Review Board (DUR) is a requirement of the Social Security Act, Section 1927. The purpose of the DUR Board is to provide clinical guidance to the Division of Medicaid (DOM) regarding the utilization of pharmaceutical products within the Mississippi Medicaid program. The DUR Board makes recommendations to DOM to promote patient safety and cost effective care in the Mississippi Medicaid program. The DUR Board shall advise DOM with respect to the content of medical criteria and standards for utilization management strategies including prospective drug prior authorization (PA), concurrent patient management, retrospective drug utilization review, and educational intervention programs. DOM retains the authority to accept or reject the recommendations by the DUR Board.

Article II. Membership

Section 1 – Board Composition

A. The DUR Board will consist of not less than twelve (12) voting members.
B. The DUR Board voting members will be comprised of at least one-third (1/3), but no more than fifty-one percent (51%), licensed and actively practicing physicians and at least one-third (1/3) licensed and actively practicing pharmacists. Voting members may consist of health care professionals with knowledge/expertise in one or more of the following:
   1) Prescribing of drugs,
   2) Dispensing and monitoring of drugs,
   3) Drug use review, evaluation, and intervention,
   4) Medical quality assurance.
C. Non-voting board members consist of the Division of Medicaid (DOM) Executive Director, Office of Pharmacy pharmacists, DUR Coordinator, the DUR contractor and Medical Director.

Section 2 – Appointment selection methodology

A. DOM's Office of Pharmacy in consultation with officially recognized state professional healthcare associations recommends potential, qualified new candidates for appointment or reappointment of existing board members to DOM's Executive Director.
B. Nominations are considered internally and appointments are given final approval by the DOM Executive Director.
C. Board members are appointed by the Governor of the State of Mississippi, or Governor's designee, pursuant to state law.

Section 3 - Term of Office

A. All members are appointed for three year terms following a staggered appointment fulfillment as follows: one-third of DUR Board members shall be appointed each term. All subsequent appointments shall be for terms of three years from the expiration date of the previous term.
B. Members may serve up to three consecutive three-year terms (for a total of nine consecutive years).
C. Members may serve for either an extended term or a fourth consecutive term at the discretion of the Executive Director and by recommendation of both the DUR Coordinator and Division of Medicaid Office of Pharmacy in the event that no qualified, willing candidate is found in sufficient time. Members, including those filling vacated positions, may be re-appointed by the Executive Director for a subsequent term.
D. In the event of an unexpected or expected vacancy, the DUR Coordinator and Office of Pharmacy may recommend a qualified replacement candidate to DOM's Executive Director for emergency approval.
E. The Executive Director shall fill any vacancy before the end of the term, and the person appointed to fill the vacancy shall serve for the remainder of the unexpired term. Members, including those filling vacated positions, may be re-appointed by the Executive Director for a subsequent term.

Section 4 - Attendance

A. Members are required to attend at least fifty percent of the meetings per year. Failure to attend meetings without an explanation of extenuating circumstances will result in the termination of the member's appointment.
B. Members are asked to give advance notice regarding any planned absences so that a quorum may be determined prior to meetings.

Section 5 - Resignation

A member of the DUR Board may resign by giving a 30 day written advance notice to the DUR Board Chair and DUR Coordinator.

Section 6 - Removal

A member of the DUR Board may be removed by either the DUR Board Chair or majority vote of the DUR Board for good cause. Good cause may be defined as one or more of the following conditions:

A. Lack of attendance –failure to attend at least 50% of the scheduled DUR meetings shall constitute a resignation by said DUR Board member,
B. Identified misconduct or wrongdoing during any DUR Board term, or

C. Not disclosing a conflict of interest either upon initial disclosure or throughout the rest of the term.

Section 7 - Board Officers

At the first meeting of the state fiscal year, which constitutes July 1 through June 30, board members shall select two members to serve as Chair and Chair-Elect of the board, respectively. The Chair and Chair-Elect shall both serve one year terms. At the end of the serving year, the Chair-Elect assumes the role of Chair, and a new Chair-Elect will be chosen.

If the persons serving as Chair and Chair-Elect have either previously served as Chair or Chair-Elect, that person may be reelected to either posting.

The Chair-Elect will serve as Chair in absentia of the Chair or by the Chair's request.

Section 8 – Reimbursement

The Division of Medicaid will reimburse DUR Board members for travel related expenses.

Article III. Meetings

Section 1 – Frequency

The DUR Board shall meet at least quarterly, and may meet at other times as necessary for the purpose of conducting business that may be required. The DUR Board Chair, a majority of the members of the board, or the Division of Medicaid Office of Pharmacy and DUR Coordinator, shall maintain the authority of calling DUR meetings.

Section 2 – Regular Meetings

The DUR Board will hold regular quarterly meetings in the city of Jackson, Mississippi. Meetings will occur at the predesignated time and place. Dates for the upcoming year's quarterly meetings will be posted before the first quarterly meeting of the upcoming year.

Section 3 – Special Meetings

The DUR Board may meet at other times other than regular quarterly meetings as deemed necessary and appropriate. The DUR Coordinator and Office of Pharmacy must notify DUR Board members of any special meeting at least two weeks, i.e., ten (10) days, prior to the requested meeting date. Special meetings may be requested by the following officials:

A. Division of Medicaid Executive Director,
B. DUR Coordinator and Office of Pharmacy,
C. DUR Board Chair, or
D. Majority of DUR Board members via communication to DUR Coordinator and/or DUR Board Chair.

Section 4 – Meeting Notice

DUR Board members will be notified of the location for the meeting a minimum of ten (10) days in advance. Notification may include one or a combination of the following methods: e-mail, fax, or other written communication. DUR Board members are required to keep on file with
DOM Office of Pharmacy his or her address, primary phone number, alternate phone number (i.e., cell), fax number, and email address to which notices and DUR related communications may be submitted.

Meetings may be cancelled due to lack of quorum, severe inclement weather, or other reasons as determined by the DUR Coordinator and Office of Pharmacy. In the event of a cancellation, the DUR Coordinator and DOM Pharmacy staff will communicate with DUR Board members regarding the meeting cancellation as soon as circumstances permit. Notifications shall also be posted with DFA and on DOM's website to ensure that the public is notified of any meeting cancellation.

DUR Board Meetings shall be open to the public and conducted in accordance with state law, specifically the Open Meetings Act. Notice of any meetings held shall be provided at least five (5) days in advance of the date scheduled for the meeting. The notice shall include the date, time, place and purpose for the meeting and shall identify the location of the meeting to the general public.

Section 5 – Meeting Sign-In

All meeting attendees will be required to sign-in at the meeting entrance for DUR meetings. Sign-in sheets will be logged, scanned and transferred to electronic medium for official records. All attendees shall include participant's name and entity represented (as applicable).

Section 6 – Quorum

A simple majority of voting board members shall constitute a quorum and must be present for the transaction of any business of the board. For a fully-appointed 12-person DUR Board as required by state law, seven voting board members constitutes a quorum. If a quorum is not present, the Chair, Chair-Elect or DUR Coordinator maintains the responsibility to conclude meeting proceedings. Meeting minutes shall reflect that a quorum was not present.

Section 7 – Voting

The voting process shall be conducted by the Chair or the Chair-Elect in absentia of the Chair.

All board recommendations shall begin with a motion by a voting board member. The motion may then be seconded by a voting board member. If a recommendation does not receive a second motion, the motion shall not pass. If a recommendation receives a second motion, then the board shall vote on the motion. A motion shall be considered as passed if the motion carries a majority of votes if a quorum of the board is present.

In the event that a motion receives a tie vote in the presence of a quorum, the motion shall not pass. The motion can be brought up for further discussion after which a subsequent motion may be made to vote on the issue again during the same meeting, or a motion can be made to table the issue and discussion until the next quarterly DUR Board meeting.

A vote abstention occurs when a voting member is present for the meeting and the action but has chosen not to vote on the current motion. An abstention is a vote with the majority on the measure. A recusal, on the other hand, is necessitated when a voting member has a conflict of interest or potential pecuniary benefit resulting from a particular measure. In order to properly and completely recuse oneself from a matter, the DUR Board member must leave the room or area where discussions, considerations, or other actions take place

before the matter comes up for discussion. The member must remain absent from the meeting until the vote is concluded. The minutes will state the recusing member left the room before the matter came before the DUR Board and did not return until after the vote.

Section 8 – Minutes

A public body speaks only through its minutes. State law, specifically the Open Meetings Act, requires minutes be kept of all meetings of a public body, whether in open or executive session, showing the following:

A. Members present or absent,
B. Date, time and place of meeting,
C. Accurate recording of any final actions taken,
D. Record, by individual member, of how s/he voted on any final action, and
E. Any other information that the public body requests is reflected in the minutes.

The minutes shall be finalized no later than thirty (30) days after the adjournment of the DUR Board meeting and shall be made available for public inspection. DOM Office of Pharmacy posts all DUR Board Minutes on the DUR webpage.

Section 9 – Speakers & Special Topics

DUR Board members may request various healthcare, industry, or specialized professionals to present at DUR meetings regarding a posted topic on an upcoming DUR agenda.

A. The DUR Board may allow up to 20 minutes for topic presentation by an invited speaker.
B. DUR Board Members may ask a member of the audience to provide information on a topic being discussed by the Board. Invited participants may be asked to disclose any potential conflicts of interests if applicable. (See Article IV, Section 1).
C. Members of the audience may not speak unless so designated at the appropriate time by a DUR Board member.
D. DUR Board Members, both voting and non-voting, maintain speaking privileges at DUR meetings.
E. Contracted employees of DOM and employees of other DOM vendors are considered members of the audience.

Section 10 – Executive Session

During special circumstances, the DUR Board may go into executive session at the conclusion of normal meeting proceedings; however, all DUR Board meetings must commence as an open meeting. In order for executive session to be called, the following procedure must be followed in accordance with the Open Meetings Act:

A. A member may <u>move to close</u> the meeting to determine whether board needs to go into executive session; vote in open meeting with vote recorded in minutes, majority rules.
B. Closed meeting: vote taken on whether to <u>declare</u> executive session, requires 3/5 of all members present.
C. Board comes back into open session and states statutory reason for executive session. The reason for the executive session shall be recorded in the meeting minutes.
D. Board members then will go into executive session where action may be taken on stated subject matter only.

E. Minutes must be kept in accordance with the Open Meetings Act.

Section 11 – Conduct of Participants

Pursuant to state law, specifically the Open Meetings Act, the DUR Board may make and enforce reasonable rules and regulations for the conduct of persons attending the DUR meetings. The following is a non-exhaustive list of rules for DUR Board meetings:

A. Attendees should please remain silent and allow for the efficient transaction of business.
B. Cell phones should be placed on silent or vibrate.
C. Laptop computers are discouraged from being utilized during meetings as frequent typing may distract board members.
D. Food and drink are not allowed in the meeting room.
E. Security is provided by the state. Guests not following proper decorum may be asked to leave by security.

Article IV. Public Participation

Section 1 - Disclosure of Persons Appearing Before DUR Board

The DUR Board may ask individuals appearing before the board to disclose either in writing or verbally their relationship, as applicable, including but not limited to pharmaceutical companies or special interest groups. Any such disclosures should be recorded as a matter of public record in the documented meeting minutes.

Article V. Conflicts of Interest

DUR Board members are expected to maintain the highest professional, ethical standards. A conflict of interest may exist when a DUR Board member maintains a financial/pecuniary, personal, or professional interest that may compete or interfere with the DUR Board member's ability to act in a fair, impartial manner while acting in the best interests of the Division of Medicaid and the beneficiaries that it serves.

As such, DUR Board members are required to complete and submit annually a Conflict of Interest disclosure statement with the DOM Office of Pharmacy and DUR Coordinator. Statements shall be maintained by the Office of Pharmacy. Members have an ongoing responsibility to update and revise said statements, disclosing any new conflicts of interest to the DUR Coordinator and DOM Office of Pharmacy.

It is the sole responsibility and requirement of each board member to review the agenda of each forthcoming board meeting to determine any if any potential conflicts of interest exist. If so, an aforementioned Disclosure statement must be updated indicating the conflict of interest. The board member should notify the Chair or Chair-Elect of the conflict of interest prior to the meeting.

A DUR Board member shall recuse himself/herself from any vote, action, or discussion pertaining to any product or product class if there is documentation stating an actual or perceived conflict of interest. Please refer to the procedure outlined in Article III, Section 7.

Article VI. Confidentiality

DUR Board members are required to safeguard all confidential and proprietary information, including but not limited to pricing information, which is disclosed by the Mississippi Division of Medicaid for purposes of conducting DUR Board activities. Any provider or patient specific information discussed by the DUR Board shall also be kept strictly confidential in accordance with state and federal law.

Article VII. Amendments

Proposed Amendments of By-Laws

A. Proposed amendments must be submitted to the DUR Coordinator at least thirty (30) days prior to the next scheduled DUR meeting and the proposed amendments will be disseminated to the DUR Board en masse for consideration at said DUR Board meeting.
B. Proposed amendments will be distributed to board members no less than five (5) business days prior to next DUR Board meeting.
C. Proposed amendments will be initiated by the Chair, or the Chair-Elect in absentia of the Chair, prior to Next Meeting Information announcements.
D. Proposed amendments will be voted upon at the next scheduled DUR Board meeting. If majority of DUR Board votes to ratify amendment, the amendment will take effect immediately at the conclusion of the meeting.

MS-DUR BOARD
COMMON ABBREVIATIONS

AWP	Any Willing Provider, Average Wholesale Price
BENE	Beneficiary
CAH	Critical Access Hospital
CCO	Coordinated Care Organization
CDC	Centers for Disease Control
CHIP	Children's Health Insurance Program
CMS	Center for Medicare and Medicaid Services
COB	Coordination of Benefits
CPC	Complex Pharmaceutical Care
DME	Durable Medical Equipment
DOC	Department of Corrections
DOM	Division of Medicaid
DUR	Drug Utilization Review
EOB	Explanation of Benefits
EPSDT	Early and Periodic Screening, Diagnosis and Treatment
FA	Fiscal Agent
FFS	Fee For Service
FPW	Family Planning Waiver
FQHC	Federally Qualified Health Clinic
FY	Fiscal Year
HB	House Bill
HCPCS/ HEIDIS	Health Plan Employer Data and Information Set
HHS	Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability
IDD	Intellectual and Developmental Disabilities
LTC	Long Term Care
MAG	Magnolia Health
MEDD	Morphine Equivalent Daily Dose
MOL	Molina Healthcare
MPR	Medication Possession Ratio
MSCAN	Mississippi Coordinated Access Network
MSDH	Mississippi State Department of Health
NADAC	National Average Drug Acquisition Cost
NDC	National Drug Code
P&T	Pharmacy and Therapeutics
PA	Prior Authorization
PBM	Pharmacy Benefit Manager
PDC	Proportion of Days Covered
PDL	Preferred Drug List
PI	Program Integrity
PIP	Performance Improvement Program
POS	Point of Sale, Place of Service, Point of Service
Pro-DUR	Prospective Drug Use Review
OTC	Over the Counter
QI	Quality Indicator
QIO	Quality Improvement Organization
QM	Quality Management
RA	Remittance Advise
REOMB	Recipient's Explanation of Medicaid Benefits
Retro-DUR	Retrospective Drug Utilization Review
RFI	Request for Information
RFP	Request for Proposal
RHC	Rural Health Clinic
SB	Senate Bill
SCHIP	State Child Health Insurance Program
SMART PA	Conduent's Pharmacy Application (SmartPA) is a proprietary electronic prior authorization system used for Medicaid fee for service claims
SPA	State Plan Amendment
UHC	United Healthcare
UM/QIO	Utilization Management and Quality Improvement Organization
UPDL	Universal Preferred Drug List
UR	Utilization Review
VFC	Vaccines for Children
WAC	Wholesale Acquisition Cost
WIC	Women, Infants, Children
340B	Federal Drug Discount Program