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University Partnership Research Brief

"LSUHSC-NO Health Policy Honors Program contributions to Promoting Evidence-Based Care to Louisiana Medicaid Members — Maternal Mortality"

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LSU Health NEW ORLEANS

WHAT IS KNOWN ABOUT THE TOPIC?

Many maternal conditions can influence pregnancies, but the single most common diagnosis associated with adverse birth outcomes is having an untreated maternal mental health condition (UMMHC)[1]. Unlike other interventions requiring coverage for new services, mental health is already covered by Medicaid. Unfortunately, it is underutilized. Approximately 11.5% of pregnant mothers have UMMHC; Each has $8,250 more in birthing costs to insurers and even more in social costs.

WHAT DID THIS PROJECT DO?

A search of research articles relating to the costs and benefits of UMMHCs identified a short list of studies that were recent, set in the US and included adequate controls. The core costs and benefits of these studies were summarized. Finally, a computer model was built using parameters drawn from these studies. The model estimates costs associated with UMMHC and the potential savings if untreated patients start receiving mental health services.

INTRODUCTION AND BACKGROUND

Maternal mental health conditions have a significantly higher chance of impacting pregnancy outcomes if left untreated. However, when patients receive mental health services and comply with provider recommendations, adverse impacts are minimized. In this regard, mental health conditions are like medical conditions, such as diabetes or hypertension. While the condition might not be able to be eliminated or 'cured', proper treatment minimizes risks.

UMMHC is associated with a range of adverse pregnancy outcomes. Preterm births are over twice as likely among women with UMMHC (24.4%; compared to 10.2% among mothers with no mental health condition or a treated condition)[2]. In addition, mothers with UMMHC have higher probabilities of Cesarean delivery, infant mortality, ED visits[3], developmental disorders and other conditions, culminating in $120,595 in estimated excess medical costs for each mother with UMMHC. Further, mothers with UMMHC are much more likely to use social support services[4] (costing $33,754 more than average) and are less able to work full-time (resulting in an estimated $176,507 in societal costs). These outcomes disproportionately impact Black mothers[5].

Unfortunately, Black and Hispanic mothers are 70% less likely to seek mental health treatment due to perceived stigma; even when insurance coverage is identical[6].

WHAT CAN MEDICAID DO WITH THIS INFORMATION?

Mental health treatment is already a Medicaid-covered service, but its use needs to be promoted. This information can be used to estimate the financial and health benefits of increasing the proportion of women who seek maternal mental health treatment. Those savings help define how much could be used on programs to increase maternal mental health utilization.

PROJECT DESIGN AND METHODOLOGY

The first step summarized what is already known about the outcomes and costs associated with UMMHC. A literature search identified articles that were: related to UMMHC; based in the US; related to costs, emergency department use, hospital admissions and/or other medical outcomes; and published since 2012. The second step summarized key findings regarding the association between UMMHC, costs, health outcomes, and other social programs. Because many studies[7] looked only at one specific outcome, results were combined into a comprehensive summary in the "Outcomes and Costs associated with Untreated Maternal Mental Health Conditions (UMMHC)" table.

Outcomes and Costs associated with Untreated Maternal Mental Health Conditions (UMMHC)	Probabilities		Costs per case		
	Patients with no MMHC, or with conditions under treatment.	Patients with UMMHC	Medical	Social Service	Societal
Maternal Outcomes					
Cesarean Section Delivery	32%	41%	12,179		
Peripartum stay	2.6	2.9	2,723		
Maternal mortality	0.02%	0.25%	3,406		42,900
Suicide	0.01%	0.15%	3,406		42,900
Productivity loss	4.0%	5.2%			42,900
Social service use - SNAP	47%	47%		1,691	
Social service use - WIC	26%	26%		816	
Social service use - Medicaid	42%	42%		7,883	
Social service use - TANF	2.5%	2.7%		10,374	
Child Outcomes					
Preterm birth	10%	24%	78,052		
Infant Mortality	0.8%	1.8%	8,018		23,691
ED visits	58%	76%	805		
Injury	7.9%	10.2%	8,018		
Asthma	2.6%	5.1%	955		425
Obesity	13%	18%	200		
Behavioral & developmental disorders	17%	28%		12,990	

This table shows costs associated with the mother and the child separately. Under maternal outcomes, Cesarean section deliveries are more common for mothers with UMMHC (41% compared to 32%), and each such delivery increases costs an average of $12,179. The table also shows mothers with UMMHC had longer peripartum hospital stays. Maternal mortality was 12 times more likely among those with UMMHC (0.25% compared to 0.02%), and most of that mortality was the result of suicide. Below the medical outcomes, social costs are detailed. Mothers with UMMHC are more likely to receive TANF and much more likely to experience difficulty returning to work (productivity loss). These increase societal burden. For the child, preterm birth and infant mortality were both over two times more likely among mothers with UMMHC. ED visits and reported injuries are more likely for children of mothers with UMMHC, raising the possibility that adverse childhood experiences will further burden the child. Asthma, obesity and developmental disorders are also more likely; increasing medical and social costs.

The third and final step was to build a customizable computer model to simulate costs and benefits based on different assumptions. Such flexibility allows models to be adjusted to local circumstances.

CONCLUSIONS AND HEALTH POLICY IMPLICATIONS

There are substantial savings associated with mental health care for pregnant women. Mothers with UMMHC cost an average of $11,196 more, due largely to higher rates of preterm birth and c-sections. The worksheet model (next page) allows localized customization to reflect the number of births and probabilities of UMMHC. It also computes estimated savings if the portion of mothers with UMMHC can be reduced. In the example on the following page, a 10% reduction (from 50% to 40% going untreated) results in savings of $13.7 million; of which, $8.4 million in savings accrues to Medicaid (61% of all births).

This model can be used to judge the returns on efforts to increase maternal mental health treatment. Most mental health treatments are cost-effective[8], and are already covered by Medicaid for that reason. Common efforts to increase the use of mental health services include increased use of mental health screening tools in provider locations[9]. Efforts to destigmatize mental health treatment have also demonstrated effectiveness[10]; particularly when done in community settings[11]. This model can help evaluate alternatives and measure program performance.

COST PROJECTIONS WORKSHEET MODEL

	Before	After	
# Pregnancies in your community	61,300	61,300	
% with mental health conditions	20%	20%	*National average is 20%.*
% of those that go untreated	50%	40%	*National average is 50%.*
Expected # of pregnancies with untreated mental health conditions	**6,130**	**4,904**	

Primary Outcomes	Before	After	$ Change	% Change	# Change
Preterm Births	6,253	6,100	-11,927,705	-2%	-153
C-Section	19,432	19,327	-1,278,477	-1%	-105
Infant Deaths	472	460	-92,497	-2%	-11.5
Maternal Deaths	12.26	10.96	-4,421	-11%	-1.3

Conditions Developed in Children	Before	After	$ Change	% Change	# Change
Obesity	8,214	8,156	-11,591	-1%	-58
Asthma	1,594	1,566	-26,703	-2%	-28
ED Visits	35,799	35,593	-165,827	-1%	-206
Injuries	4,843	4,815	-219,695	-1%	-27

Total Estimated Cost Impact	-13,726,917
Medicaid Savings	**-8,373,419**

A 10% reduction (from 50% to 40% going untreated) results in savings of $13.7 million; of which, $8.4 million in savings accrues to Medicaid.

Acknowledgements

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