

# Investigating Association Between Sociographic Factors and Rates of Urine Drug Screening in Patients Admitted to Labor and Delivery: A Retrospective Analysis

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## Background

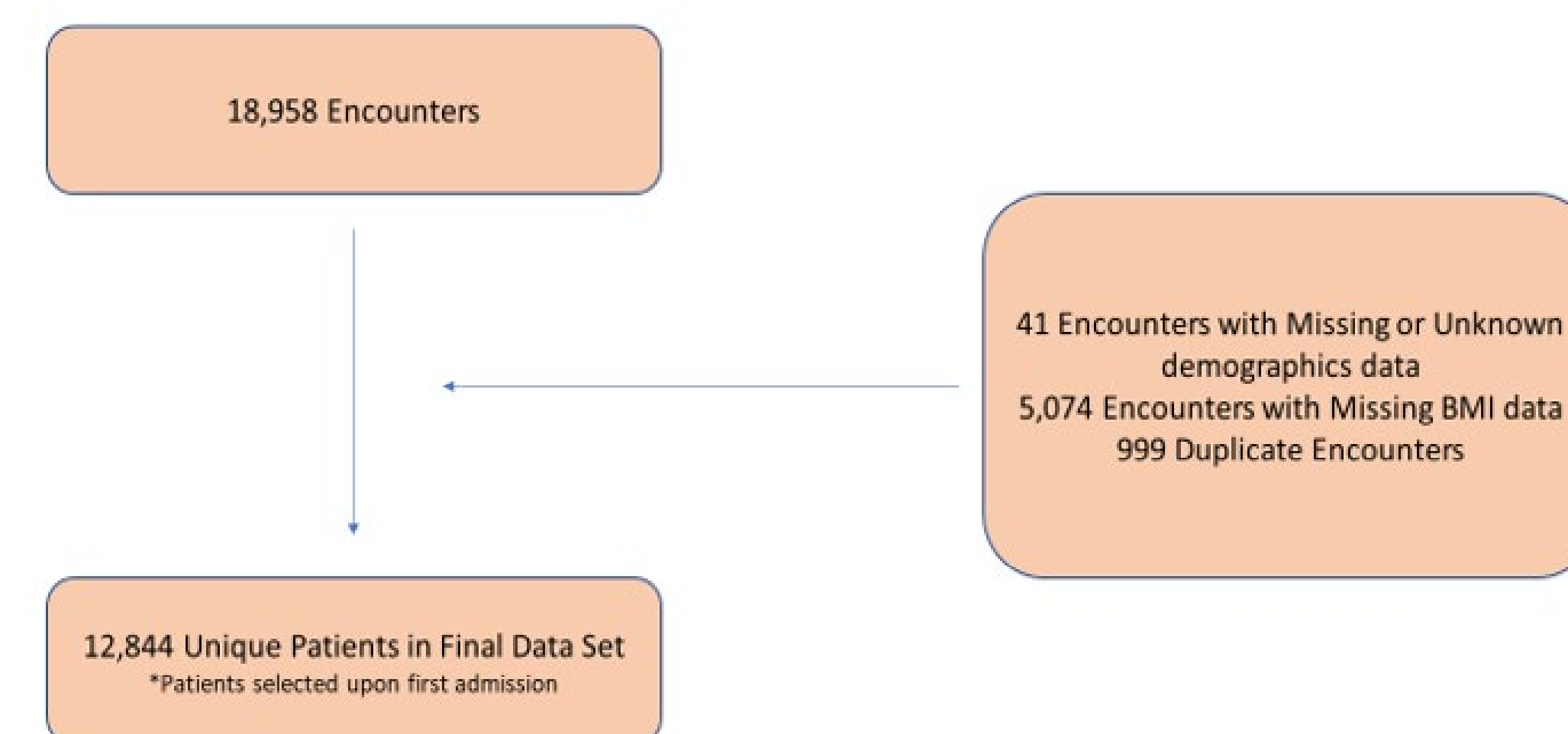
- The National Institute of Public Health reports about 5% of pregnant women admitting to substance use at some point throughout her pregnancy
- Rates of stillbirth are estimated to increase anywhere from 1.8-2.8x with drug use in pregnancy
- Professional organizations encourage healthcare providers to implement universal drug and alcohol screening in pregnancy
- In the state of Florida, drug use in pregnancy is considered child abuse, however the state *does not* require reporting or testing

## Objective

Determine if there is an association between sociographic factors and rates of urine drug screening upon admission to labor and delivery.

## Methods

- Retrospective cohort study
  - All patients admitted to labor and delivery for delivery of their newborn between January 2016-December 2021 to five hospitals in the North Florida region
- Delivery information pulled from electronic medical records and de-identified
- CPT & ICD codes used
- Demographic data included age, race, body mass index (BMI) and insurance status
- Pregnancy complications: no prenatal care, hypertensive disorder, placental abruption, altered mental status, preterm labor, fetal demise and history of substance use



## Results

UDS was performed on 22.7% of patients and 15.4% of patients admitted to substance use.

### Demographic Data:

- Race/Ethnicity:** 22.7% African American, 11.1% Hispanic, 58.1% White, 8.1% Other or Unspecified
- Insurance:** 49.4% ( $n=6,344$ ) government, 37.8% ( $n=4337$ ) private, 12.8% other or uninsured

Table 1: Frequency of Urine Drug Screening by Substance Use and Insurance

Substance Use	No	Insurance	UDS				Test Statistic	p-value
			No		Yes			
			Count	Column N %	Count	Column N %		
		Government	3775 <sup>a</sup>	43.8%	1324 <sup>a</sup>	58.8%	243.957	<.001
		Other	948 <sup>a</sup>	11.0%	296 <sup>b</sup>	13.1%		
		Private	3753 <sup>a</sup>	43.5%	576 <sup>b</sup>	25.6%		
		Uninsured	144 <sup>a</sup>	1.7%	56 <sup>b</sup>	2.5%		
	Yes	Government	768 <sup>a</sup>	58.0%	477 <sup>a</sup>	73.6%	69.439	<.001
		Other	113 <sup>a</sup>	8.5%	60 <sup>a</sup>	9.3%		
		Private	430 <sup>a</sup>	32.5%	98 <sup>a</sup>	15.1%		
		Uninsured	13 <sup>a</sup>	1.0%	13 <sup>a</sup>	2.0%		

Of all patients that were drug screened and DID NOT admit to substance use, 58.8% were insured by the government while 25.6% had private insurance

Table 2: Frequency of Urine Drug Screening by Substance Use and Race

Substance Use	No	Race	UDS				Test Statistic	p-value
			No		Yes			
			Count	Column N %	Count	Column N %		
		Black	1977 <sup>a</sup>	22.9%	653 <sup>b</sup>	29.0%	380.881	<.001
		Hispanic	811 <sup>a</sup>	9.4%	492 <sup>b</sup>	21.8%		
		Other	427 <sup>a</sup>	5.0%	134 <sup>a</sup>	6.0%		
		Unspecified	280 <sup>a</sup>	3.2%	68 <sup>a</sup>	3.0%		
		White	5125 <sup>a</sup>	59.5%	905 <sup>b</sup>	40.2%		
	Yes	Black	159 <sup>a</sup>	12.0%	128 <sup>b</sup>	19.8%	28.907	<.001
		Hispanic	76 <sup>a</sup>	5.7%	48 <sup>a</sup>	7.4%		
		Other	45 <sup>a</sup>	3.4%	10 <sup>b</sup>	1.5%		
		Unspecified	46 <sup>a</sup>	3.5%	24 <sup>a</sup>	3.7%		
		White	998 <sup>a</sup>	75.4%	438 <sup>b</sup>	67.6%		

Note: Values in the same row and subtable not sharing the same subscript are significantly different at  $p < .05$  in the two-sided test of equality for column proportions. Cells with no subscript are not included in the test. Tests assume equal variances.

Of all patients that were drug screened and DID NOT admit to substance use, 50.8% identified as African American or Hispanic.

## Discussion

ACOG statement: routine urine drug screening in pregnancy is controversial and recommends testing only be performed with patient consent.

### Equitable Surveillance vs Effective Treatment

- Equitable surveillance argues that screening for drug and alcohol use for all patients in early pregnancy will function as a surveillance method for reporting to CPS at time of delivery<sup>2</sup>
- Effective treatment suggests universal screening allows for early identification and treatment of patients in pregnancy, resulting in the number of women reported at delivery<sup>2</sup>

A study from 1990 showed similar rates of a positive drug screen between black and white women at both public and private clinics

- However, even with these findings, black women were reported to CPS at a rate *ten times* higher than white women<sup>3</sup>
- Standardizing the utilization of UDS upon hospital admission is a necessary to eliminate unconscious bias when selecting which patients to screen

Universal screening for all patients may seem like an easy solution, but the additional costs associated, and effects of false positive need to be considered.

## Conclusion

Urine drug screening in pregnancy is not universally recommended and there are no guidelines available to determine what patients require screening.

In the North Florida region, there are more patients screened that are Black, Hispanic or have government insurance. This area may benefit from a UDS protocol upon admission to labor and delivery.

## References

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