



# Maternal Deliveries Snapshot, Prenatal Care Adequacy, & Perinatal Emergency Department Use in Williamsburg County

**MAY 2, 2025**

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**AIM CCI National Leadership Team Site Visit**

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*This work was performed under contract with the South Carolina Department of Public Health  
through the South Carolina Maternal Health Innovation Grant.*

# Agenda

- ❖ Williamsburg County Delivery and Outcome Snapshot (SFY 2024)
- ❖ Prenatal Care Adequacy
- ❖ Perinatal Emergency Department (ED) Visits

*Note: This presentation is in response to specific data requests by SC AIM CCI/WC3*

# Acknowledgements

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Linga Murthy Kotagiri, MD, MPH; Senior Maternal & Child Health Data Manager

Carol Reed, MPH; Senior Qualitative Research Associate

Sarah Gareau, MEd, DrPH; Assistant Professor, Director of Health Services Research and Policy

Chloe Rodriguez Ramos, MPH; Translation and Implementation Products Coordinator

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# Williamsburg County Delivery and Outcome Snapshot (SFY 2024)

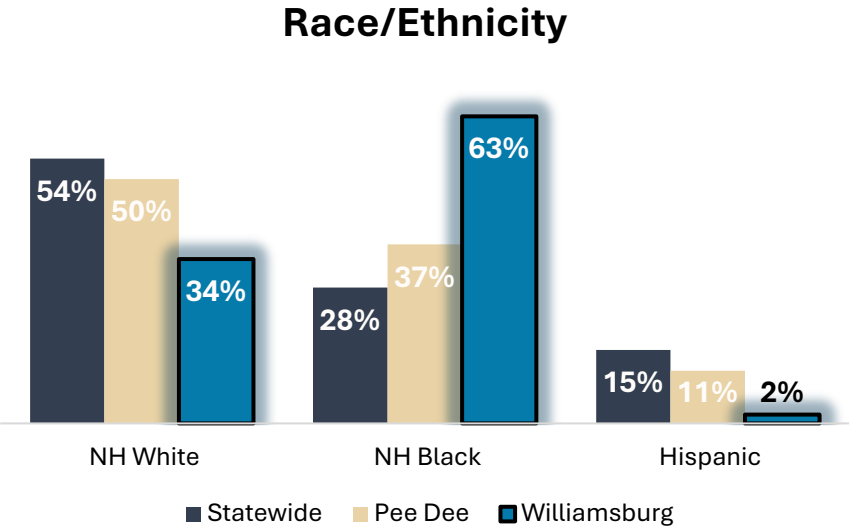



# DELIVERY SNAPSHOT (SFY 2024)

### SFY 2024 Delivery Population (N)

Statewide = 51,817  
Pee Dee Region\* = 8,971  
Williamsburg County = 226

\*Note: DPH region was used over perinatal region.

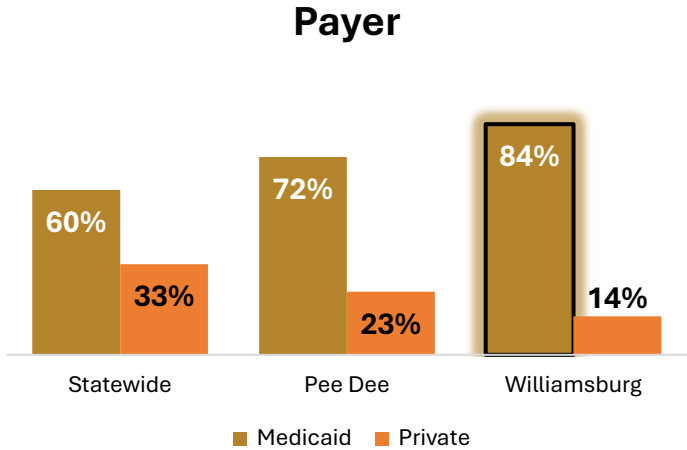





### 20-29 YEARS OF AGE

Statewide: 50%  
Pee Dee: 53%  
Williamsburg: **62%**

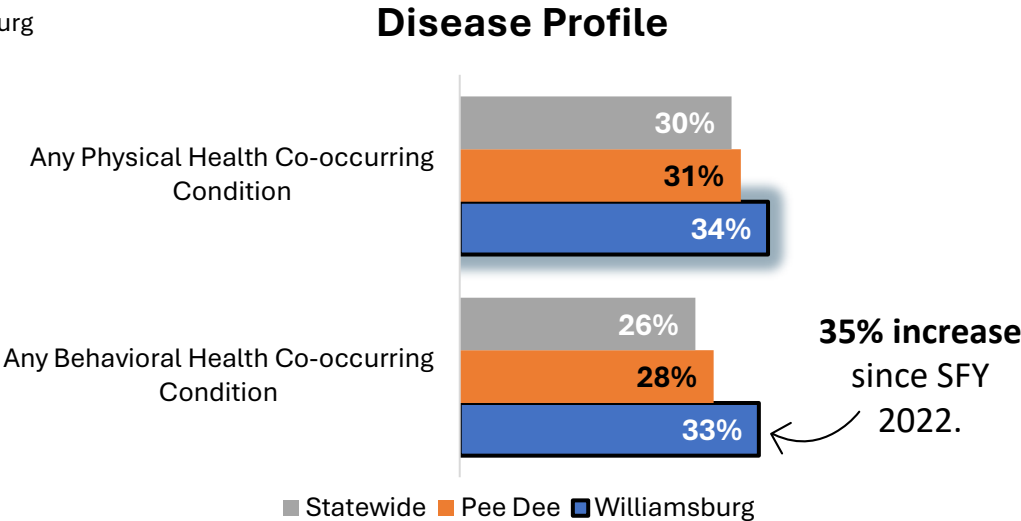
8% increase since SFY 2022.





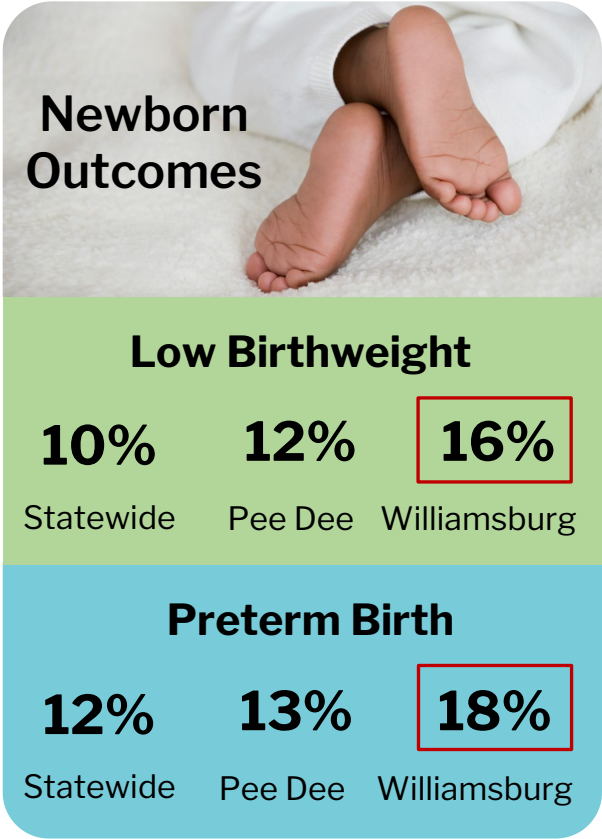
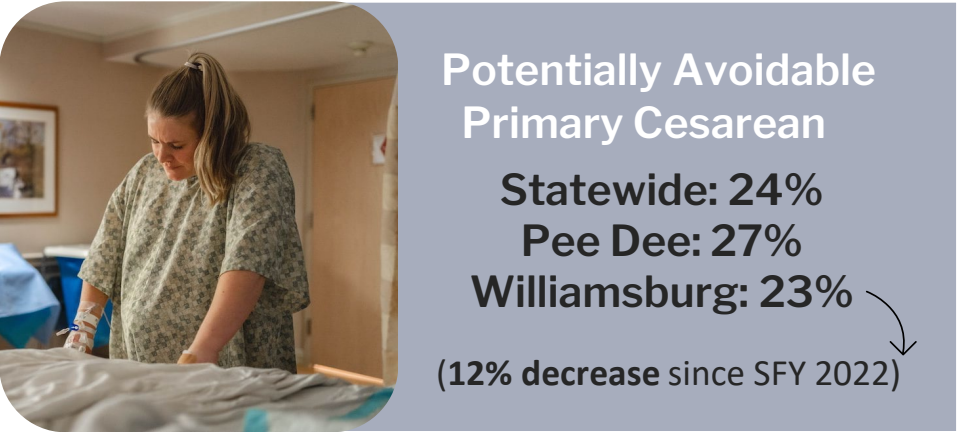
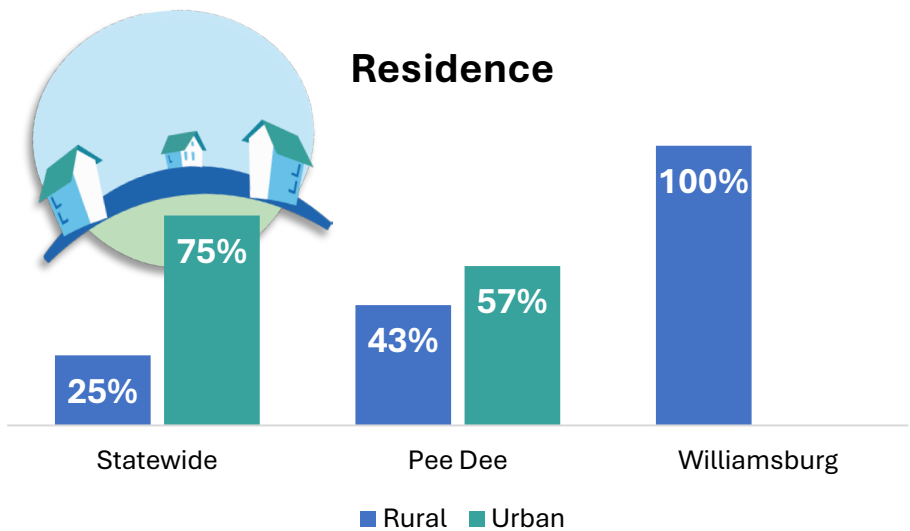
### High School/GED

~38% Statewide  
**~43%** Pee Dee & Williamsburg





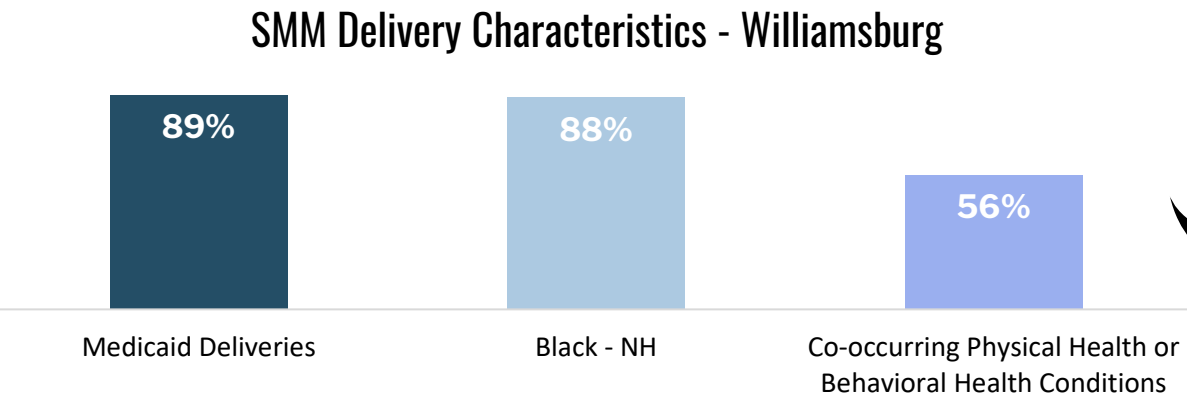
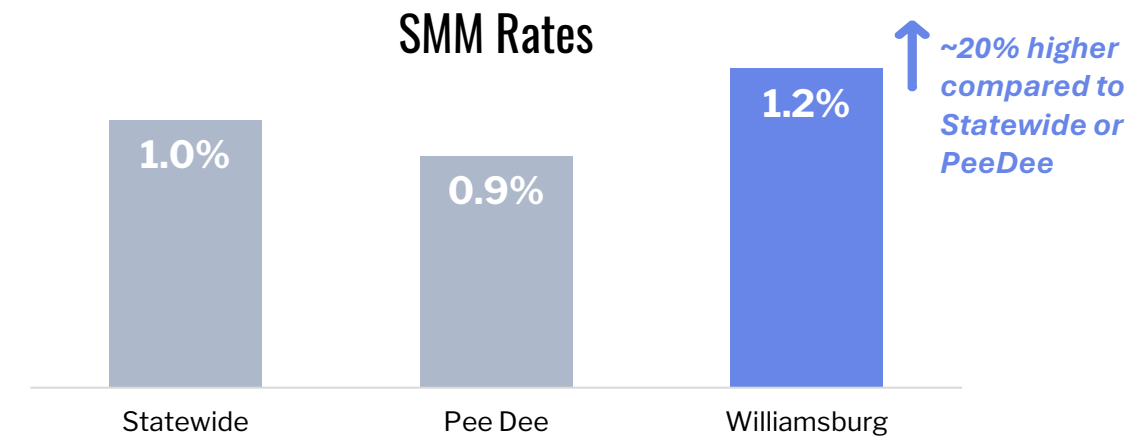
# DELIVERY SNAPSHOT (SFY 2024)



## Williamsburg Takeaway

- When compared to statewide and the Pee Dee region, Williamsburg County delivery patients:
  - resided in 100% rural areas,
  - were predominantly NH Black,
  - Medicaid beneficiaries,
  - 20-29 years of age,
  - exhibited low education levels,
  - had a high rate of physical health co-occurring conditions, and
  - had higher rates of low birthweight and preterm birth.

# SMM TREND (SFY 2022-2024)\*



- Rates are **higher** than the delivery make-up for:
- Medicaid = 84%
  - Black-NH = 65%
  - Co-occurring Physical Health Conditions = 36%
  - Co-occurring Behavioral Health Conditions = 27%

\*Note: SMM rates and characteristics were presented as a cumulative value of SFY 2022 – 2024 due to low N.

# Prenatal Care Adequacy

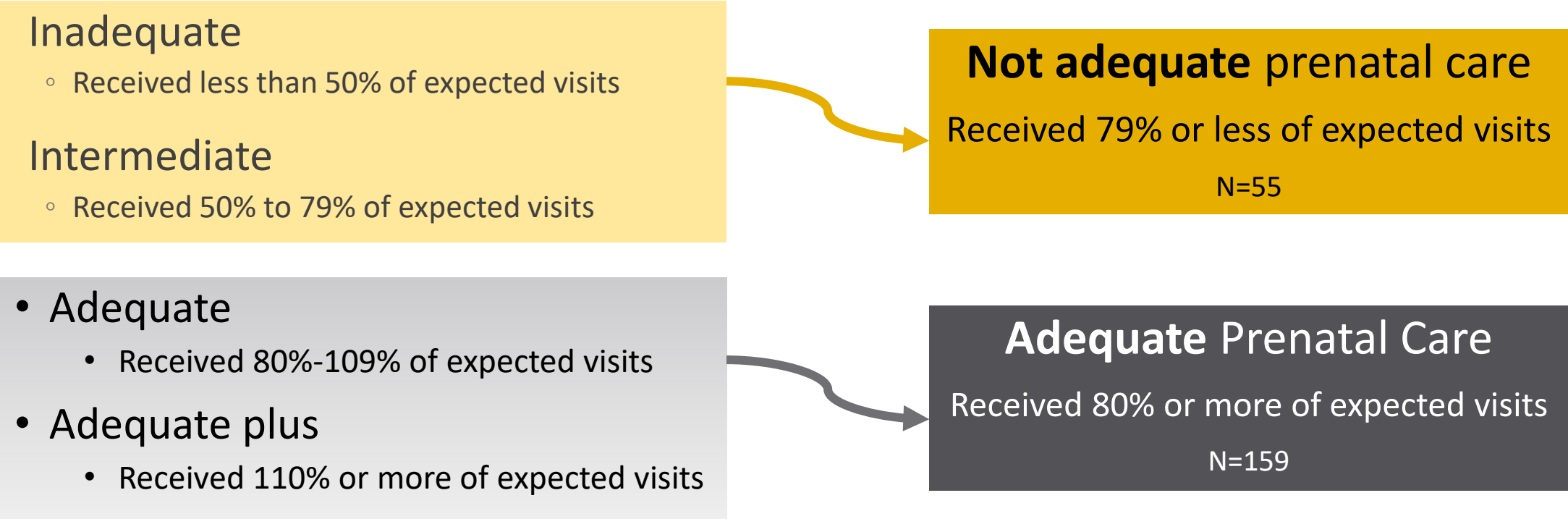
**Data Caveat:** Results may only represent upwards of 55 deliveries in some cases and vary from year to year. Caution should be taken when interpreting results.





# DEFINITION: PRENATAL CARE LEVELS OF ADEQUACY (SFY 2024)

For this presentation, prenatal care is defined in terms of **not adequate** and **adequate**.



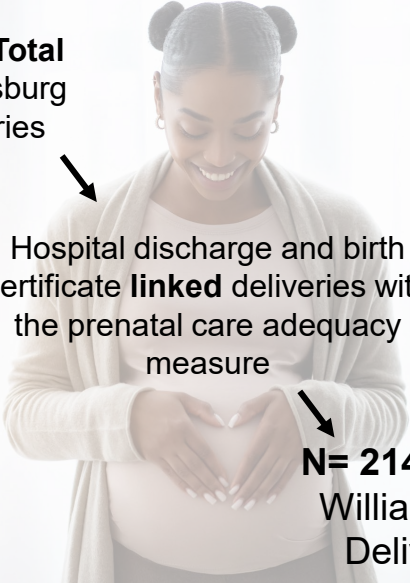
**Note:**  
Definitions for adequacy of prenatal care were based on the Kotelchuck Index. UB-VR unlinked deliveries were not included in the prenatal care analysis.



# WILLIAMSBURG PRENATAL CARE ADEQUACY

Delivery Analysis

N=226 Total Williamsburg Deliveries



Hospital discharge and birth certificate **linked** deliveries with the prenatal care adequacy measure

N= 214 Linked Williamsburg Deliveries

Adequacy of Prenatal Care Williamsburg County Deliveries N=214*			
Adequacy Prenatal Level of Care	%	Adequacy Category	%
Adequate+	52%	Adequate	74%
Adequate	22%		
Intermediate	5%	Not Adequate	26%
Inadequate	21%		

Almost **3 in 4** deliveries received adequate prenatal care.

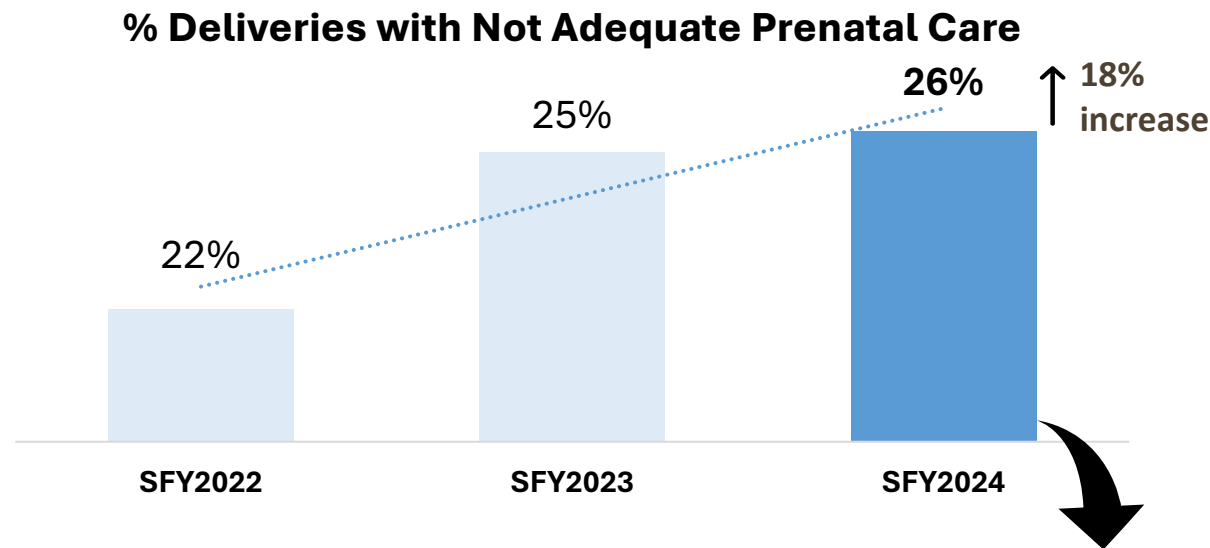
Most individuals with co-occurring conditions were receiving adequate prenatal care.

About **3 in 4** among all deliveries with hypertension and **4 in 5** with diabetes received adequate prenatal care.



# NOT ADEQUATE PRENATAL CARE TREND

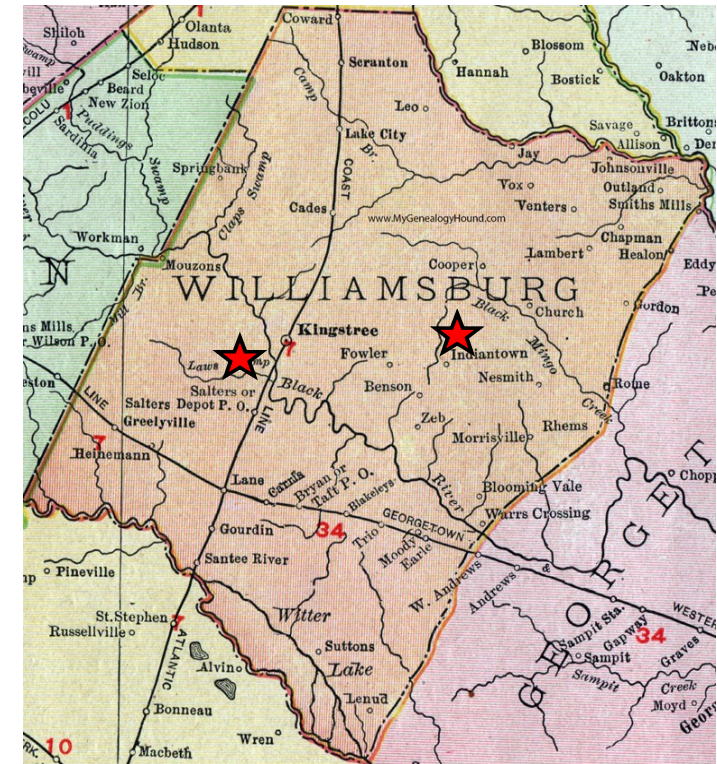
Although most Williamsburg mothers receive adequate prenatal care, **roughly 1 in 4 do not**, with an increasing, non-significant trend over time. There was no increasing trend observed **for those diagnosed with hypertension (N=66/243, 26%, SFY22-SFY24).**



This rate was **higher** in comparison to surrounding counties, highlighting Williamsburg's greater rural isolation and access to care needs.

***Where are these individuals primarily located?***

Nearly 1 in 3 mothers with inadequate prenatal care resided in Hemingway and Kingstree zip codes.



# DIFFERENCES IN PRENATAL CARE

Adequacy of Prenatal Care by Age

Ages	Adequate N=159	Not Adequate N=55
<20	40%	60%
20-24	75%	25%
25-29	74%	26%
30-34	84%	16%
35-54	70%	30%

NOTE: The number of deliveries for ages <20 was small.

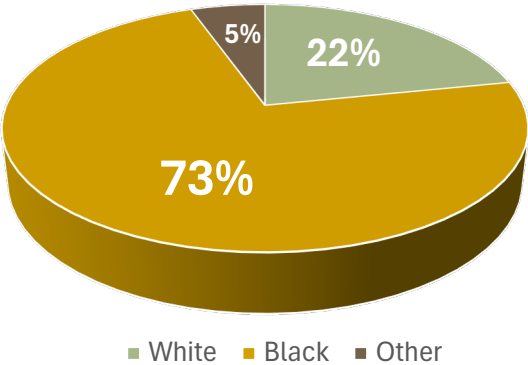
Individuals over age 35 and under the age of 20 who delivered were less likely to have adequate prenatal care.

Individuals aged 35-54 accounted for 10% of all deliveries with nearly 1 in 3 not receiving adequate prenatal care.



Those who self-identified as Black or Other Races were more likely to receive not adequate prenatal care than those who identified as White.

Not Adequate Prenatal Care  
By Race  
N=55



Nearly 1 in 3 deliveries among Black individuals and 1 in 2 among individuals that self-identified as Other did not have adequate prenatal care.

NOTE: The number of deliveries for those that self-identified as Other was small.

Race	Adequate N=159	Not Adequate N=55
Black	71%	29%
Other	50%	50%
White	83%	17%



# DIFFERENCES IN PRENATAL CARE (continued)

Parity	Not Adequate Prenatal Care
No prior births	25%
1 prior birth	16%
2 prior births	32%
3+ prior births	<b>42%</b>

*\*Note: These results represent small numbers. Caution should be taken when interpreting results.*

## Potential Opportunities for Outreach

- Individuals with **3 or more** prior births were less likely to receive adequate prenatal care than those with less than 3 births.
- Although individuals with three or more prior births accounted for less than 10% of all births, about half of them did not have adequate prenatal care.

Educational Attainment	Not Adequate Prenatal Care
Any College	22%
High school/GED	<b>30%</b>
Less than High school	<b>31%</b>

## Communities of Opportunity

Almost **1 in 3 deliveries** among those with a high school education or less did not receive adequate prenatal care.



# WHEN THERE IS NOT ADEQUATE PRENATAL CARE...

*From SFY 2022 – 2024:\**

About **1 in 7**  
Williamsburg deliveries  
resulted in a preterm birth  
(15%).

About **1 in 3**  
preterm mothers did not  
receive adequate prenatal care  
(32/101, 32%).

*\*Note: Three-year rate was used due to low N.*



# Perinatal Emergency Department (ED) Visits

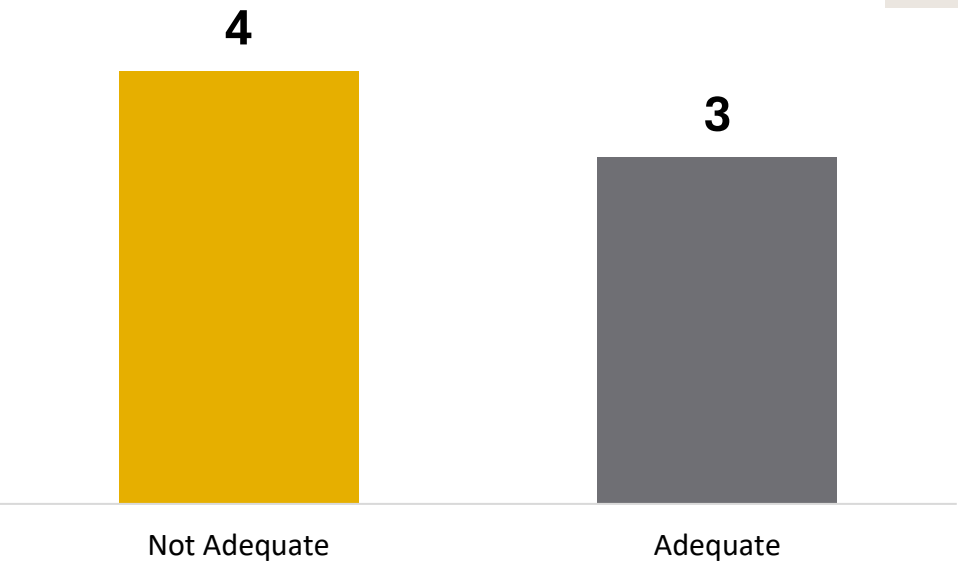
Understanding perinatal ED use before and after delivery may aid in understanding care coordination and access to care needs.





# PERINATAL ED VISITS: ADEQUACY OF PRENATAL CARE (SFY 2023)

Mean Number of Perinatal ED Visits  
by Adequacy of Prenatal Care  
N=245



**Note:** SFY23 data was used for ED analysis as perinatal data for SFY24 is incomplete. Thus, the number of deliveries for SFY23 data differed from SFY24 deliveries.

Those with less access to prenatal care may be more likely to use the ED.

Those who did not receive adequate care had a higher mean number of perinatal ED visits compared to those with adequate prenatal care.



# PERINATAL ED VISITS: WILLIAMSBURG COUNTY

## Where are these perinatal ED visits seen?

Given the closure of Williamsburg Regional and Lake City in December 2022, 1 in 4 perinatal ED visits within Williamsburg County are now seen at MUSC Black River Medical Center, which saw a 66% increase in their rate of perinatal ED visits from SFY 2023 to SFY 2024.

Top Six ED Units	SFY 2024 (N Visits, % of Total)
McLeod Regional Medical Center	N=144, 28%
MUSC Black River Medical Center	N = 132, 25%
Tidelands Georgetown	N = 78, 15%
McLeod Health Clarendon	N = 27, 5%
MUSC Health Florence	N = 22, 4%
Conway	N = 22, 3%

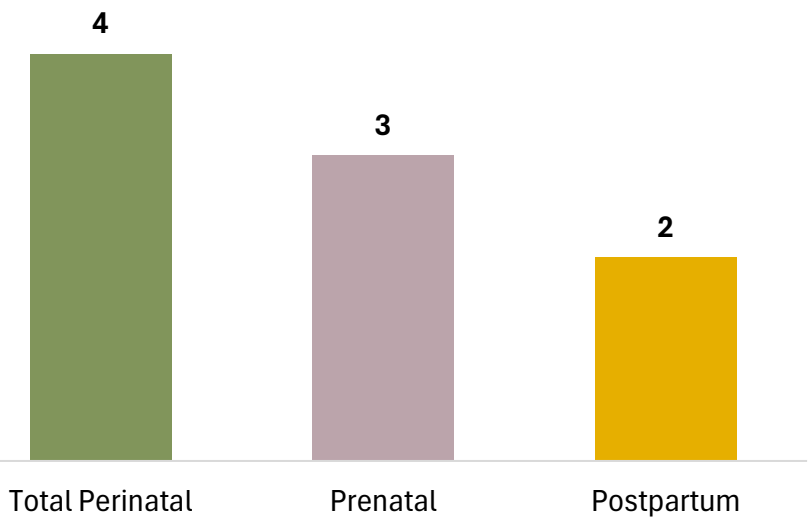
**\*Note:** SFY24 visits (N=524) reflect incomplete data for the postpartum year.



# PERINATAL ED VISITS: WILLIAMSBURG COUNTY (SFY 2023)

## Timing of ED Visits

### Average ED Perinatal Visits



**Note:** Perinatal included both prenatal and postpartum (PP) periods, prenatal included 12 months prior to delivery, and postpartum included 12 months after delivery.



During the perinatal period, **3 out of 4** women had ED visits.

- Among women that had an ED visit:
- Over 80% had an ED visit during the prenatal period.
  - Approximately 50% had an ED visit during the postpartum period.

## ED Visits and Co-Occurring Conditions

For women with perinatal ED visits:

More than 1 in 3 had a

Hypertension Diagnosis

About 1 in 4 had

Obesity or Cardiovascular Disease

Nearly 1 in 5 had a

Mental Health Condition or Substance Use Disorder

About 1 in 7 had a

Diabetes Diagnosis

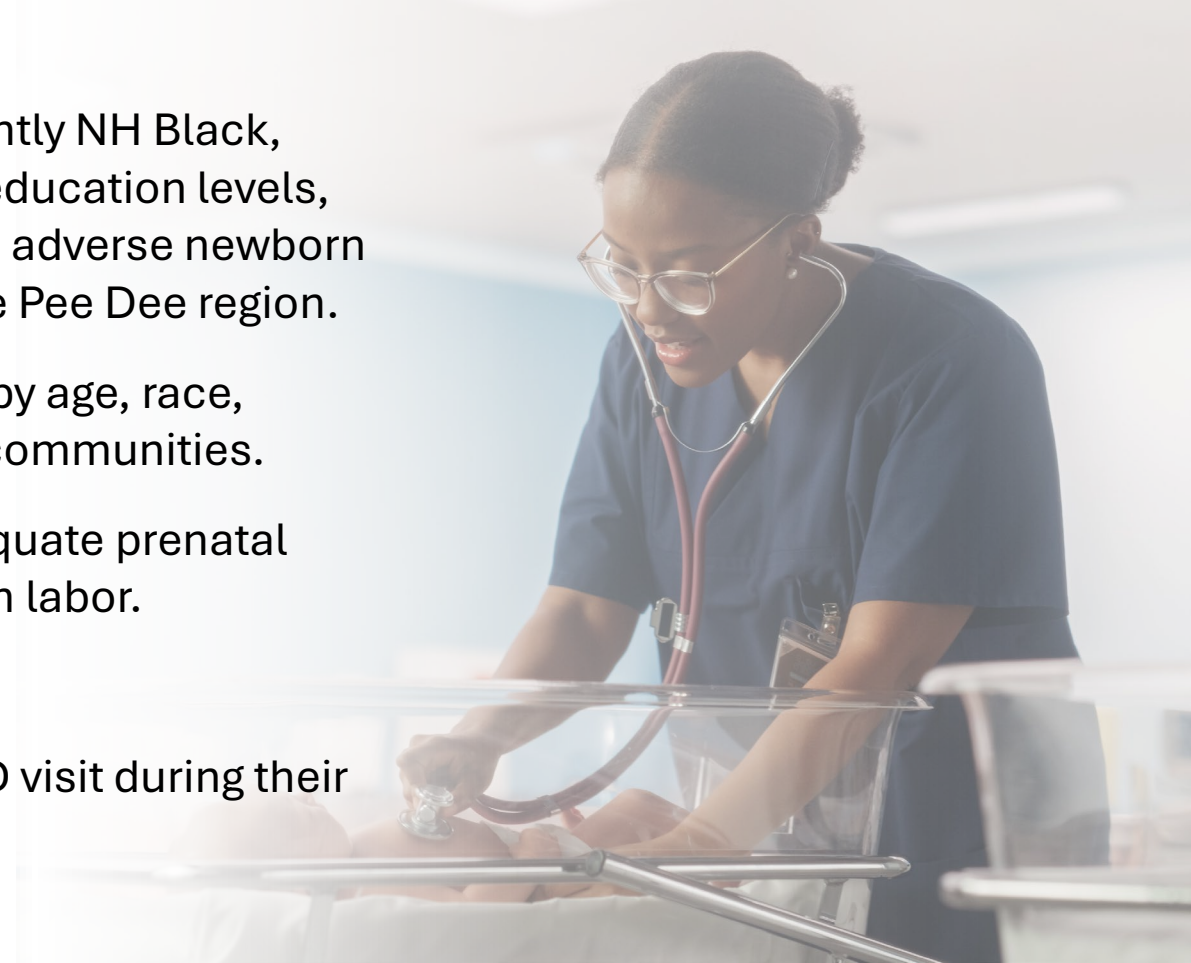


# Conclusion



# Key Takeaways

- Delivery patients in Williamsburg County were predominantly NH Black, Medicaid beneficiaries, 20-29 years of age, exhibited low education levels, had a high rate of physical health co-occurring conditions, adverse newborn outcomes, and SMM when compared to statewide and the Pee Dee region.
- Opportunities exist for enhanced access to prenatal care by age, race, educational attainment, and within certain Williamsburg communities.
- Over 1 in 4 mothers with hypertension did not receive adequate prenatal care, and high blood pressure increases the risk of preterm labor.
  - 1 in 3 preterm mothers did not have access.
- Roughly 75% of women residing in Williamsburg had an ED visit during their overall delivery experience.





# Implications for Action



- Hospitals could be essential partners in care coordination, ensuring mothers receive needed prenatal, postpartum, and specialty care.
- ED visit and prenatal care adequacy results indicate a need for:
  - Coordinated transportation and childcare resources.
  - Support for perinatal community health workers trained to address complex care needs.
- AIM CCI/WC3 can continue to collaborate with the South Carolina Maternal Health Innovation Collaborative (SCMHIC) in efforts to support local data reporting, maternal health resource sharing, and hypertension care bundle implementation.



# Thank You!

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