

# Recent Studies of High-Risk Pregnancy and Diabetes in Texas Medicaid

Milliman Reports Commissioned by the Episcopal Health Foundation

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April 6, 2025



# Background

Episcopal Health Foundation commissioned Milliman to produce two reports describing the population demographic characteristics, economics, and healthcare experience of two priority populations in Texas Medicaid.

- [Type 2 diabetes and associated risk factors](#)
- [High-risk pregnancy](#)

Milliman previously published a report on the non-medical drivers of health in Texas Medicaid that touched on these topics as well.

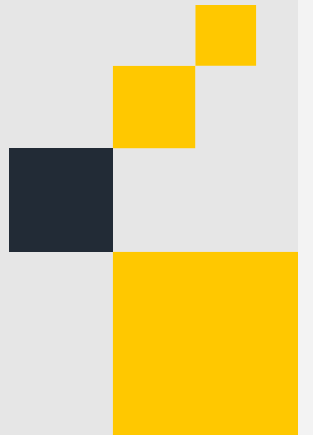
# Methods

## Data

- Administrative health claims data provided by Houston-area MCOs between 2019-2021
- CMS Transformed Medicaid Statistical Information System (T-MSIS). Contains detailed administrative claims, managed care encounters, and enrollment records for all patients covered by Medicaid and the Children's Health Insurance Program (CHIP).

## Condition identification

- Used a combination of ICD10-CM diagnostic codes and demographic criteria.
  - Diabetes risk factors include: prediabetes, obesity (which we considered both with and without prediabetes), history of gestational diabetes
  - High risk pregnancies are defined by:
    - Maternal age less than 16 years old or greater than 34 years old.
    - Presence of diagnoses for preeclampsia, high blood pressure, diabetes or placental complications (e.g., placenta accreta or placenta previa) during pregnancy.
    - Presence of diagnoses for mental or behavioral health conditions or substance use disorders during pregnancy.



# Diabetes

# Background

## Diabetes and prediabetes are highly prevalent.

- In 2021, nearly **38%** of the adult population in US had prediabetes.
- And over **14.7%** of the adult population had type 2 diabetes.

## People with diabetes are at risk for developing:

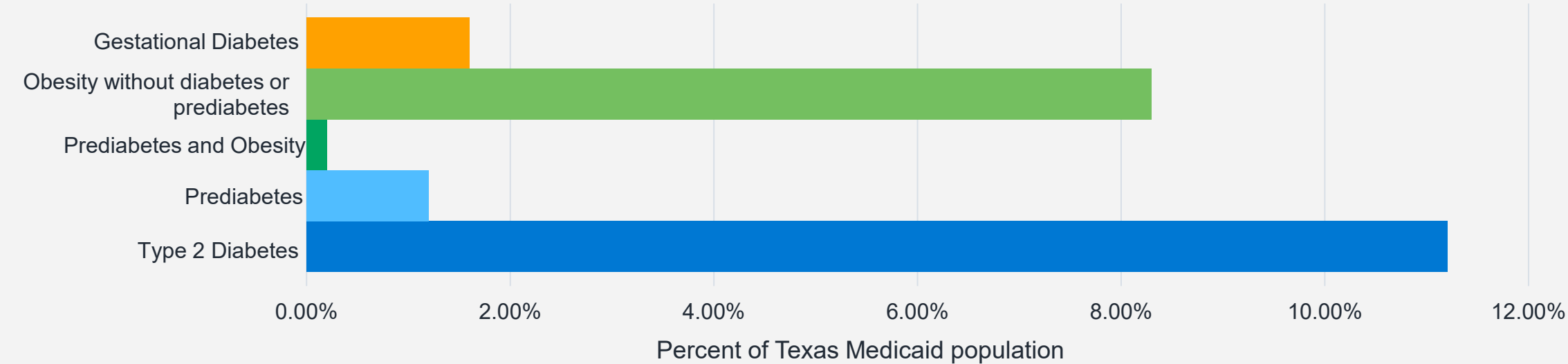
- eye disease,
- nerve damage,
- kidney disease,
- and cardiovascular disease.

## Diabetes is also associated with higher healthcare costs.



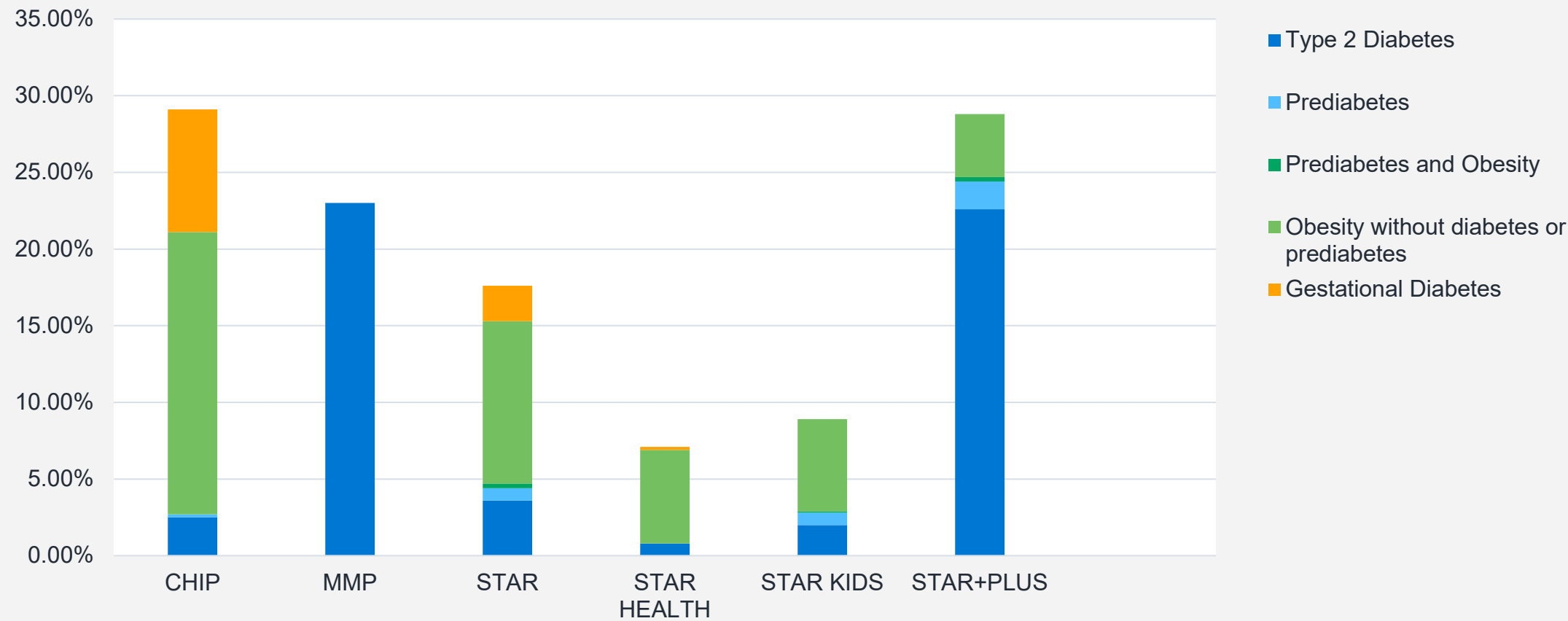
# Disease Prevalence

Percent of Texas Medicaid population, 2021



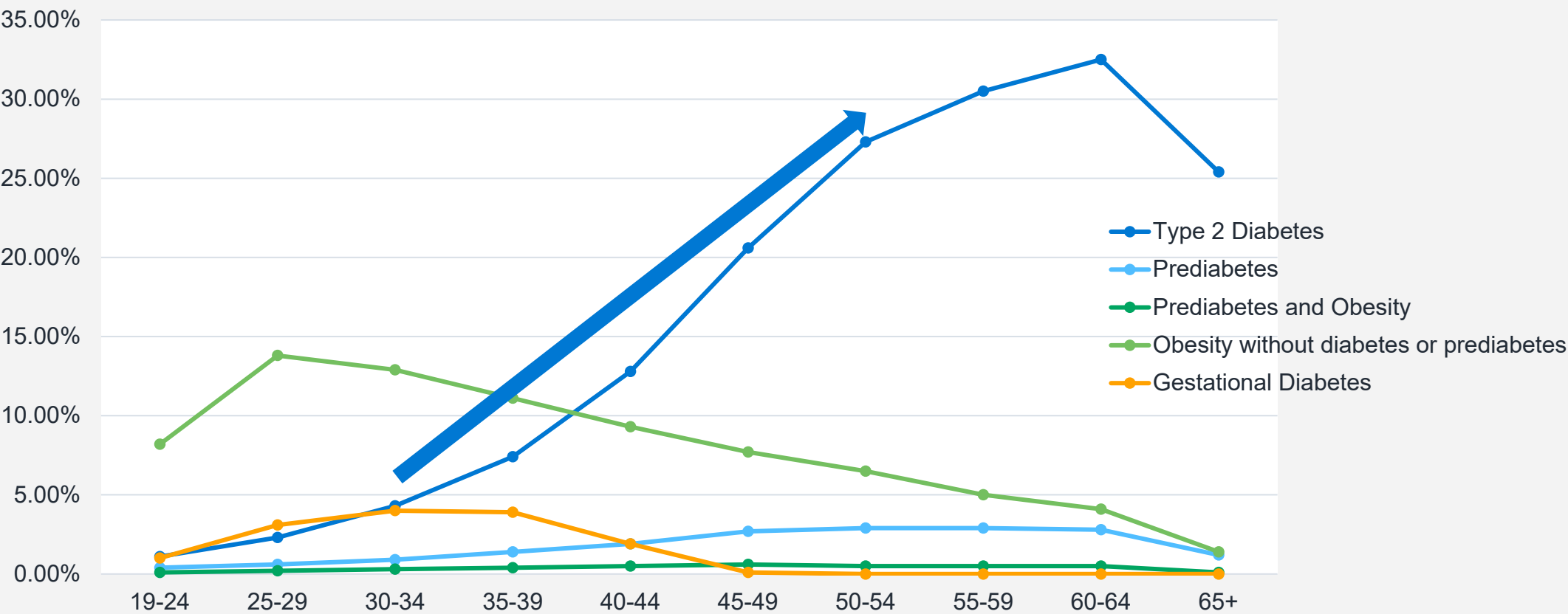
# Diabetes is most prevalent in STAR+PLUS and MMP

Disease Prevalence by Medicaid Program, 2021, Total Medicaid Population



# Diabetes prevalence increases with age

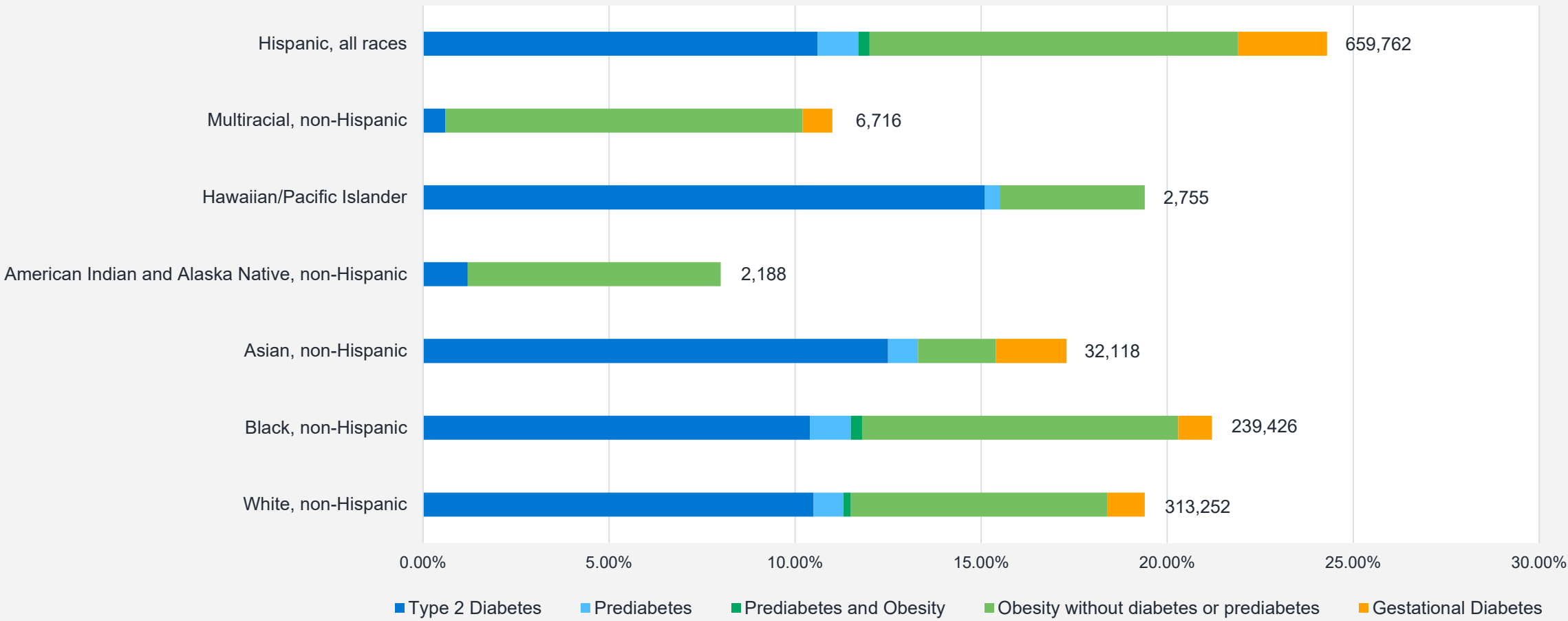
Disease Prevalence by Age, 2021, Adults Only





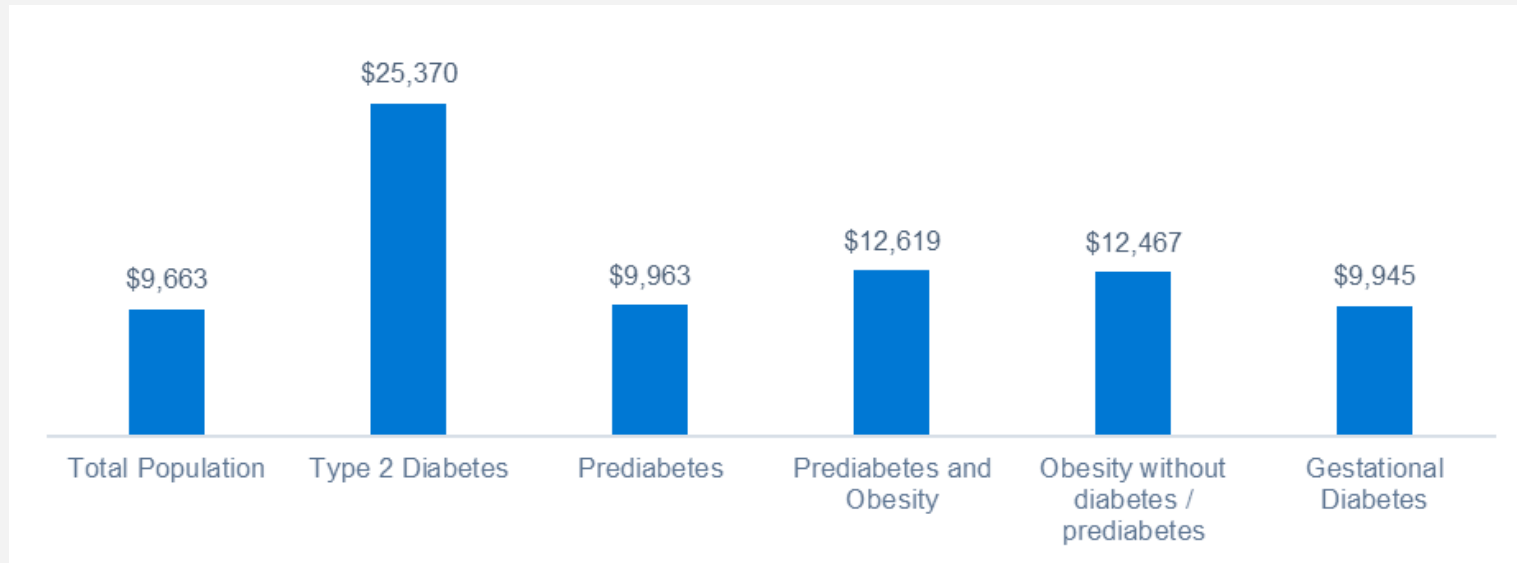
# Diabetes is more prevalent for those of Asian descent compared to other races or ethnicities

Disease Prevalence by Race/Ethnicity, 2021, Adults Only



# Healthcare costs for individuals with diabetes are high

Average Annual Costs per Adult Member By Condition, 2021



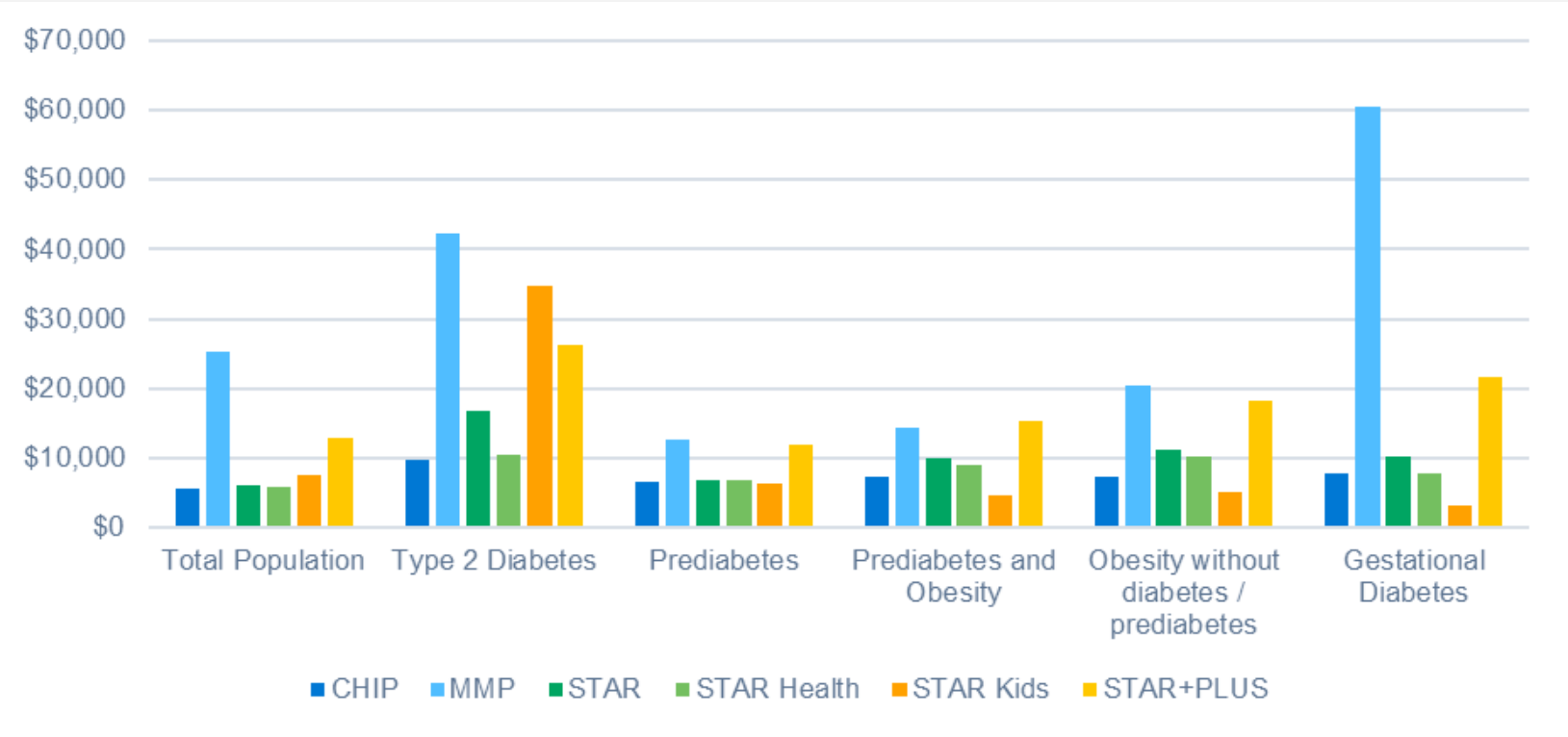
**2.63x** more than total population per year

**2.54x** more than population with prediabetes

**2.03x** more than population with obesity

# Healthcare costs highest for STAR+PLUS and MMP

Average Annual Cost Per Member by Condition and Medicaid Program, 2021



# Higher costs in diabetes population driven by inpatient and outpatient medical services

Distribution of costs by major service category for select conditions, Adults only, 2021

|                             | Allowed costs PMPM |             |            |                 | Costs relative to total population |         |                 |
|-----------------------------|--------------------|-------------|------------|-----------------|------------------------------------|---------|-----------------|
|                             | Total population   | Prediabetes | Obesity    | Type 2 Diabetes | Prediabetes                        | Obesity | Type 2 Diabetes |
| <b>Inpatient - Medical</b>  | \$333.80           | \$243.51    | \$662.82   | \$1,032.10      | 0.73x                              | 1.99x   | 3.09x           |
| <b>Inpatient - BH</b>       | \$4.66             | \$5.43      | \$10.67    | \$10.42         | 1.17x                              | 2.29x   | 2.24x           |
| <b>Outpatient - Medical</b> | \$114.35           | \$175.63    | \$286.46   | \$320.34        | 1.54x                              | 2.51x   | 2.80x           |
| <b>ER visits</b>            | \$34.53            | \$39.73     | \$75.93    | \$60.05         | 1.15x                              | 2.20x   | 1.74x           |
| <b>Outpatient - BH</b>      | \$0.55             | \$1.09      | \$0.91     | \$0.69          | 1.99x                              | 1.67x   | 1.27x           |
| <b>Prof - Medical</b>       | \$115.61           | \$148.08    | \$264.76   | \$228.55        | 1.28x                              | 2.29x   | 1.98x           |
| <b>Prof - BH</b>            | \$2.88             | \$6.53      | \$5.03     | \$3.16          | 2.27x                              | 1.75x   | 1.10x           |
| <b>Other</b>                | \$196.06           | \$204.36    | \$175.33   | \$454.18        | 1.04x                              | 0.89x   | 2.32x           |
| <b>Additional Benefits</b>  | \$2.78             | \$5.87      | \$2.63     | \$4.71          | 2.11x                              | 0.94x   | 1.69x           |
| <b>Total Medical</b>        | \$805.22           | \$830.23    | \$1,484.53 | \$2,114.20      | 1.03x                              | 1.84x   | 2.63x           |

## Estimating total cost of diabetes to Texas Medicaid

In FY2021, we estimate that total healthcare costs for individuals with diabetes was between **\$6.2 billion and \$8.1 billion** including both state and federal payments.

This represents about **15.9% to 20.6%** of total Medicaid medical benefits spending in FY2021 or about **22.7% to 29.5%** of spending for adults.

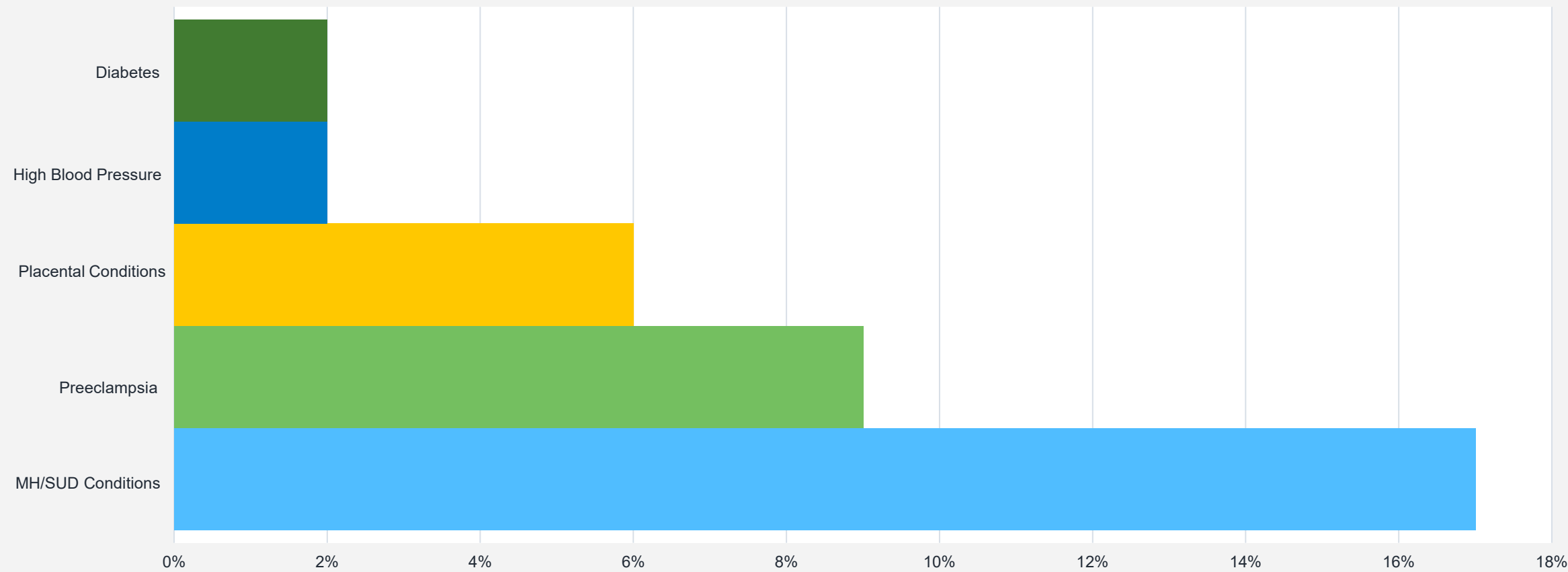


# High-Risk Pregnancy

# Background

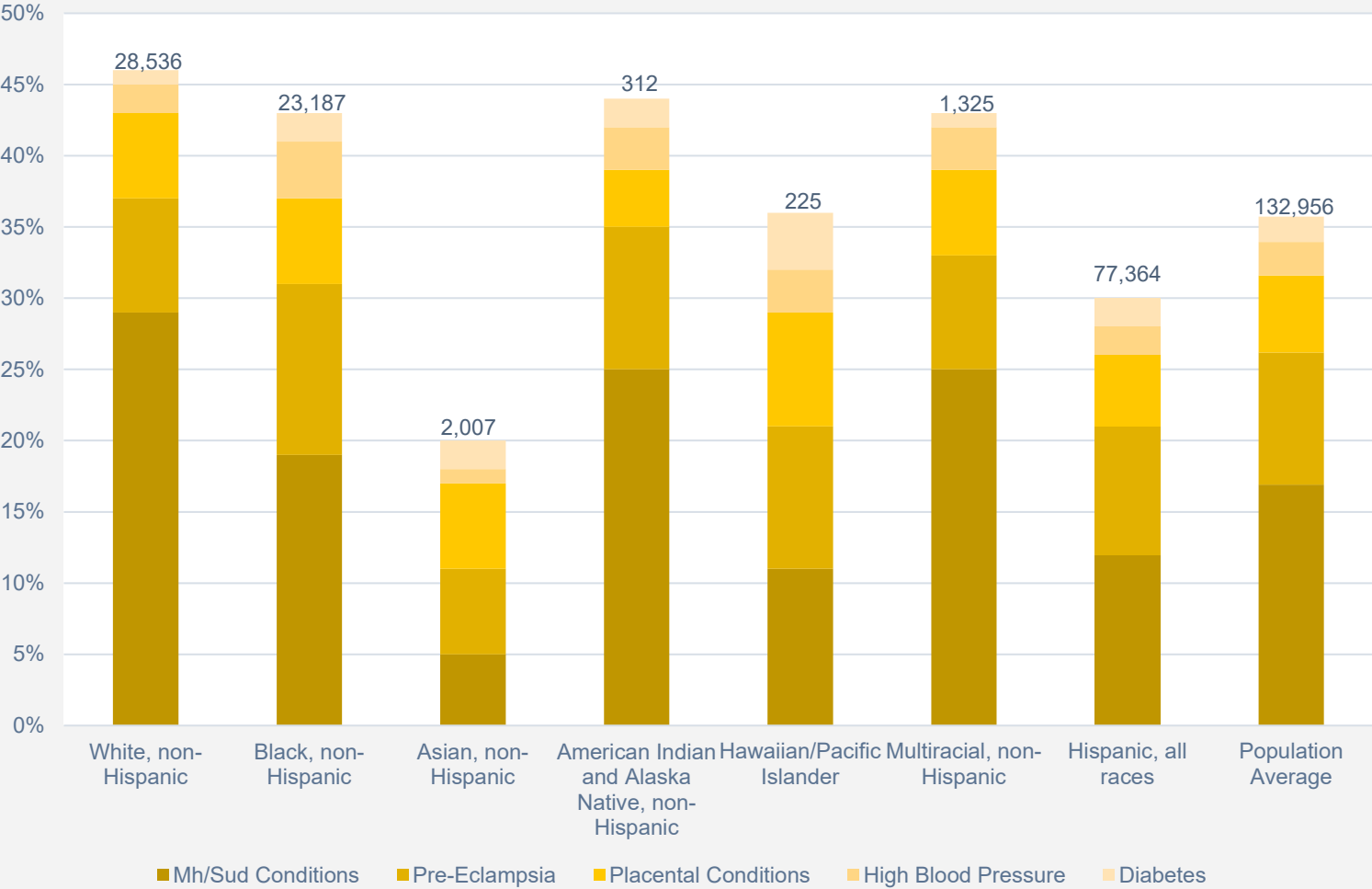
- US has highest rate of maternal mortality among high income countries (24.9 deaths per 100,000 live births in 2020)
  - Leading causes of death in 2020 included: mental health and SUD (22.5%), cardiovascular conditions (16.6%), infections including COVID-19 (16.4%), and hemorrhage (11.2%).
  - Majority (80%) of deaths are preventable
- High-risk pregnancy includes conditions that are associated with higher risk of complications, including increased risk of mortality, during pregnancy or delivery.
  - Maternal age is less than 16 years old or greater than 34 years old.
  - Diagnoses of preeclampsia, high blood pressure, diabetes or placental complications (e.g., placenta accreta or placenta previa) are present during pregnancy.
  - Diagnoses of mental or behavioral health conditions or substance use disorders are present during pregnancy.

# 37% of pregnancies in STAR Program were high-risk in 2021



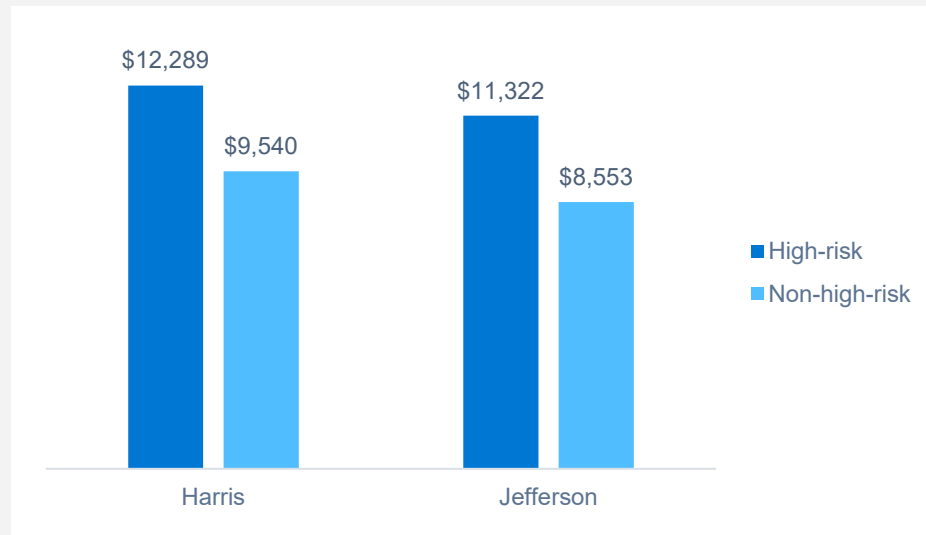


# Differences in high-risk conditions by race/ethnicity



# High-risk pregnancies were 1.3x more costly than non-high-risk pregnancies

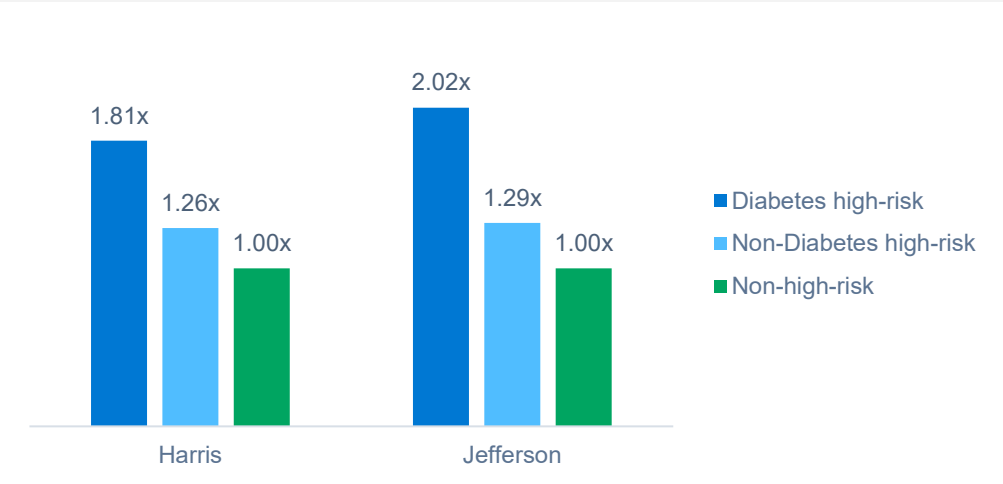
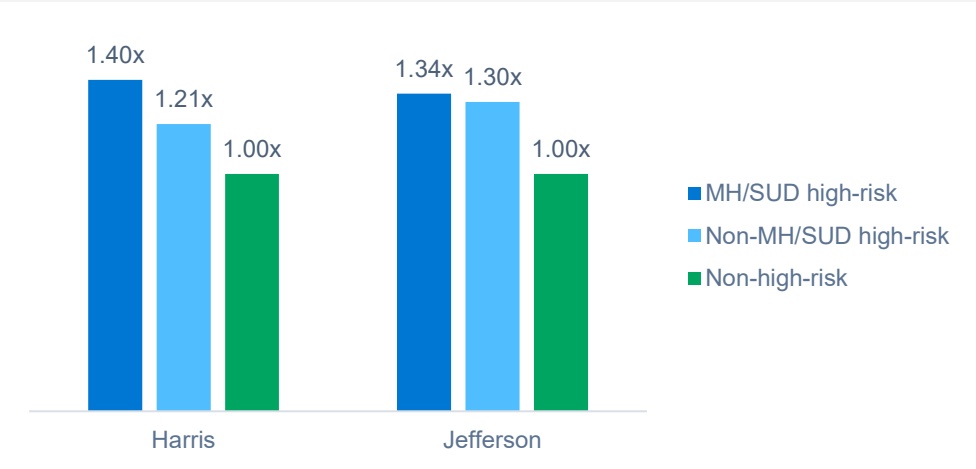
Average costs per high-risk pregnancy for STAR members, 2021



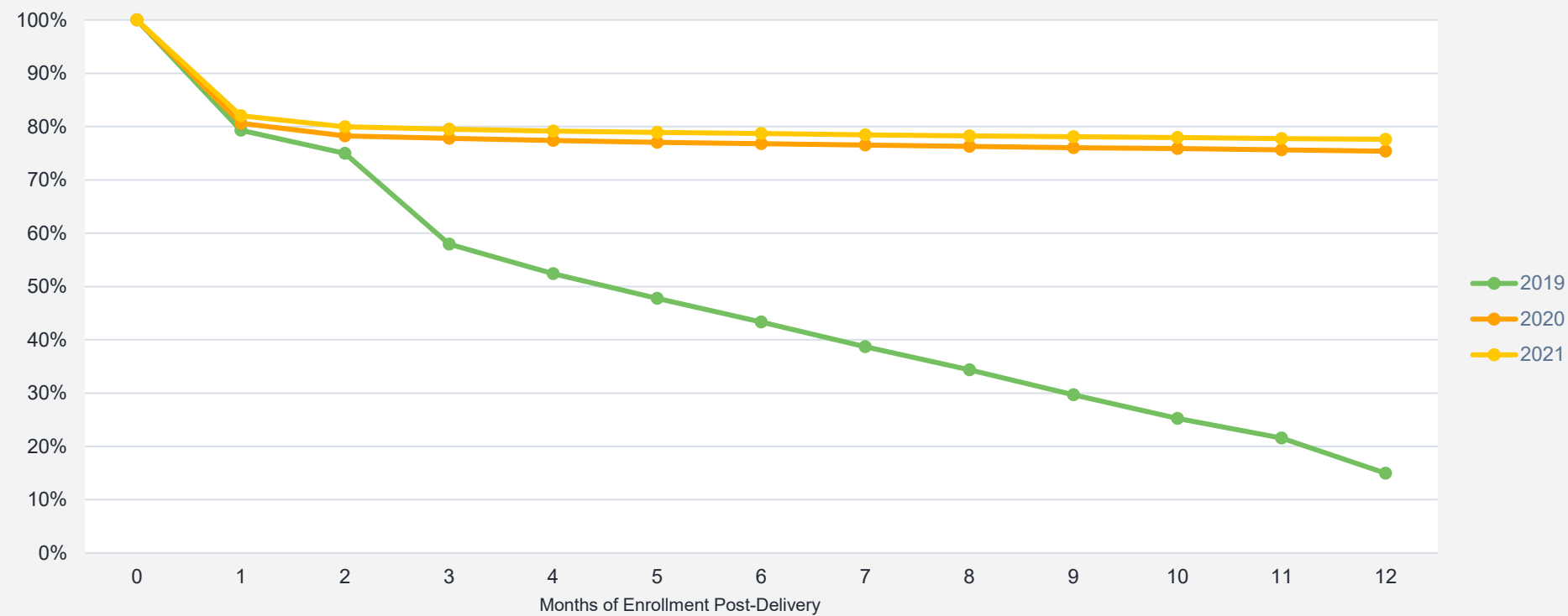
- C-section deliveries were the main driver of cost differences
- Costs for lab and radiology services are typically higher for high-risk pregnancies.

# Costs for high-risk pregnancies for those with diabetes or MH/SUD are higher than for pregnancies without these conditions.

Average costs per high-risk pregnancy by conditions, 2021



# Enrollment in STAR through 12-months postpartum increased after the 2020 COVID-19 Public Health Emergency



## Postpartum behavioral healthcare utilization is low relative to need

Following delivery **23%** members in Harris SDA, **35%** members in Jefferson had a BH diagnosis.

Of those with a BH diagnosis, **27%** in Harris SDA and **23%** in Jefferson SDA received at least one BH related service postpartum.



# Key Takeaways

- Health conditions studied are prevalent and have substantial impacts on health outcomes and healthcare costs for Texas Medicaid.
- There are ways to prevent a meaningful portion of diabetes or high-risk pregnancy cases.
- Programs that can effectively reduce the incidence of conditions may be able to generate healthcare cost savings.
- Whether savings will be net of intervention costs depends on the effectiveness of the program, and the costs of implementing it.





# Thank you

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## Reports available at:

<https://www.episcopalhealth.org/wp-content/uploads/2024/11/Milliman-Diabetes-prevalence-and-costs-in-Texas-Medicaid-2024-11-15.pdf>

<https://www.episcopalhealth.org/wp-content/uploads/2025/02/Milliman-High-risk-pregnancies-in-Texas-Medicaid-February-2025.pdf>