

Assessing the Impact of the 'Management of Maternal ('MOMs') Diabetes Program' in South Carolina

Dongxu Fu^{1,2}, Misti Leyva^{1,2}, Megan Schellinger³, Berry Campbell³, Courtney Cart⁴, Hannah White⁴, Jessica Britt⁴, Usah Lilavivat⁵, Makala Smith⁵, Matthew Finneran⁶, Maegan Manson², Kelly Hunt⁷, Timothy Lyons^{1,2} and MOMs Diabetes Program of SC.

1. Diabetes Free South Carolina, BlueCross BlueShield of South Carolina, Columbia, SC. 2. Division of Endocrinology, Medical University of South Carolina, Charleston, SC. 3. Maternal Fetal Medicine - 4. Department of Obstetrics & Gynecology – 5. Endocrinology, Prisma Health Upstate & Midlands, Greenville and Columbia, SC. 6. Division of Maternal Fetal Medicine - 7. Department of Public Health Sciences, Medical University of South Carolina, Charleston, SC

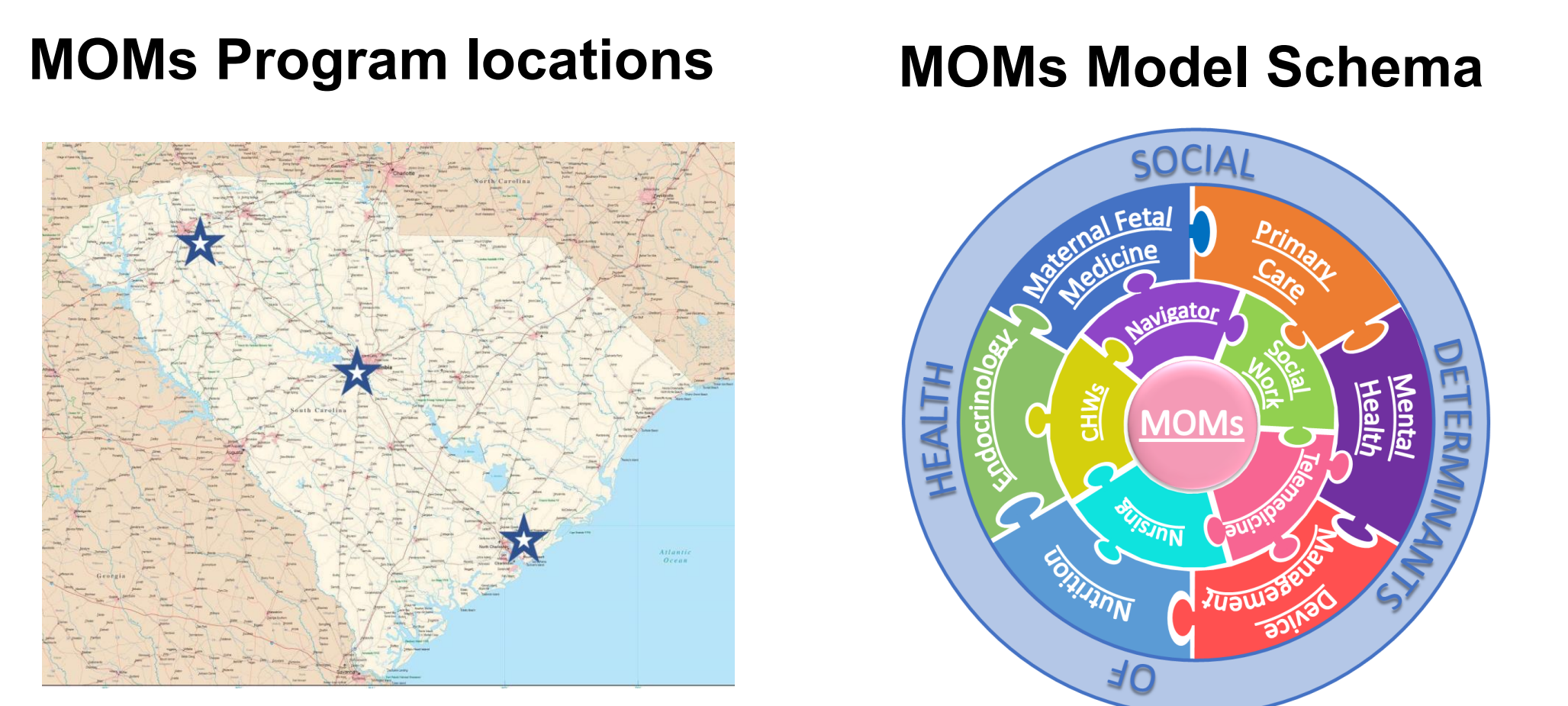


An independent licensee of the Blue Cross Blue Shield Association.

Introduction & Objective

In South Carolina, risks of diabetic pregnancy are amplified by racial, economic, and geographic disparities, and by adverse social determinants of health (SDOH). Expert team-based care is essential: it must be equitable and feasible for both patients and providers, and must address real-life needs.

Objective: To improve pregnancy outcomes through a 'Management of Maternal (MOMs) Diabetes Program', implemented at three centers across SC. To emphasize a 'one stop shop', team-based approach, reducing disparities while optimizing the use of new technologies.



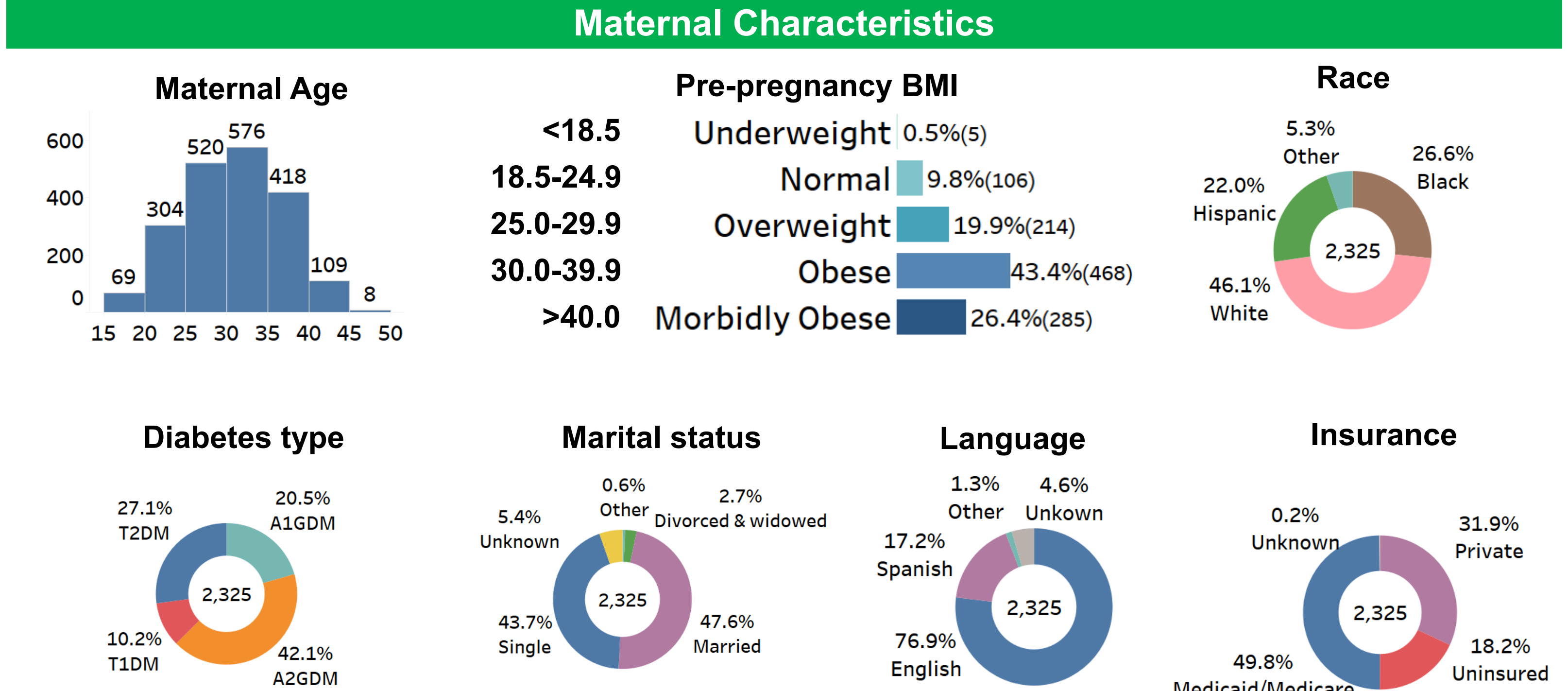
Methods

MOMs programs were implemented in 2020 at the Medical University of SC (Charleston), and at two Prisma Health locations: Midlands (Columbia, Sumter) and Upstate (Greenville). The team approach aimed to enhance patient-provider communication, educate everyone, utilize new technologies, reduce clinic visits & travel, and address SDOH.

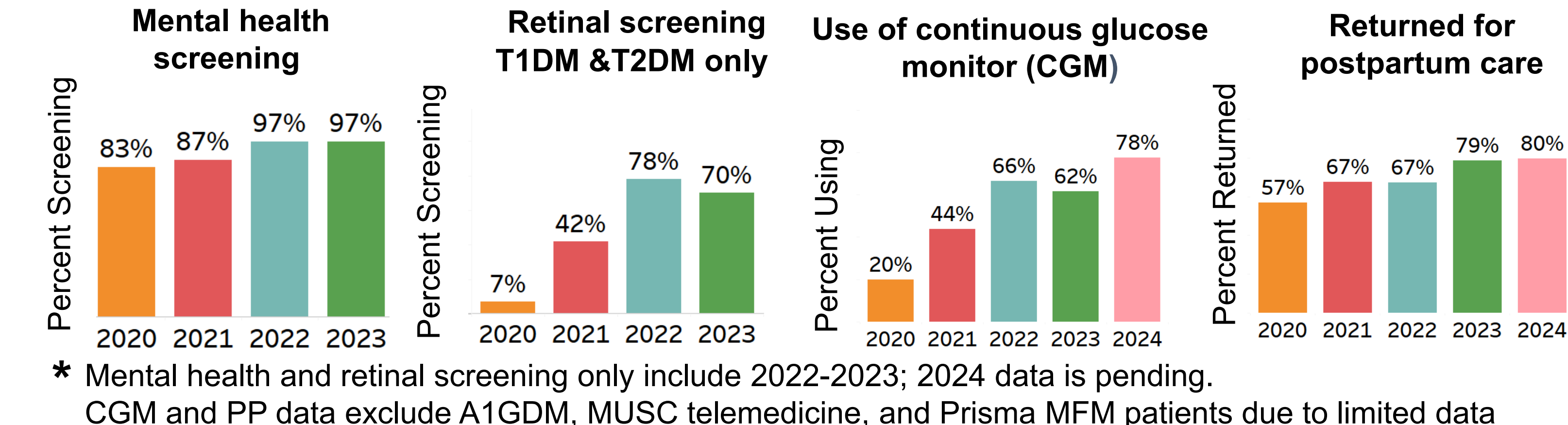
Core team members/components were: Maternal Fetal Medicine, Endocrinology, RN/RD Diabetes Educators, Navigator, Retinal Screening, and Telemedicine. Coordinated, de-identified clinical data were collected at each location and incorporated into a Diabetes Free SC repository. Since 2020, MOMs Programs have cared for about 3,000 pregnancies. Data reported are from 2,325 with deliveries in 2020-2024, July.

MOMs outcomes were compared with 944 patients in a 'standard care' comparator group (COMP) from the Medical University of South Carolina perinatal database (2017-2019). Distributions for maternal age were similar between MOMs and COMP, but COMP had a higher proportion of Black patients and a lower proportion with T1DM. MOMs data were adjusted accordingly. Full cohort comparisons are presented. Statistical analyses used Two Proportion Z-Tests ($p < 0.05$).

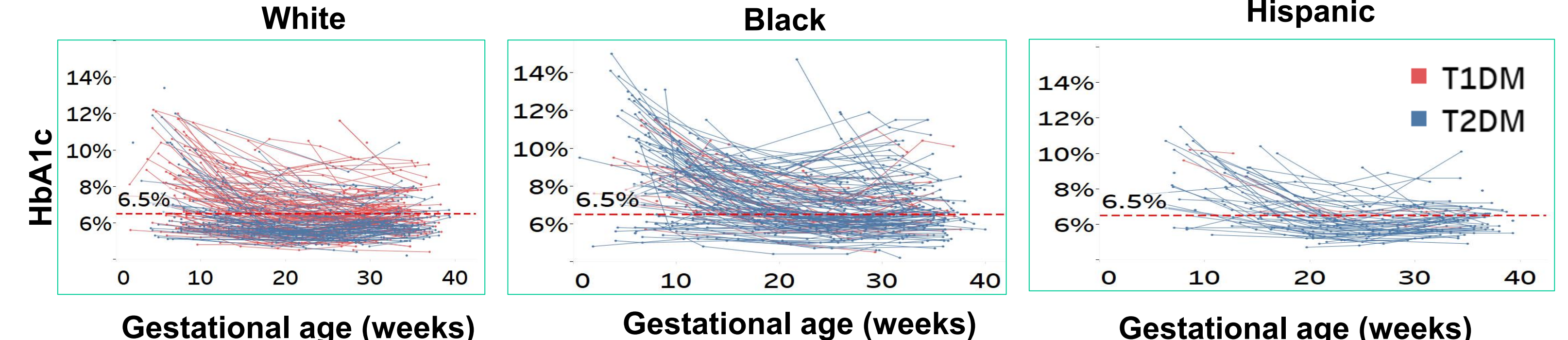
Results: MOMs Cohort



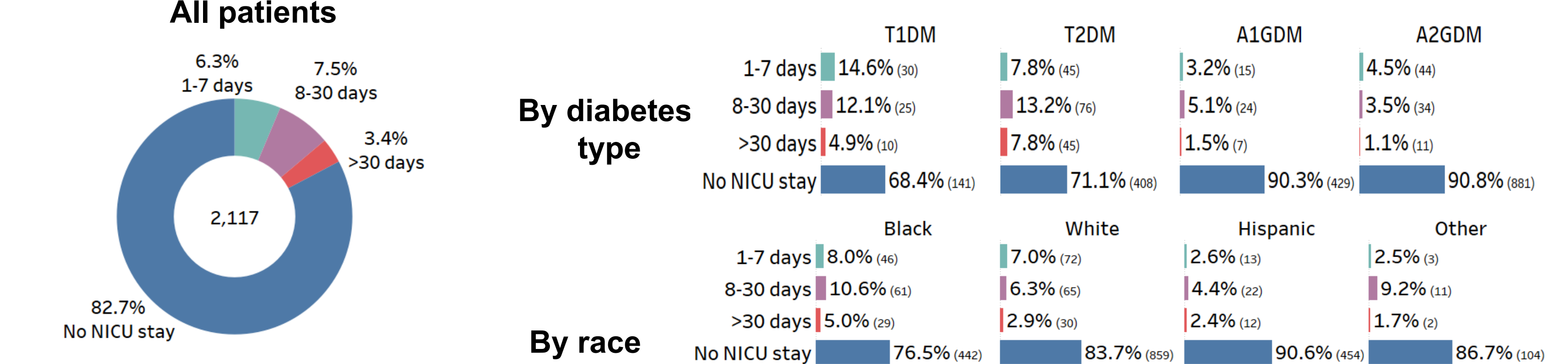
Improvements in Care, 2020-2024 *



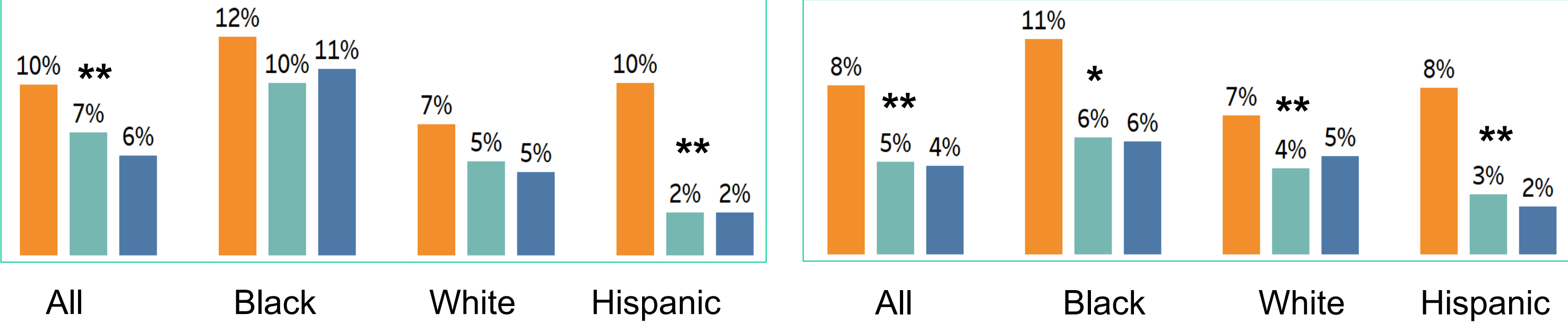
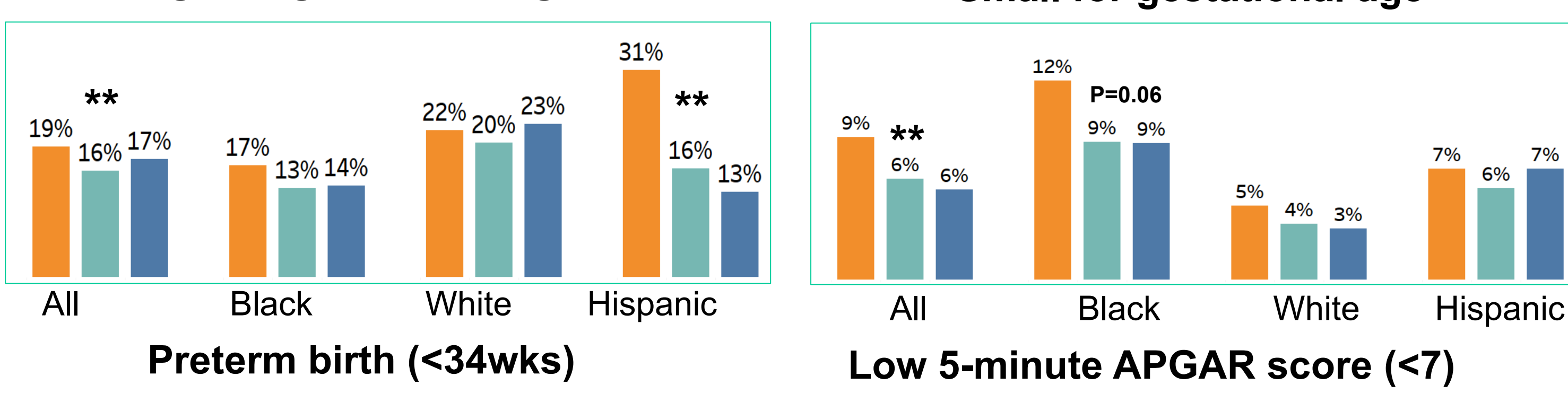
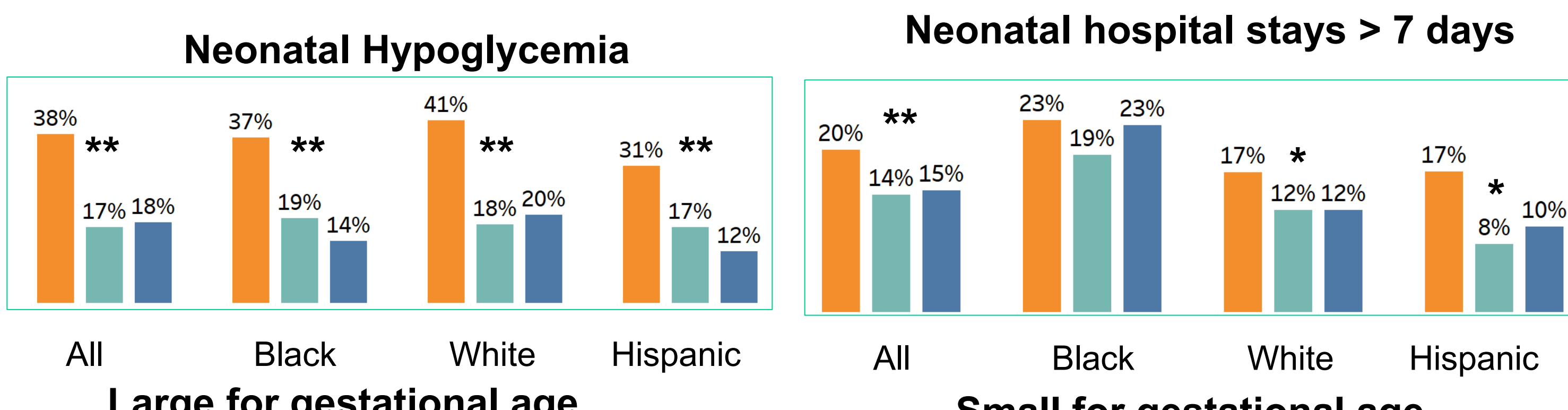
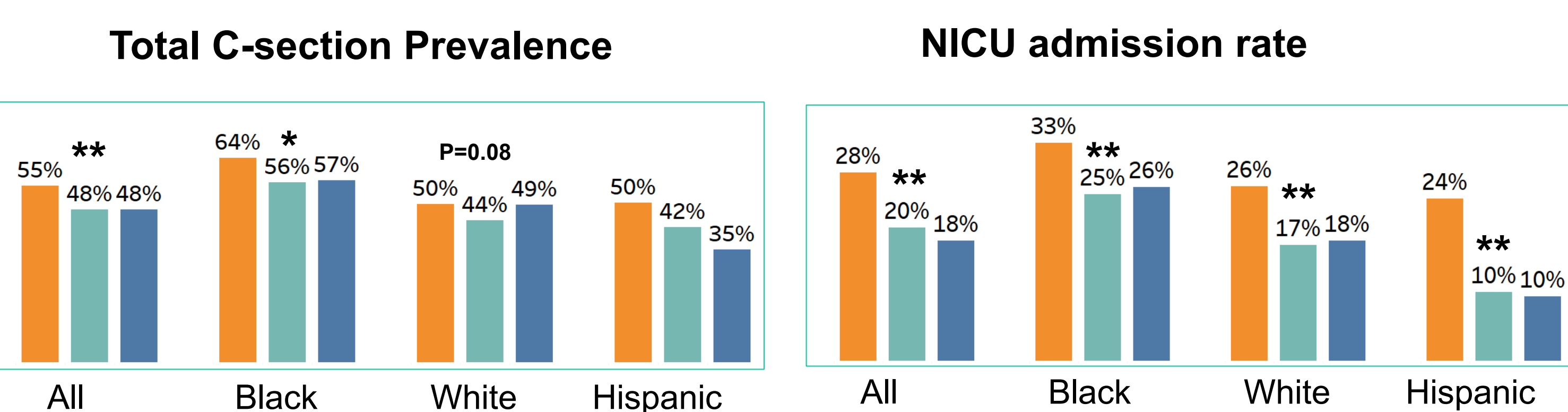
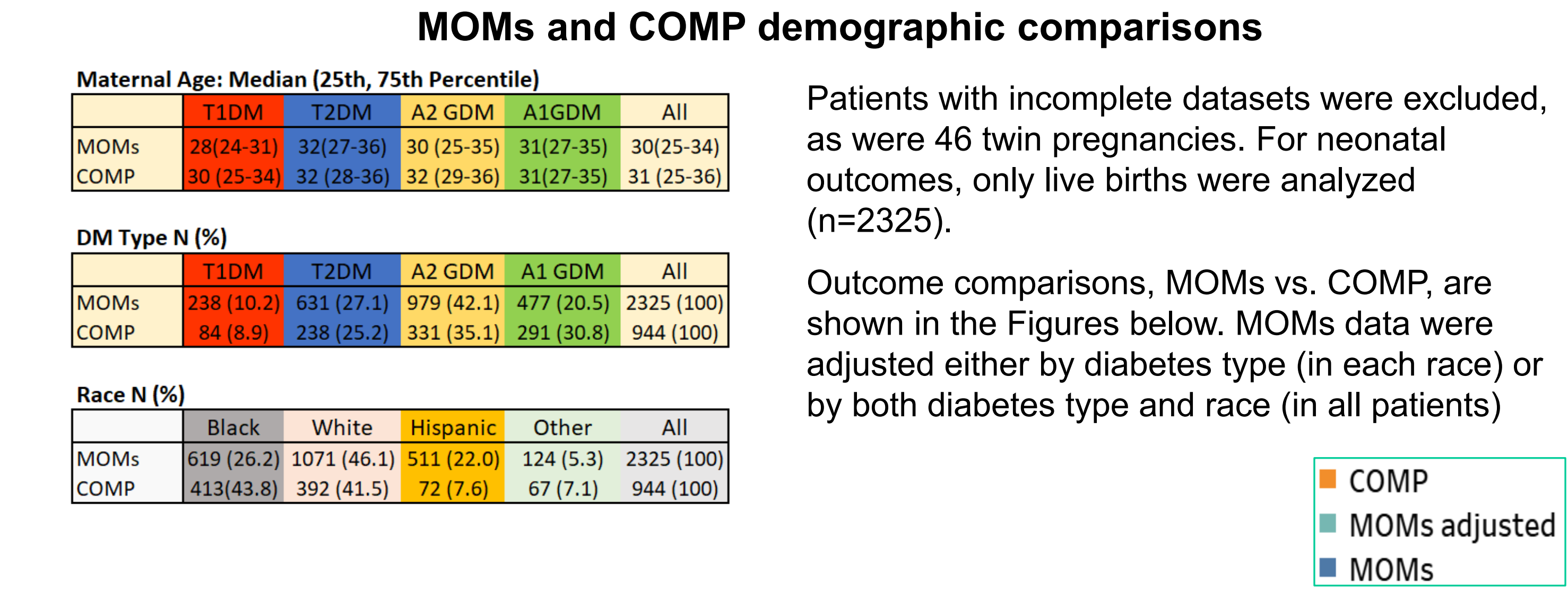
HbA1c throughout pregnancy: Pregestational T1DM & T2DM only



Infants: Duration of NICU stay (days)

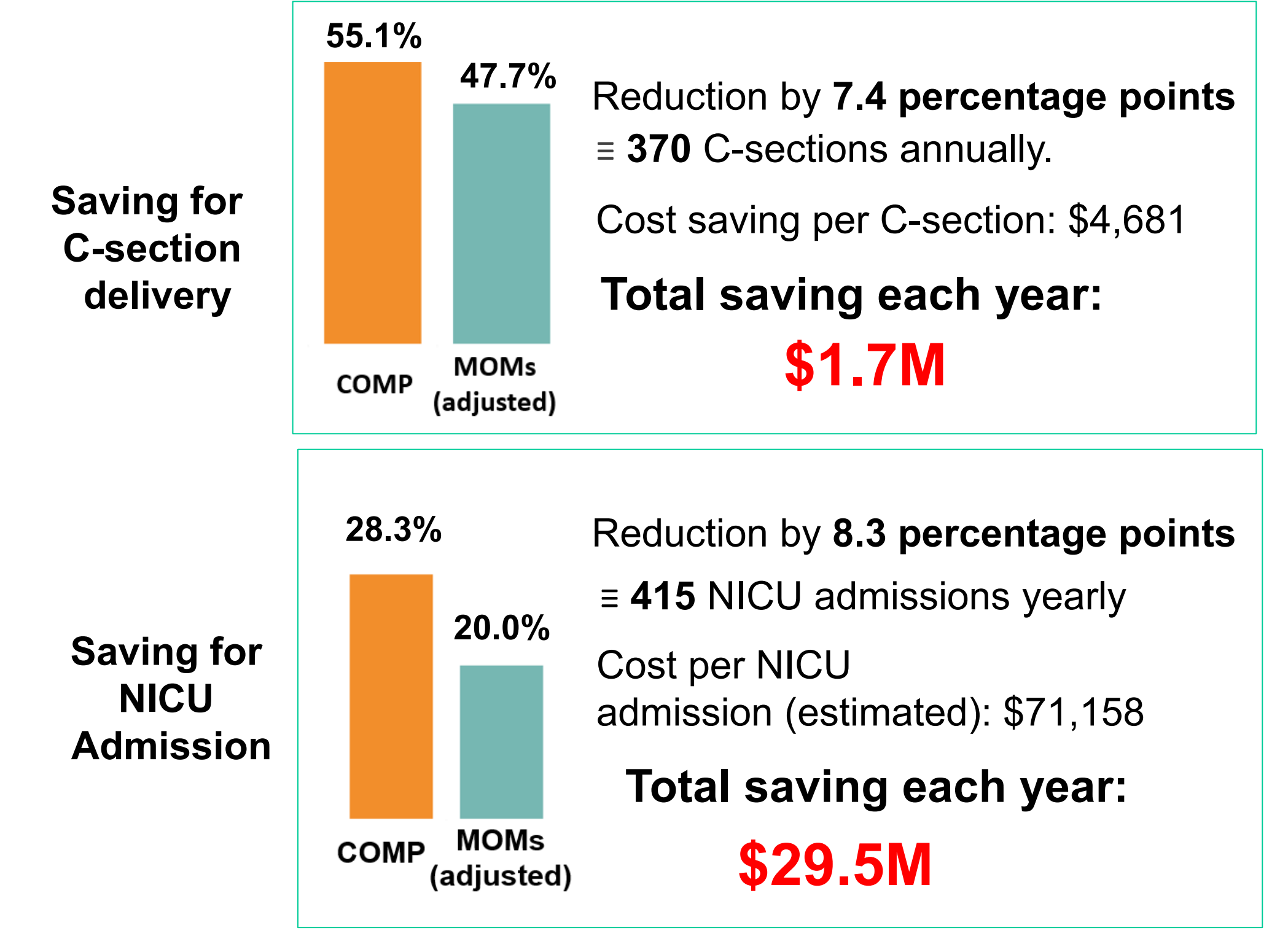


Results: MOMs vs. COMP



Potential cost saving (South Carolina, yearly)

About 5,000 deliveries each year are complicated by diabetes in SC. If these outcome changes were achieved statewide:



To these short-term savings may be added many long-term, durable benefits and health-related cost savings for mother and child, extending years and decades into the future.

Summary & Conclusion

Implementation of the MOMs program was associated with fewer C-sections, NICU admissions, pre-term births and episodes of neonatal hypoglycemia, and improved APGAR scores. However, emphasizing the continuing challenge of racial disparities and the need for redoubled effort, benefits were generally greater for White than Black patients.

Acknowledgements

Diabetes Free SC recognizes the outstanding skill and commitment of the team leaders and members at the three MOMs sites. MOMs Programs are funded by the BlueCross BlueShield of South Carolina Foundation to support the goals of Diabetes Free SC. MUSC MOMs Program was also supported by The Duke Endowment. We acknowledge the support of Noreen O'Donnell, DFSC Program Director, and the following team members:

Medical University of South Carolina: Meghan Blanchette, RN Ryan Cuff, MD Matthew Finneran, MD Constance Guille, MD Barbara Head, MD Donna Johnson, MD Elizabeth Johnson, RD Harsha Karanchi, MD Emily Kobus, NP-C, APRN Aundrea Lofley, MD Joye Louie, MPH James McElligott, MD Joni Nelson, PhD Angel Payton-Harmon, MSW Emily Rosenberg, MD Edith Williams, PhD

Prisma Health Midlands: Delaine Barefoot, RDMS Vanessa Bradford, PSR Tracey Campbell, RD Kathryn Capan, FNP Ashia Culler, PSR Mitzi Epting, MS Kristina Huggins, CMA Julia Kimsey, MSN Jihong Liu, PhD Dorothy Mclean, CHW Tonya Seawright, CHW Amanda Tindal, RN Susan West, RN.

Prisma Health Upstate: David Londono Acevedo, CCHW Johanna Bruen, RDN Linda Perez-Cano, RN Kathy Fincher, RD Casey Fiocchi, RD Kathryn Hunt, RN Sharon Keiser, MD Alexis Kelly, BS Emma Klipstein, RN Jessica Odum, PharmD Patti Parker, RN Danny Pasko, MD Pamela Schult, NP Michelle Stancil, RN Sandra Weber, MD Donna West, RN.