GEORGIA PERINATAL QUALITY COLLABORATIVE

Maternal Webinar Series:

"Under Pressure: Decreasing the Immediate and Long-Term Cardiovascular Risk of Pregnant Patients"

January 7, 2025

Maternal Updates

- Data
  Q1 Jan – March – submission due by April 30th
  Q2 April – June – submission due by July 31st
  Q3 July –Sept. – submission due by October 31st
  Q4 Oct. – Dec. – submission due by January 31st

- Hypertension will be going into sustainability in the Spring 2025.

- Be on the lookout for the next quarterly GaPQC Newsletter being published and released this month.

- **2025 GaPQC Annual Conference** – Mark Your Calendar & SAVE THE DATE

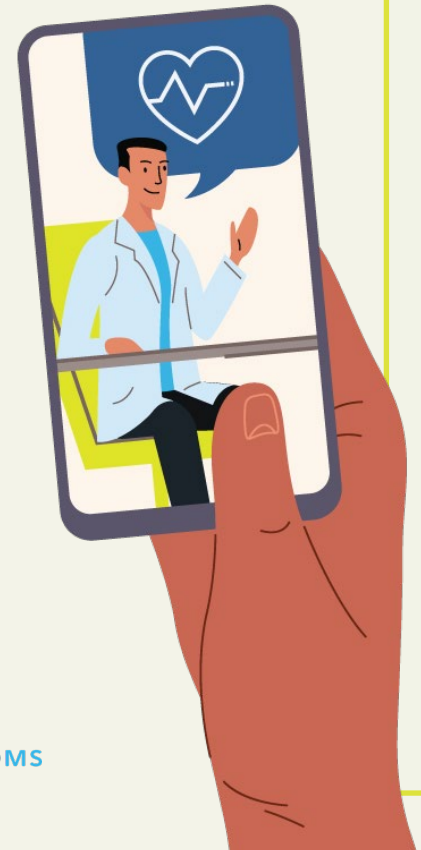
  Thursday and Friday, April 24th & 25th 2025– Emory Conference Center

VIDEO CONTEST

Teresa.Byrd@wellstar.org

GAPQC is reaching out to residency programs and birthing partners to help socialize Cardiovascular Disease Screening in pregnancy and up to 1 year postpartum.

- **All participants are welcome (residents, midwives, nurses, doulas, etc.)**
- **Create a 15 second to 1 minute TikTok/Instagram Reel/story, educating about CVD screening in pregnancy and postpartum.**
- **Videos should be directed to either patients or physicians.**



FOR PATIENTS

Using the "PEACH Card" (CVD warning signs) and/or "Heart Emergency Card"

- The **"PEACH card"** educates patients on the warning signs of possible cardiovascular emergencies that can happen during pregnancy or postpartum.
- The **"Heart Emergency Card"** educates patients on what to tell providers (in Emergency departments, urgent care, offices) when they are experiencing symptoms of possible cardiovascular emergencies.

The video should highlight that this can happen during pregnancy and even up to one year postpartum.

If desired, a link to the magnets/cards can be provided (**https://georgiapqc.org/cardiac-education**), and/or this link to more information can be included:

https://saferbirth.org/aim-resources/aim-cornerstones/urgent-maternal-warning-signs-2/

GaPQC
GEORGIA PERINATAL QUALITY COLLABORATIVE

HOPE FOR GEORGIA MOMS

FOR PROVIDERS

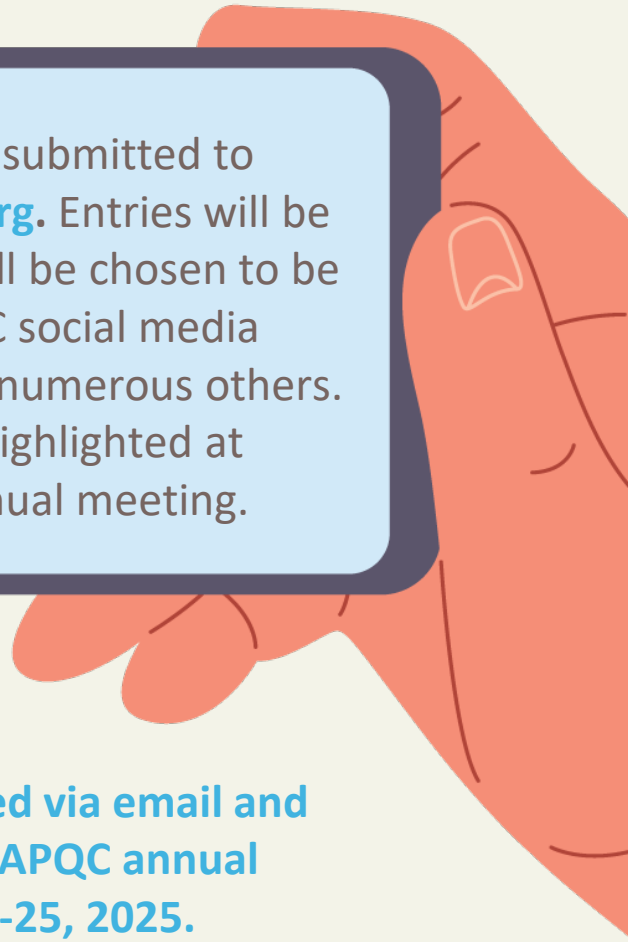
Using the CVD in Pregnancy & Postpartum Algorithm this video should:

- Remind providers that the majority of cardiac events are occurring in the postpartum period.
- Remind providers to ask about current or recent pregnancy.
- Educate providers on when to suspect CVD emergencies and what first tests to order if a CVD emergency is suspected.
- Provide a link to the CVD in Pregnancy & Postpartum Algorithm:

  https://www.acog.org/-/media/project/acog/acogorg/files/pdfs/programs/ob-emergencies/cardiovascular-disease-in-pregnancy-and-postpartum_algorithm.pdf

DEADLINE FOR SUBMISSION IS APRIL 18

All entries should be submitted to **Teresa.Byrd@wellstar.org**. Entries will be reviewed and winners will be chosen to be advertised on GAPQC social media platforms and tagged on numerous others. Videos will also be highlighted at conferences and annual meeting.



Winners will be notified via email and announced at the GAPQC annual meeting April 24-25, 2025.

GaPQC GEORGIA PERINATAL QUALITY COLLABORATIVE

HOPE FOR GEORGIA MOMS

JANUARY 24-25, 2025
Albany, Georgia

For more info,
and to register, visit
http://bit.ly/3wUsRPT

AUGUSTA UNIVERSITY
MEDICAL COLLEGE OF GEORGIA

2025 INAUGURAL
BRIDGING THE GAP
CARING FOR RURAL GEORGIA MOMS

Bridging the Gap is an interprofessional, educational conference that, this year, focuses on rural obstetric health care disparities, highlighting gaps in care and providing education and skills training for providers with a goal of preventing obstetric morbidity and mortality.

For more info,
and to register, visit
http://bit.ly/3wUsRPT

JANUARY 24-25, 2025
Albany, Georgia

All healthcare professionals are encouraged & invited to attend.

AUGUSTA UNIVERSITY MEDICAL COLLEGE OF GEORGIA
Center for Telehealth

Southwest Georgia AHEC Area Health Education Center

Accreditation - The Medical College of Georgia is accredited by the Accreditation Council for Continuing Medical Education (ACCME®) to provide continuing medical education (CME) for physicians.

Designation - This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Medical College of Georgia and Southwest Georgia AHEC. The Medical College of Georgia is accredited by the ACCME to Provide continuing medical education for physicians. The Medical College of Georgia designates this live activity for a maximum of 9.25 AMA PRA Category 1 Credits. Attendees should claim only the credit commensurate with the extent of their participation in the activity.

AHEC CME Statement
The Georgia Board of Nursing deems Southwest Georgia Area Health Education Center (SOWEGA-AHEC) as an Approved Provider for Nursing Continuing Education (CE). This CE Activity Awards 9.25 Contact Hours Towards the Continuing Education Competency Requirement for Georgia Nurse License Renewal. Activity # 2025-01.

EMS CME CREDIT - This activity is approved for 9.25 hours of EMS CME credit by the Office of EMS and Trauma.

AWHONN
PROMOTING THE HEALTH OF WOMEN AND NEWBORNS

OBSTETRIC PATIENT SAFETY PROGRAM

HOPE FOR GEORGIA MOMS

Obstetric Patient Safety (OPS): OB Emergencies Workshop 3rd Edition

Despite efforts from many collaborative agencies and professional organizations, the Maternal Mortality rate in the US continues to remain high. The OPS Workshop is designed to help clinicians identify, assess, and manage the patients with an Obstetric emergency through simulation and debriefing

Workshop Dates for 2025

Time: 8:00am -5:00pm

February 18	March 18	April 14
May 13	June 10	July 24
August 12	September 16	October 14
November 11	December 9	

Submit Request to attend to: Tasha Murchison at tasha.murchison@nghs.com

Additional information: We encourage hospitals across Georgia to attend and send members of the Obstetric and Emergency Department. Reach out for any additional questions.

SAVE THE DATE: FEBRUARY 28-MARCH 1, 2025

To Register:
Northside.com/HOTM2025


GEORGIA PERINATAL QUALITY COLLABORATIVE
GaPQC
THE FOURTH TRIMESTER:
The Forgotten Phase
2025 ANNUAL MEETING
APRIL 24 & 25, 2025
EMORY CONFERENCE
CENTER HOTEL
1615 CLIFTON RD
ATLANTA, GEORGIA
THE "FORGET ME NOT" FLOWER HONORS THOSE IMPACTED BY PREGNANCY AND
REPRODUCTIVE LOSS AND RAISES AWARENESS FOR THE MILLIONS OF PEOPLE IMPACTED.

GaPQC
GEORGIA PERINATAL QUALITY COLLABORATIVE

NEEDS YOUR HELP!

CARDIAC CONDITIONS IN OBSTETRICAL CARE

To reduce severe morbidity & mortality related to maternal cardiac conditions in eorgia & support optimal care in pregnancy & postpartum.

WHO WE ARE?

aPQC is a network of perinatal stakeholders working together to improve the quality of care and outcomes for eorgia mothers and babies.

aPQC leads statewide implementation of quality improvement initiatives through technical assistance, quality improvement training, education, and data support to hospitals.

ENROLL TODAY

SUPPORT THE CARDIAC CONDITIONS IN OB CARE INITIATIVE

https://georgiapqc.org/cardiac-conditions

GaPQC's CARDIAC INITIATIVE

Cardiac conditions were the leading cause of pregnancy related deaths in eorgia between the years of 20 20 .

eorgia will be the first state in the country to implement the Alliance for Innovation on Maternal Health s (AIM) Cardiac Conditions in Obstetrical Care patient safety bundle.

The aPQC partners with AIM to support best practices that make birth safer, improve maternal health outcomes and save lives.

https://www.georgiapqc.org

gapqc@dph.ga.gov

Cardiac Conditions in Obstetrical Care

Enrollment Form

GaPQC
GEORGIA PERINATAL QUALITY COLLABORATIVE

Hospital Name*

Indicate your level of participation :

☐ **Learning Collaborative**
Please provide your contact information

Name	Email	Phone	Credentials

☐ **Active Improvement Team**
Please complete the rest of the form

Initative Champions	Name	Email	Include on GaPQC Emails	Phone	Credentials
Physician or Advance Practice Provider Champion					
Project Champion					
Data Lead					

Additional Multidisciplinary Champions

Specialty (e.g. Cardiology, Emergency Medicine, Anesthesiology, Labor and Delivery, etc.)	Name	Email	Include on GaPQC Emails	Phone	Credentials

By signing below, I acknowledge my understanding of the goals and expectations of Georgia Perinatal Quality Collaborative and commit to full participation in the mutually agreed upon initiative(s).

Physician or Advance Practice Provider Champion	Signed:		Date:	
	Name:			
Project Champion	Signed:		Date:	
	Name:			

*Please check this box if you would like to join the Learning Collaborative as an individual and not as a representative of a hospital ☐

Email your completed enrollment form to:

Lisa Ehle
Maternal Quality Improvement
Lisa.Ehle@dph.ga.gov

Key Driver Diagram: Maternal Cardiac Conditions

GOAL:

To reduce severe morbidity & mortality related to maternal cardiac conditions in Georgia.

SMART AIM:

By 02/6/2026, National Wear Red Day, to reduce harm related to existing and pregnancy related cardiac conditions through the 4th trimester by 20%.

Key Drivers

Readiness: EVERY UNIT - Implementation of standard processes for optimal care of cardiac conditions in pregnancy and post-partum.

Recognition & Prevention: EVERY PATIENT - Screening and early diagnosis of cardiac conditions in pregnancy and post-partum.

Response: EVERY UNIT - Care management for every pregnant or postpartum woman with cardiac conditions in pregnancy and post-partum.

Reporting/System Learning: EVERY UNIT - Foster a culture of safety and improvement for care of women with cardiac conditions in pregnancy and post-partum.

Respectful, Equitable, and Supportive Care — EVERY UNIT/PROVIDER/TEAM MEMBER - Inclusion of the patient as part of the multidisciplinary care team.

INTERVENTIONS

- ❑ Train all obstetric care providers to perform a basic Cardiac Conditions Screen.
- ❑ Establish a protocol for rapid identification of potential pregnancy-related cardiac conditions in all practice settings to which pregnant and postpartum people may present.
- ❑ Develop a patient education plan based on the pregnant and postpartum person's risk of cardiac conditions.
- ❑ **Establish a multidisciplinary "Pregnancy Heart Team" or consultants appropriate to their facility's designated Maternal Level of Care to design coordinated clinical pathways for people experiencing cardiac conditions in pregnancy and the postpartum period.** S1
- ❑ Establish coordination of appropriate consultation, co-management and/or transfer to appropriate level of maternal or newborn care.
- ❑ Develop trauma-informed protocols and training to address health care team member biases to enhance quality of care
- ❑ Develop and maintain a set of referral resources and communication pathways between obstetric providers, community-based organizations, and state and public health agencies to enhance quality of care. *

- ❑ Obtain a focused pregnancy and cardiac history in all care settings, including emergency department, urgent care, and primary care.
- ❑ **In all care environments assess and document if a patient presenting is pregnant or has been pregnant within the past year.** S2
- ❑ Assess if escalating warning signs for an imminent cardiac event are present.
- ❑ Utilize standardized cardiac risk assessment tools to identify and stratify risk.
- ❑ Conduct a risk-appropriate work-up for cardiac conditions to establish diagnosis and implement the initial management plan.

- ❑ Facility-wide standard protocols with checklists and escalation policies for management of **cardiac symptoms**.
- ❑ Facility-wide standard protocols with checklists and escalation policies for management of people **with known or suspected cardiac conditions.**
- ❑ Coordinate transitions of care including the discharge from the birthing facility to home and transition from postpartum care to ongoing primary and specialty care.
- ❑ Offer reproductive life planning discussions and resources, including access to a full range of contraceptive options in accordance with safe therapeutic regimens. *
- ❑ **Provide patient education focused on general life-threatening postpartum complications and early warning signs, including instructions of who to notify if they have concerns, and time and date of a scheduled postpartum visit**.

- ❑ For pregnant and postpartum people at high risk for a cardiac event, establish a culture of multidisciplinary planning, admission huddles and post-event debriefs.
- ❑ **Perform multidisciplinary reviews of serious complications (e.g. ICU admissions for other than observation) to identify systems issues.** S4
- ❑ Monitor outcomes and process data related to cardiac conditions, with disaggregation by race and ethnicity due to known disparities in rates of cardiac conditions experienced by Black and Indigenous pregnant and postpartum people. **Process Measures – 1-5**

- ❑ Screen for structural and social drivers of health that might impact clinical recommendations or treatment plans and provide linkage to resources that align with the pregnant or postpartum person's health literacy, cultural needs, and language proficiency.
- ❑ Engage in open, transparent, and empathetic communication with pregnant and postpartum people and their identified support network to understand diagnoses, options, and treatment plans.
- ❑ **Include each pregnant or postpartum person and their identified support network as respected members of and contributors to the multidisciplinary care team.** *S5

Katie Berlacher, MD, MS

Associate Chief of Education Director,
Director of the Women's Heart Program
for the Heart and Vascular Institute
University of Pittsburgh Medical Center

Malamo Countouris, MD

Assistant Professor of Medicine,
Division of Cardiology
University of Pittsburgh Medical Center

Under Pressure: Decreasing the Immediate and Long-term Cardiovascular Risks of Pregnant Patients

Katie Berlacher, MD, MS
Associate Professor

Malamo Countouris, MD, MS
Assistant Professor
@malamo512

Outline

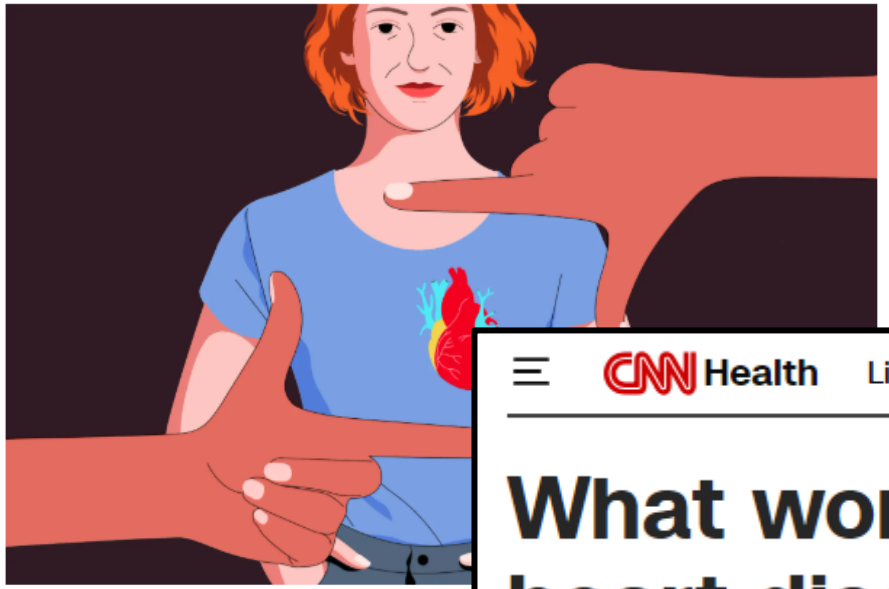
I. UPMC Women's Heart Program
II. Hypertensive disorders of pregnancy and maternal morbidity and mortality
III. Multi-disciplinary postpartum hypertension clinic
IV. Sex Specific Risk Factors

The New York Times

Why Heart Disease in Women Is So Often Missed or Dismissed

New research shows that women may not realize their symptoms point to heart trouble, and that medical providers aren't picking up on it either.

Share full article 732



Charlotte Fu

CNN Health | Life, But Better | Fitness | Food | Sleep | Mindfulness | Relationships | Watch

What women can do to reduce their risk from heart disease

By Katia Hetter, CNN

6 minute read · Updated 8:21 AM EST, Wed February 7, 2024

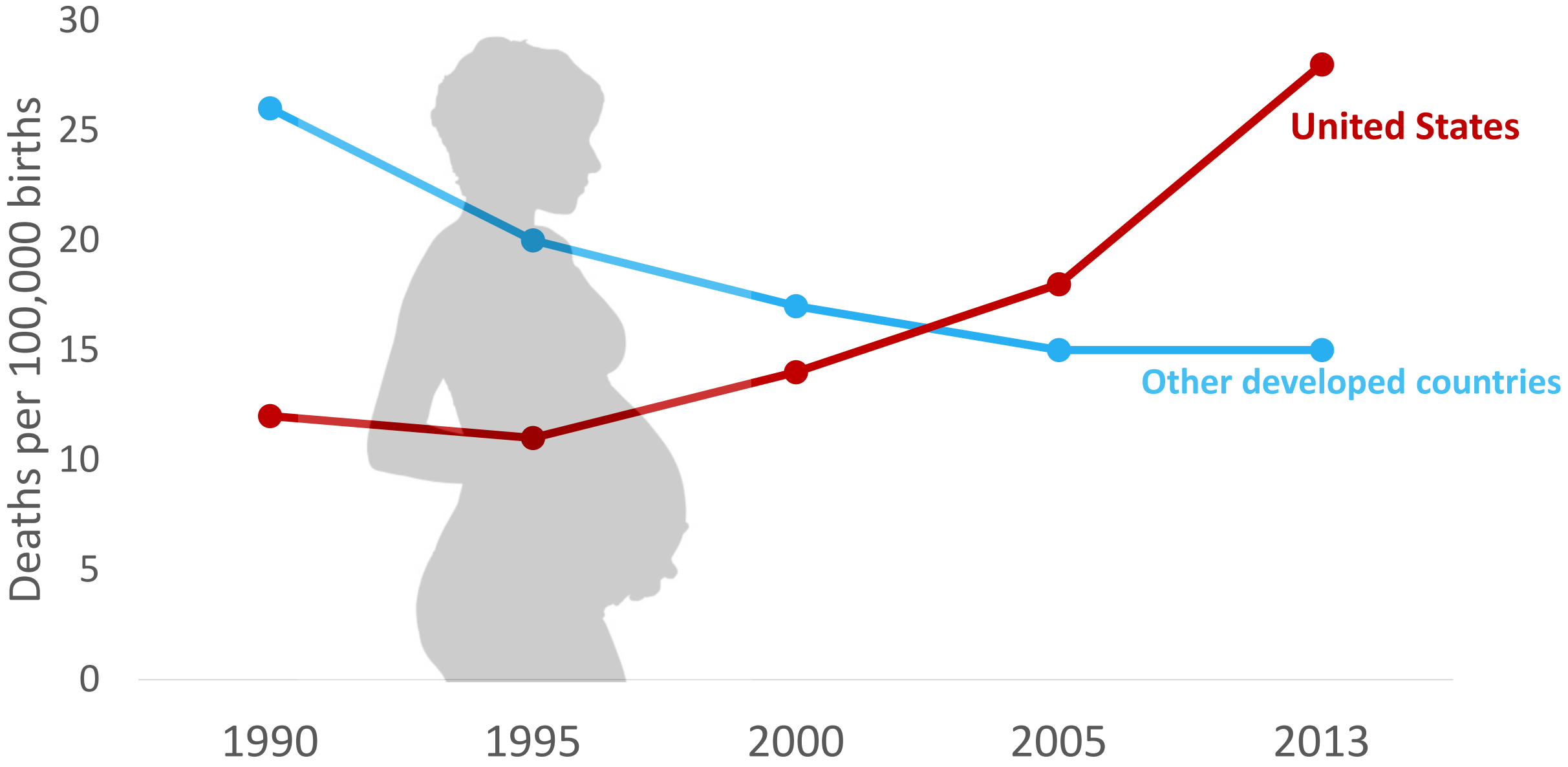
Magee Women's Heart Program

Caring for Women's Hearts at ALL Stages of Life

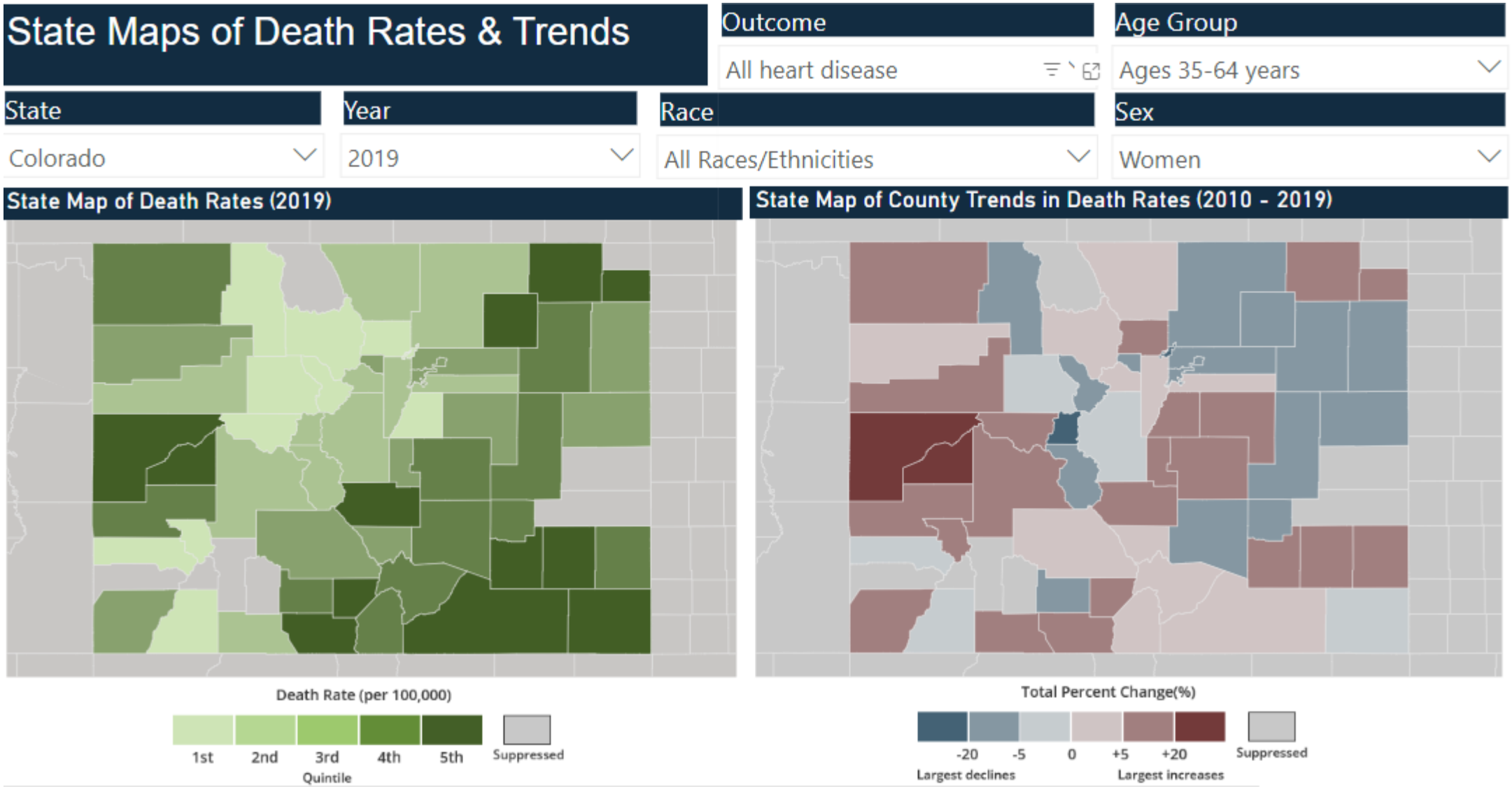
- General Cardiology including sex specific risk assessment, new symptoms, high blood pressure, coronary and valve disease, arrhythmias, heart failure, congenital heart disease
- High Risk Pregnancy with or at risk for Cardiac Disease
- Cardiac Complications of Cancer and Cancer related Treatment
- Peri- Post- Menopausal Care
- Interdisciplinary Care with PCPs and Specialists



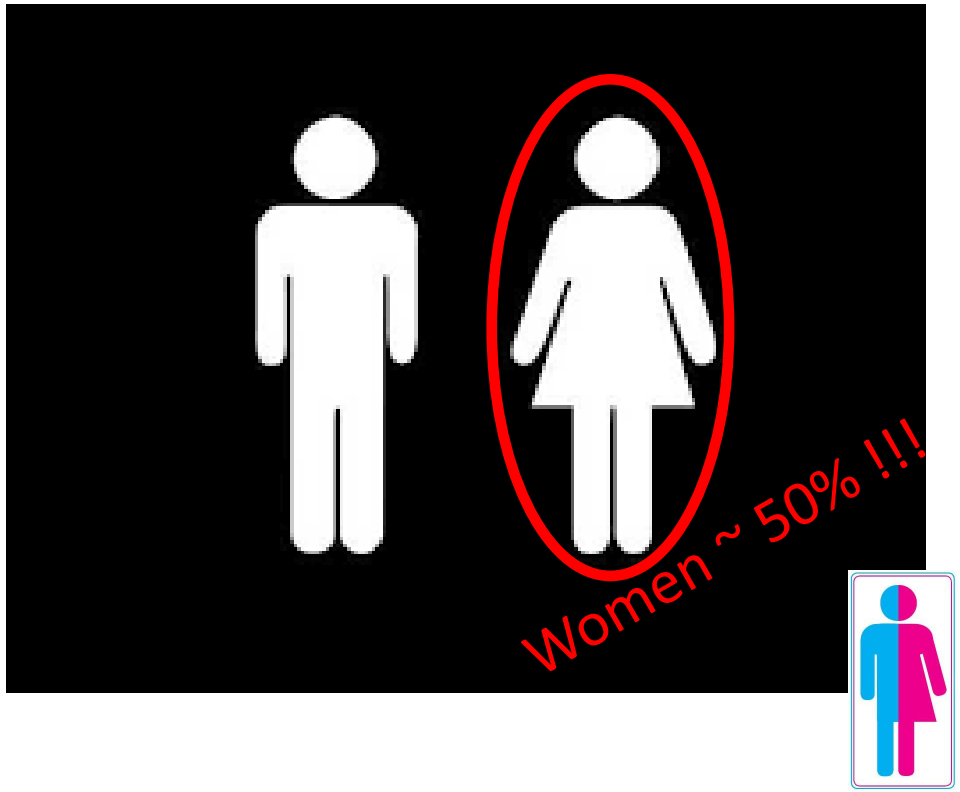

U.S. faces devastating rise in maternal mortality



What Happens to 35-64 yo Women in Colorado?



But… I rarely take care of pregnant patients.



This is fundamental critical knowledge.

WE ALL NEED IT.

Case: 35yo woman with a history of preeclampsia in prior pregnancy who is presenting to establish care after recent pregnancy complicated by recurrent preeclampsia.

- Delivered via repeat c-section 2 months prior to visit for mild preeclampsia at 37 weeks gestation.
- Was taking prophylactic ASA 81mg during pregnancy.
- Required nifedipine 30mg daily for 1 month, now off.
- Home BPs 110s-120s/70s-80s
- Is currently breastfeeding
- Is not doing dedicated exercise, but has no exertional symptoms

Case Continued: Histories

PMH

Overweight pre-pregnancy BMI 27

OB/Gyne history

G1: SVD 37w6d c/b preeclampsia (2017)

G2: twins, c-section delivery 36w2d c/b preeclampsia (2015)

G3: most recent

FH

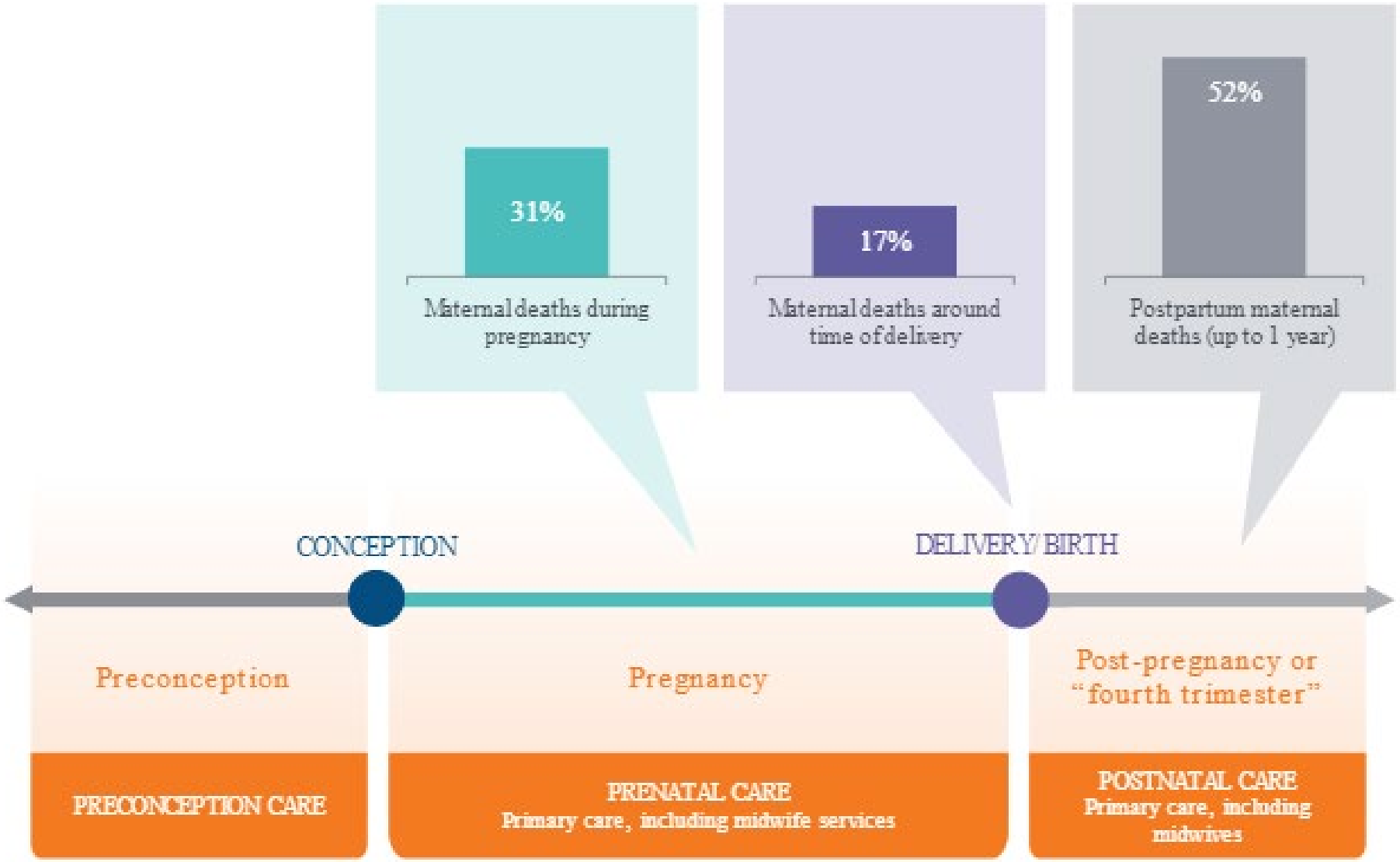
F: HTN, CAD s/p CABG in his 50s, CVAs

SH

No tobacco. Social EtOH.

How can you improve this person's CV health in the future??

Half of pregnancy-related deaths occur after the day of birth.



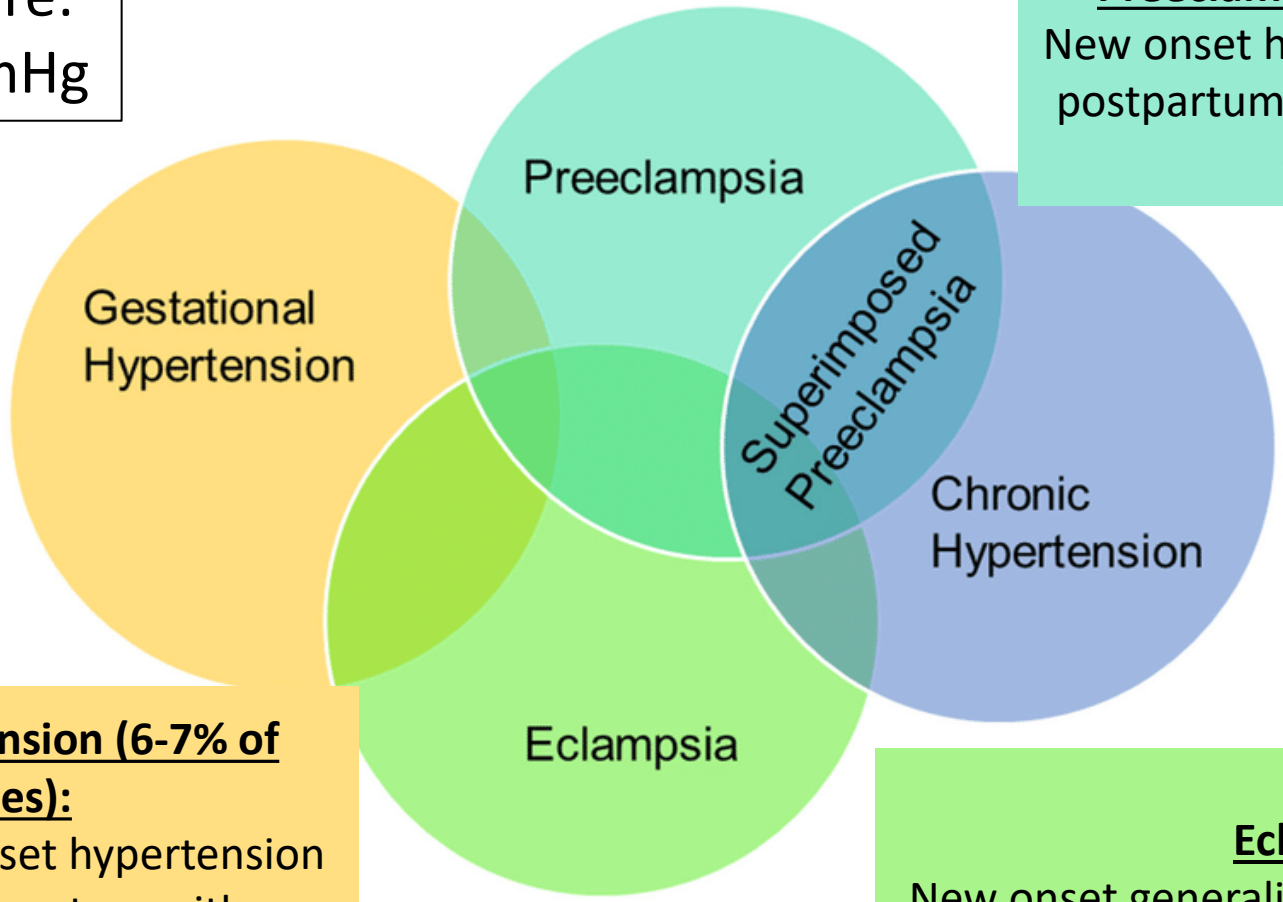
Source: Eugene Declercq and Laurie Zephyrin, *Maternal Mortality in the United States: A Primer* (Commonwealth Fund, Dec. 2020). https://doi.org/10.26099/ta1q-

Black women disproportionately impacted by hypertension-related mortality

Hypertensive Disorders of Pregnancy (HDP)

>15% of pregnant individuals

Blood pressure:
>=140/90 mmHg



Preeclampsia (2-6% of pregnancies):
New onset hypertension after 20 weeks or postpartum with proteinuria and/or end-organ dysfunction

Chronic Hypertension (2-3% of pregnancies):
Hypertension diagnosed before 20 weeks gestation

Gestational Hypertension (6-7% of pregnancies):
Asymptomatic, new onset hypertension after 20 weeks or postpartum with no end-organ dysfunction

Eclampsia:
New onset generalized, tonic-clonic seizures with hypertensive disorder of pregnancy

High blood pressure in pregnancy is common and increases future cardiovascular risk

Affects 10-20% of pregnant individuals

Most common reason for postpartum hospitalization

30-40% develop hypertension within 5 years

2 out of 3 women die from cardiovascular disease

Young women who have unique CV risk factors, face under-treatment, and higher CV morbidity and mortality:

Prevention is key!

What are some ways we can improve care postpartum?

Improving care postpartum

- Home BP monitoring programs
- Postpartum hypertension clinics
- Postpartum navigators

Accessing the toolkit

REPRODUCTIVE HEALTH & CARDIO-OBSTETRICS MEMBER SECTION

Activities and Resources

- Reproductive Health & Cardio-Obstetrics Member Section
  - Section Announcements
  - About Us
  - Activities and Resources

Resources

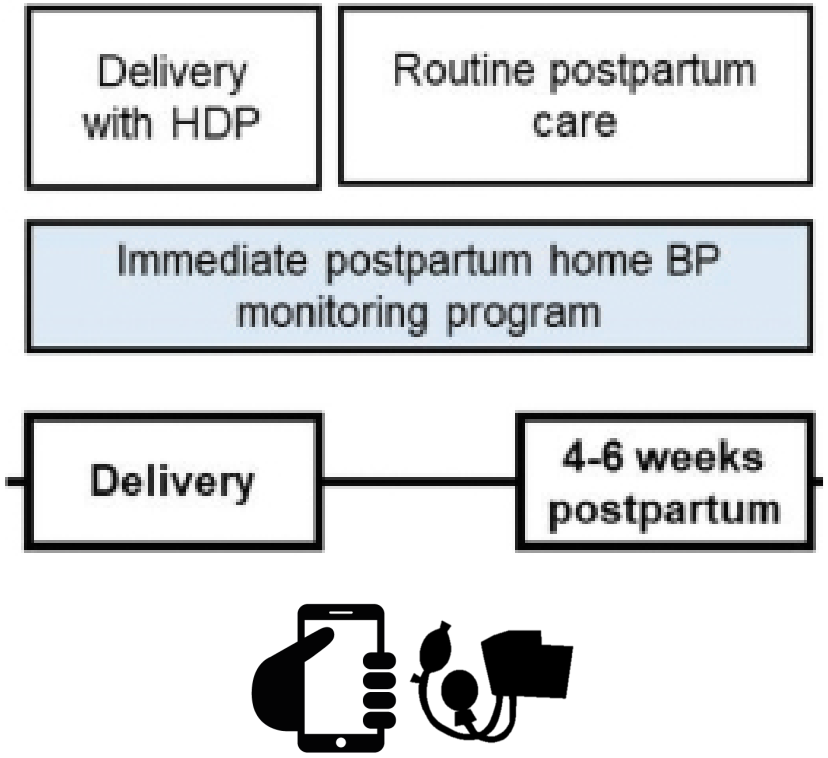
Postpartum Hypertension Clinic Development Toolkit

5-part series: *JACC* Focus Seminar: Cardio-Obstetrics

✔ 1/5: J Am Coll Cardiol. 2021 Apr, 77 (14) 1763–1777

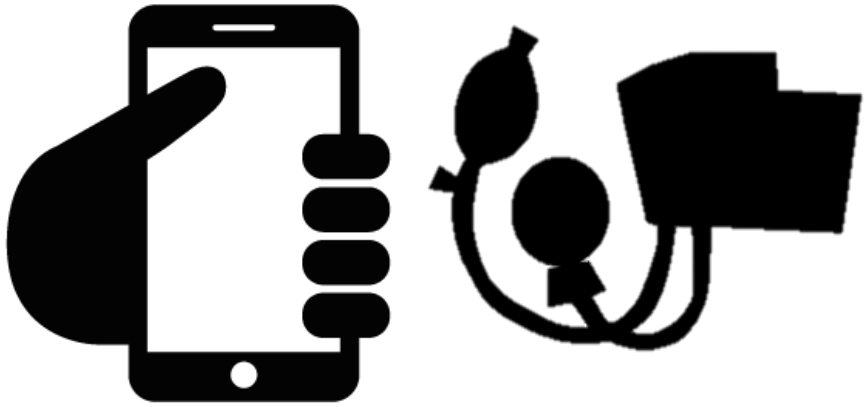
QR Code

Integration of remote BP monitoring and clinical care



Countouris, Berlacher, Hauspurg et al Women's Health Reports, 2022

OR



Office Visit

Text Messaging

Single BP measurement within 10 days

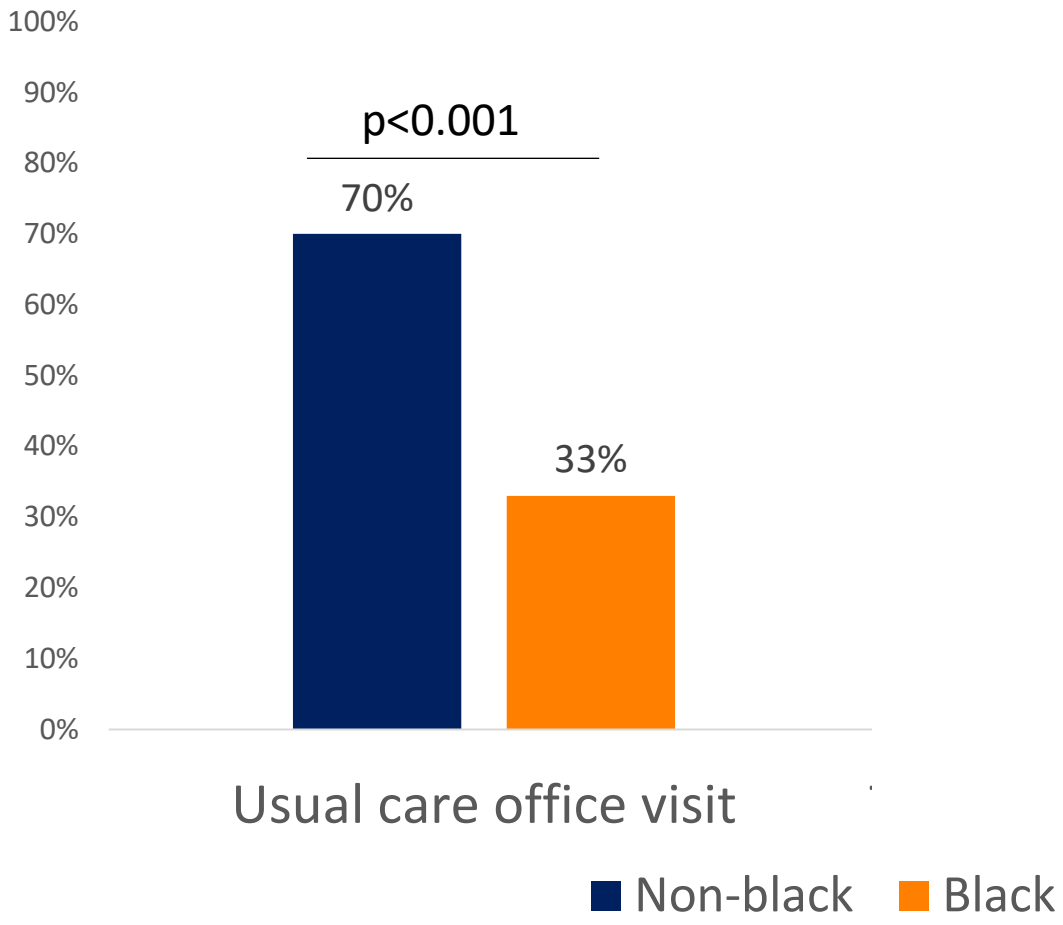
Comparing standard office-based follow-up with text-based remote

Table 3 Postdischarge outcomes

Postdischarge outcome	Office visit n=103 (%)	Text messaging n=103 (%)	P values	aOR (95% CI)	P values
Blood pressure obtained within 10 days*	45 (43.7)	95 (92.2)	<0.001	58.2 (16.2 to 208.1)	<0.001
Outpatient antihypertensive medication initiated within 2 weeks post partum†	10/45‡ (22.2)	17/103 (16.5)	0.41	1.0 (0.3 to 3.1)	0.95
Additional emergency department or office visit for hypertension not resulting in readmission†	2 (1.9)	3 (2.9)	0.65		
Postpartum hypertension readmission	4 (3.9)	0 (0)	0.04		
Attended postpartum visit§	60 (58.2)	71 (68.9)	0.11	2.3 (1.05 to 5.07)	0.04

Hirshberg et al, *BMJ Qual Safety* 2018

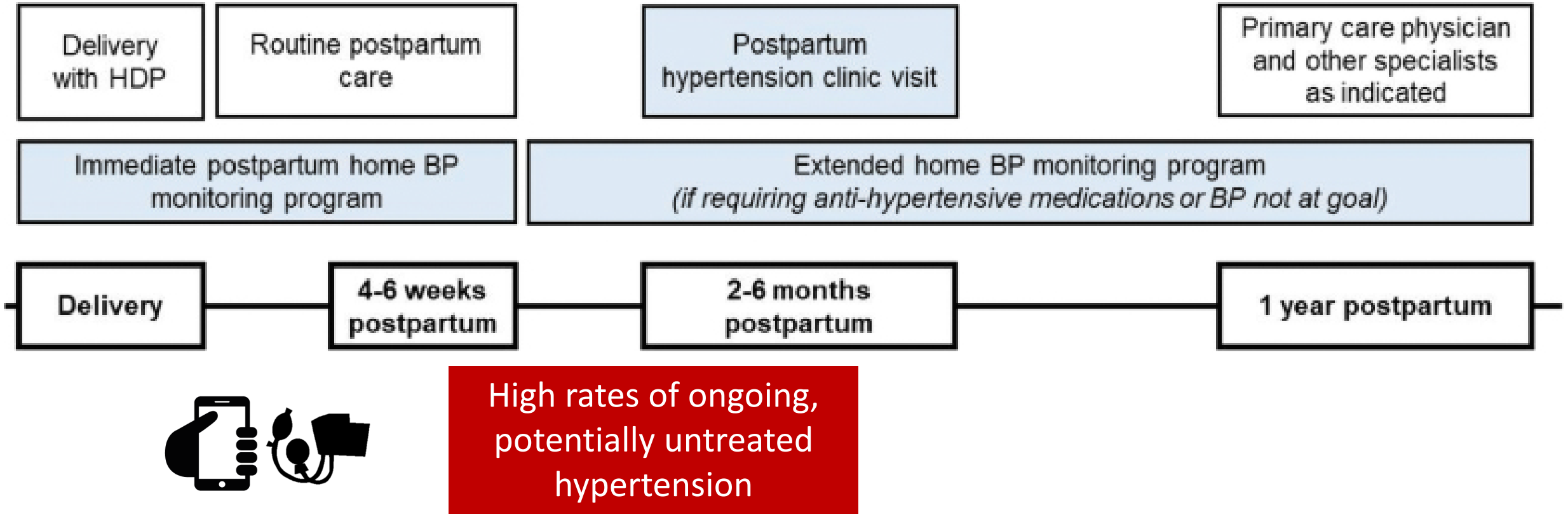
Text-based remote monitoring eliminates racial disparities in postpartum HTN care



Hirshberg et al. *Presented at SMFM 2019*

Postpartum Hypertension Monitoring Program

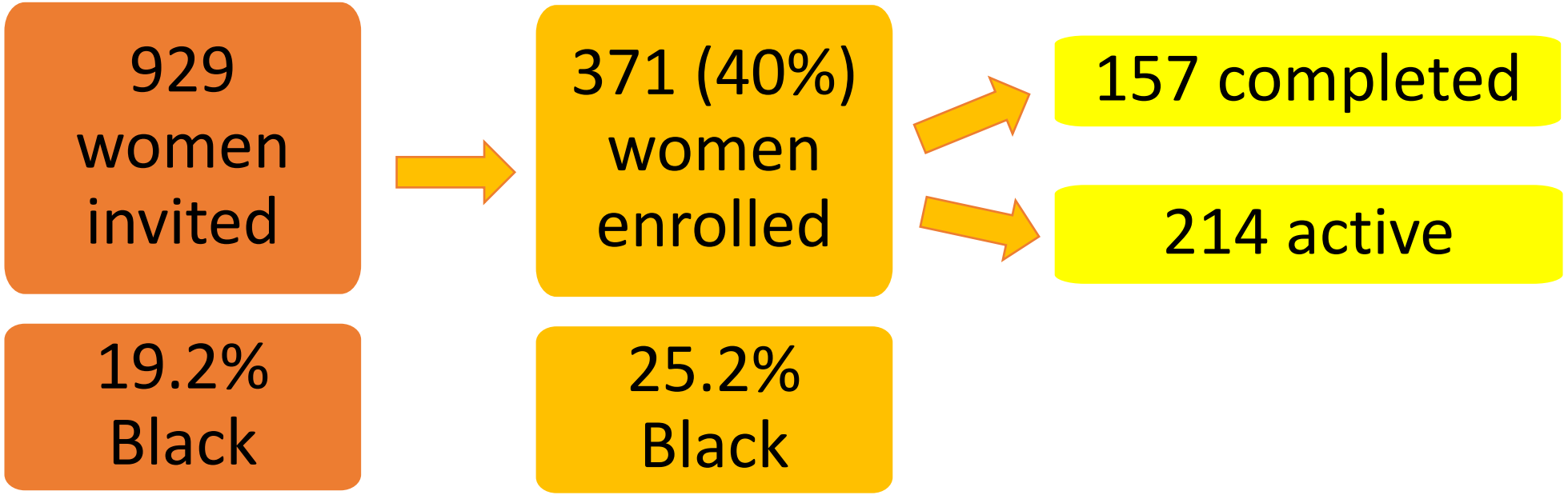
Integration of remote BP monitoring and clinical care



Countouris, Berlacher, Hauspurg et al Women's Health Reports, 2022

Bridging Postpartum Hypertension Remote Monitoring Extension Program (> 6 weeks)

Over 10-month period



Bridging Patient: "I love this program. It really helped me keep track of my blood pressure and I really appreciate you guys calling me…especially since my blood pressure can continue to be elevated in the year after delivery."

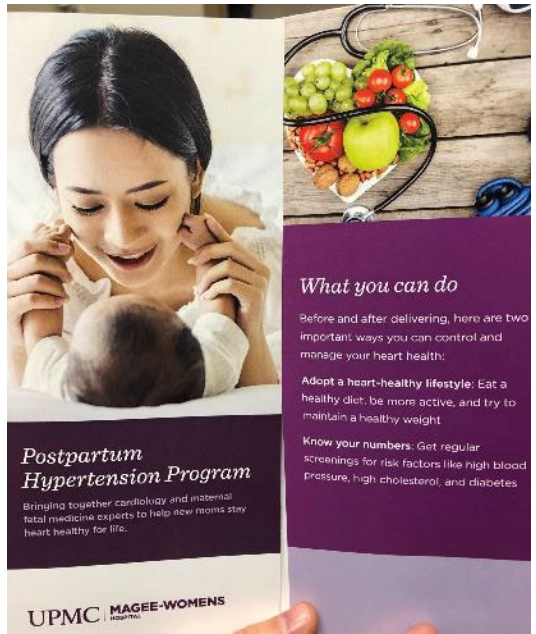
Postpartum Hypertension Remote Monitoring **Extension** Program **(> 6 weeks)**

	6-Wk Remote Monitoring (n = 2,344)	Extended Remote Monitoring (n = 1,318)	*P* Value
Maternal demographics			
Maternal age (y)	31.1 ± 5	32.6 ± 5.2	<0.001
Race			0.020
Caucasian	1,840 (79)	959 (73)	
Black	612 (16)	285 (22)	
Other (Asian, Hispanic, Native American)	116 (5)	74 (5)	
Discharged postpartum with medication	568 (24)	414 (31)	<0.001
Initiated or titrated medications	1,423 (60)	1,011 (77)	<0.001
PP hypertension clinic visits	52 (2)	254 (20)	<0.001
Primary care visit within 18 mo postpartum	906 (39)	602 (46)	<0.001
Number of wk in the program	5.9 (5-6)	23.0 (11-31)	<0.001

Reddy, Berlacher, Countouris, et al., *JACC Advances*, 2024

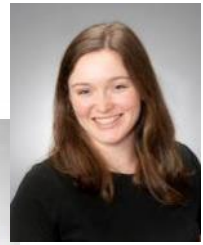
Developing a Postpartum Hypertension Clinic

Bridges Clinic



Meet our experts

Cardiology



Kathryn Berlacher, M

Malamo Countouris, MD

Maternal Fetal Medicine

Alisse Hauspurg, MD

Arun Jeyabalan, MD

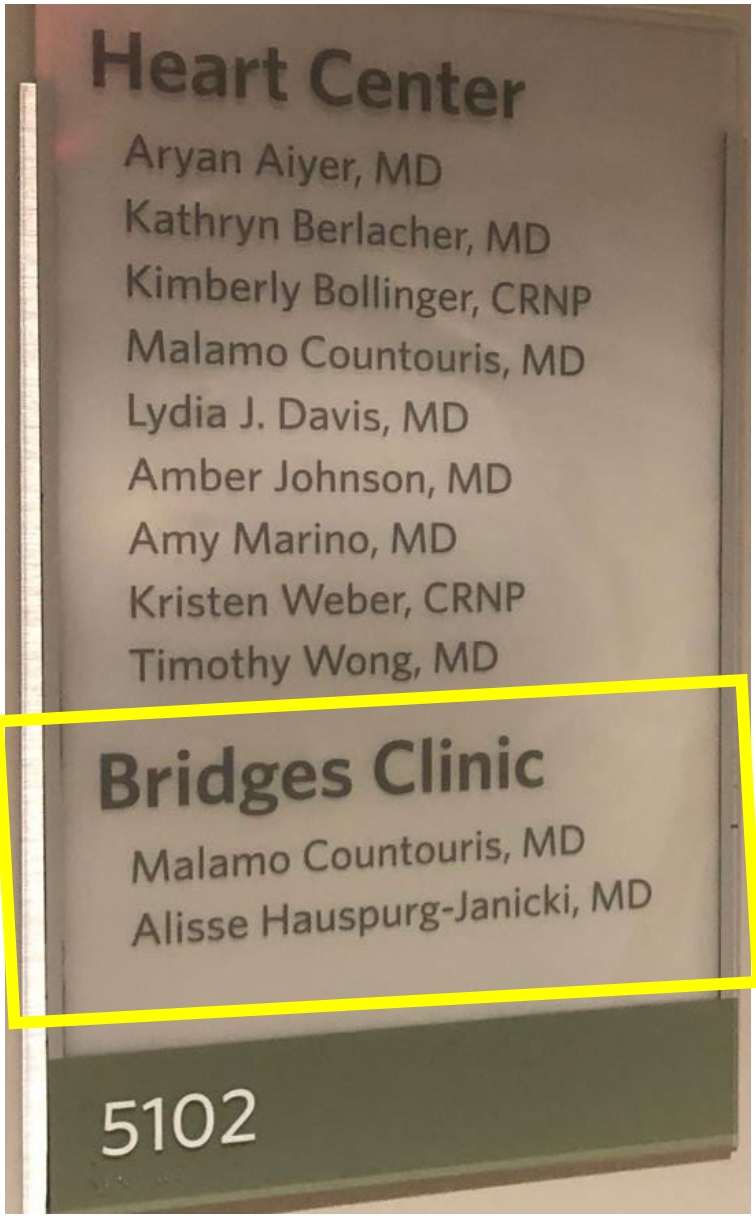
Goals of Postpartum Hypertension Programs

(1) To provide ongoing monitoring and management of blood pressure with timely, active titration of antihypertensive medications

(2) To allow time for discussion and education of optimal cardiovascular lifestyle behaviors and modifications to prompt behavior change

(3) To initiate screening and management of cardiovascular risk factors (dyslipidemia, diabetes, obesity)

(4) To serve as a bridge to longitudinal care



Establishing a Postpartum Hypertension Clinic

- Unique, subspecialized care: Only clinic of its kind in Western Pennsylvania
- Clinic Protocols/Billing: Worked with HVI / MFM administrators to establish protocols for joint billing and multi-disciplinary care
- Referral base: OB providers, PCPs, Emergency Department, cardiology c/s service, remote BP monitoring program, self-referral
- Clinic start-up: First patient seen November 2019

Planning Meetings Establish:

- The target population (subtypes of hypertensive disorders of pregnancy)
- Timing (days per month, number of patient visit slots)
- Structure (joint or single clinician visit, virtual or in-person)
- Administrative logistics of the clinic (department, coding and billing)
- Clinical workflows to ensure appropriate referral patterns

Clinic Activities – MFM + Cardiology

- Blood pressure measurement and management
- Weight management
- Assess social determinants of health
- CV risk factor screening
  - Lipid panel
  - Fasting glucose/HbA1c
- Lactation status
- Contraception

- CV risk assessment
- Referrals – dietician, weight loss center, nephro, endocrine, social work, behavioral health
- Counseling
  - CV risk
  - Home blood pressure monitoring
  - Heart healthy lifestyle
  - Future pregnancies/ risk reduction
- Cardiac testing
- Communicate recommendations directly to PCPs and obstetricians

RESEARCH ARTICLE Open Access

Feasibility of Utilizing Telehealth in a Multidisciplinary Postpartum Hypertension Clinic

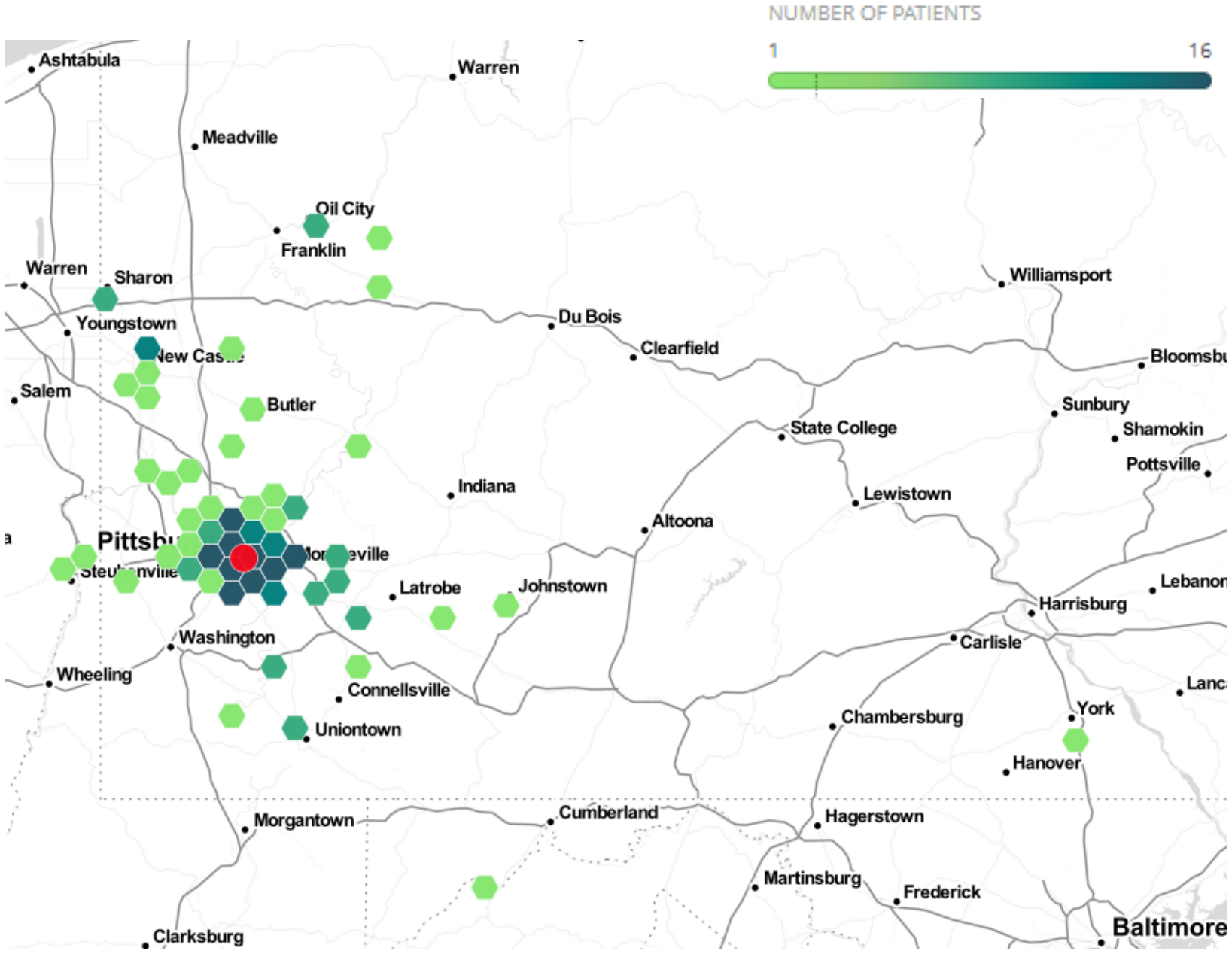
Malamo Countouris,[1,*] Valentina Jaramillo Restrepo,[2] Shruti Bidani,[3] Janet Catov,[4,5] Kathryn Berlacher,[1] Arun Jeyabalan,[4] and Alisse Hauspurg[4]

Table 4. Select Demographic and Follow-Up Characteristics for Patients Seen in the Postpartum Hypertension Clinic Compared with Overall Deliveries Complicated by Hypertensive Disorders of Pregnancy

	Overall deliveries with HDP[a] (*N* = 2307)	Seen in HDP clinic (*N* = 140)	*p*
Pregnancy demographics			
Age, mean ± SD (years)[b]	30.0 ± 5.9	33.6 ± 5.7	<0.01
Race, *n* (%)			0.02
White	1616 (70.0)	82 (58.6)	
Black	551 (23.9)	46 (32.9)	
Asian	81 (3.5)	9 (6.4)	
Other	59 (2.6)	3 (2.1)	
Type of insurance, *n* (%)			0.8
Private	1404 (60.9)	84 (60.0)	
Medicaid	903 (39.1)	56 (40.0)	
ADI	63.1 (26.4)	64.5 (25.0)	0.5

Women's Health Reports, 2022

We see patients who live in urban and rural areas



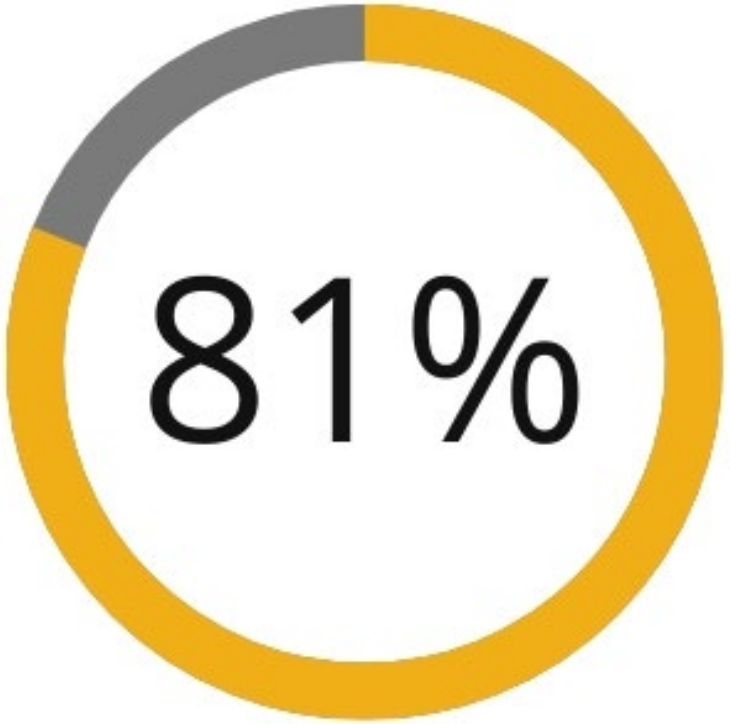
Mean of **11.3 miles** [IQR 6.1, 25] from Magee Womens Hospital

Outcomes for first 24 months

81% Show Rate

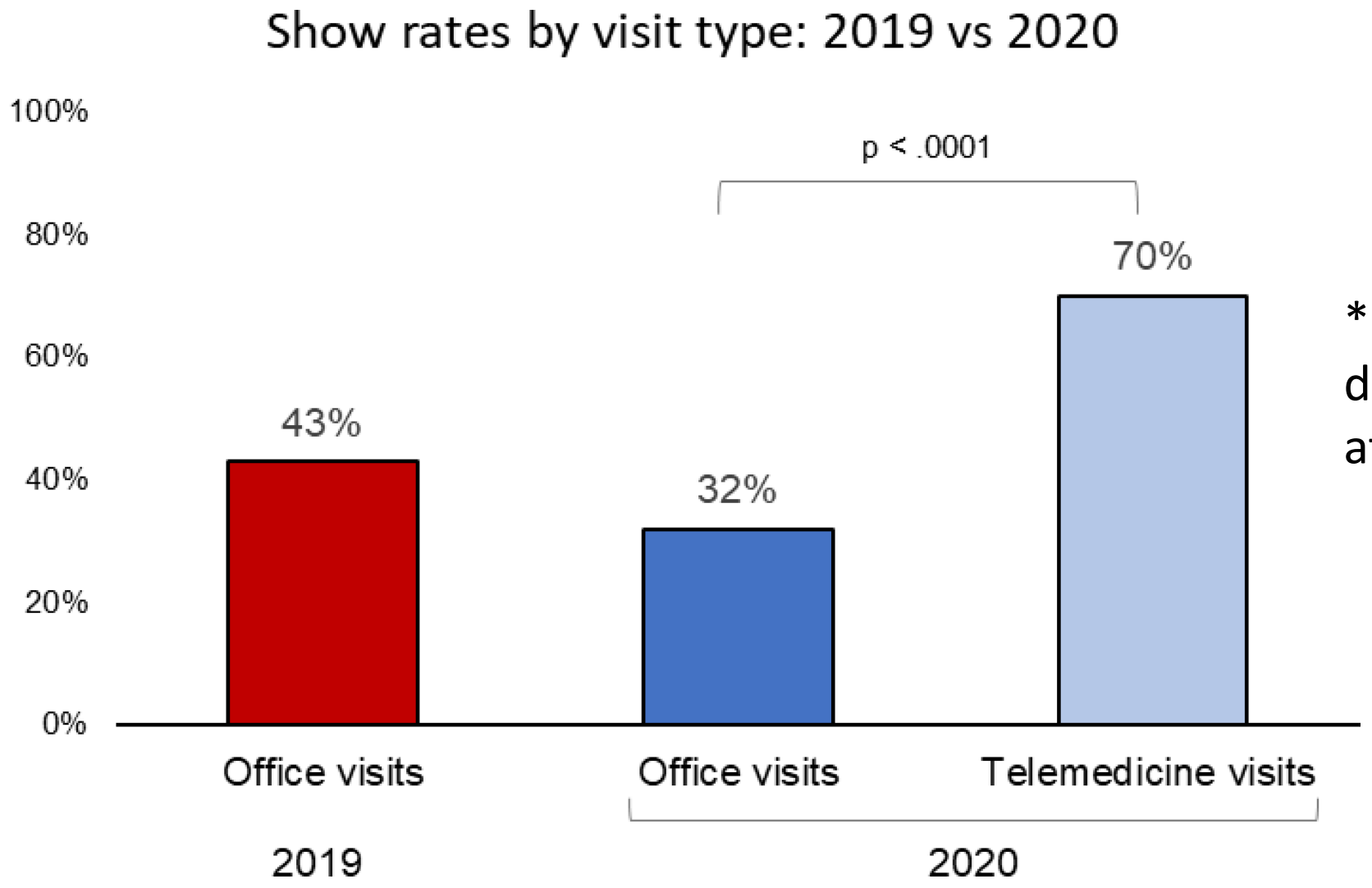
173 scheduled → 140 attended → 81%

70% virtual visits



Countouris, Berlacher, Hauspurg et al Women's Health Reports, 2022

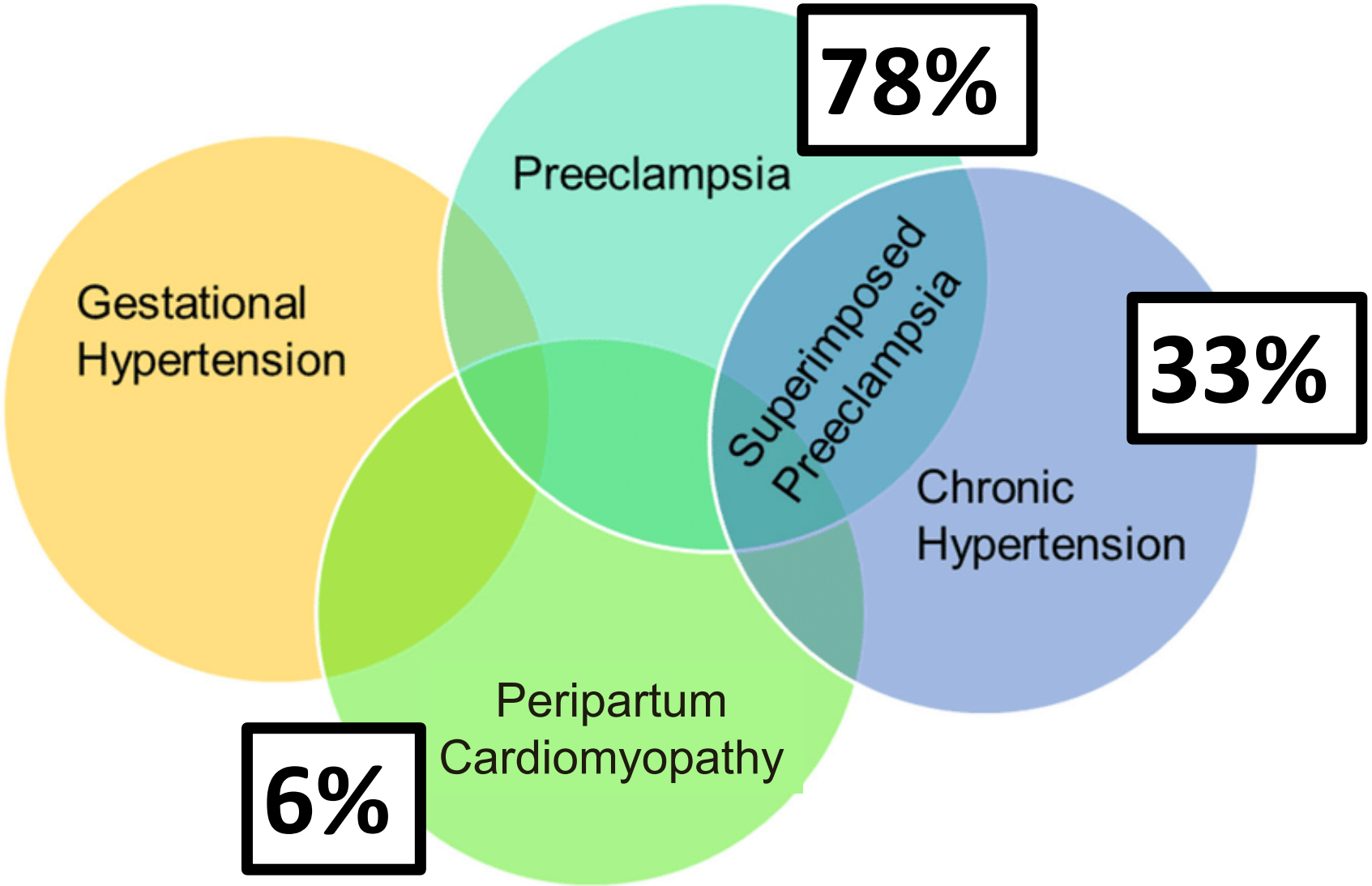
Virtual visits improve attendance



** Eliminated racial disparities in visit attendance

Sanghavi, Lewey, et al. *PLOS One, 2022*

We are seeing the target population



We see an at-risk population

MEAN BMI (KG/M²)

31 ± 8

ANTI-HYPERTENSIVE MEDICATION USE

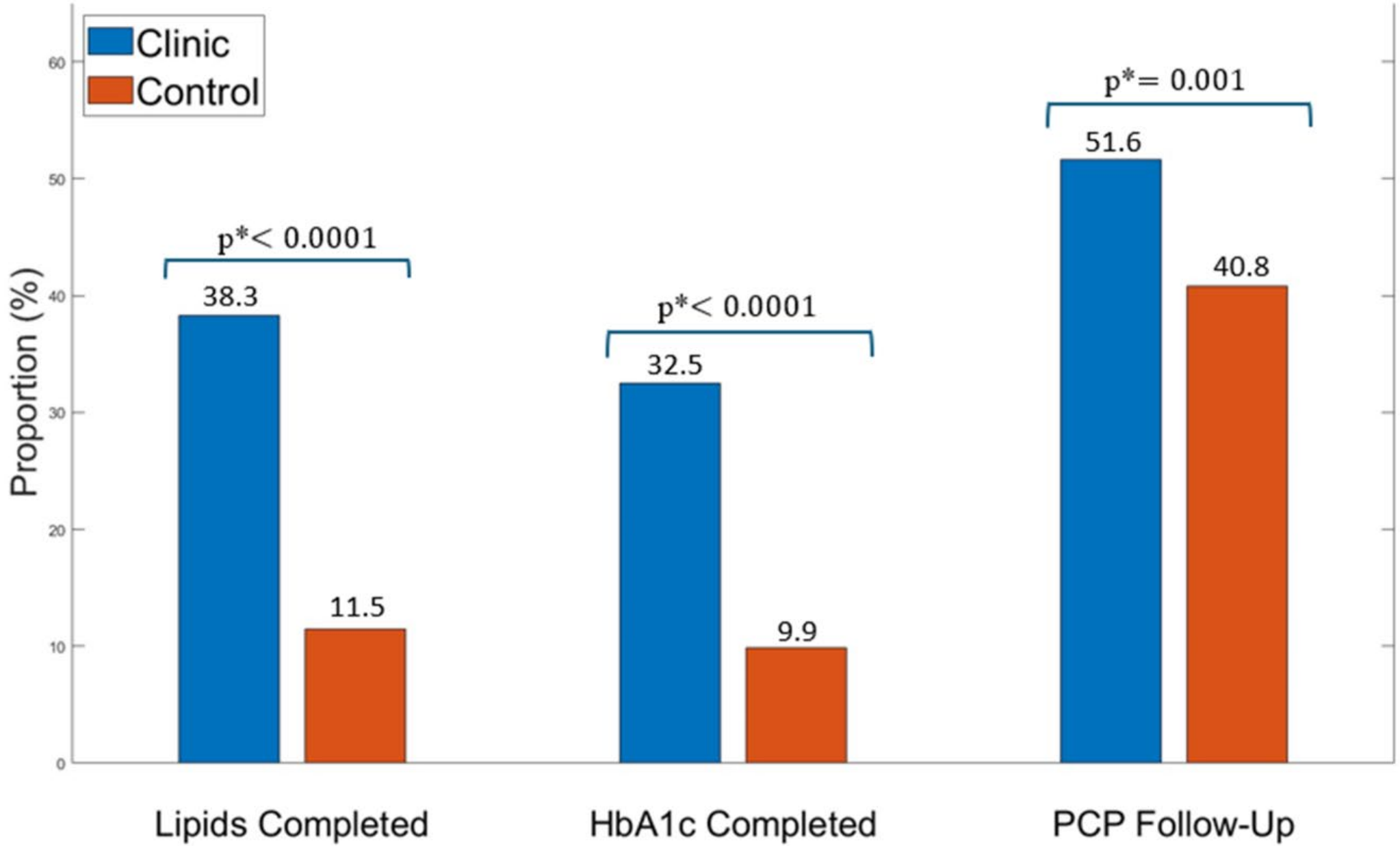
69%

MEAN BLOOD PRESSURE (mmHg)

126/82

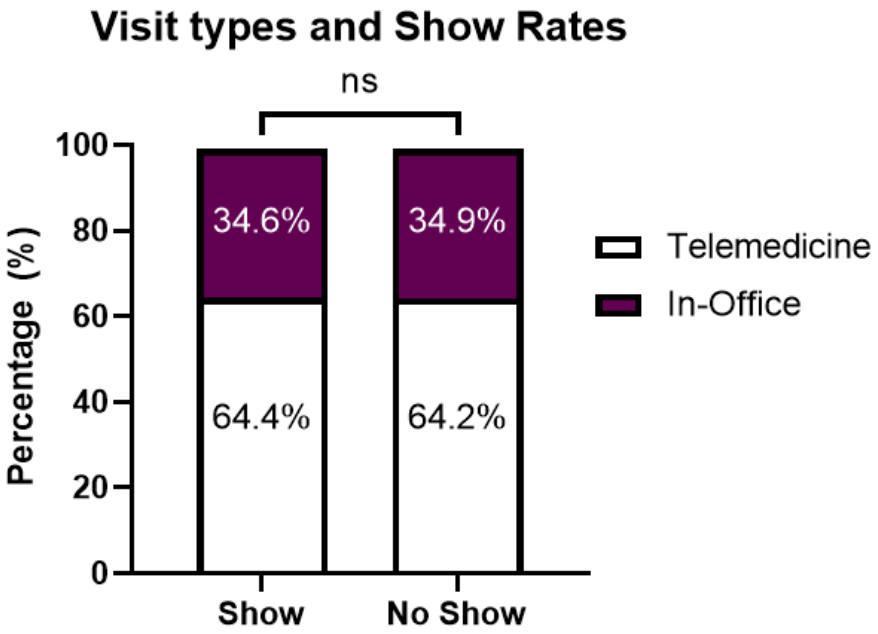
Countouris, Berlacher, Hauspurg et al Women's Health Reports, 2022

Proportion of Follow-Up Outcomes at One Year Postpartum by Clinic Attendance



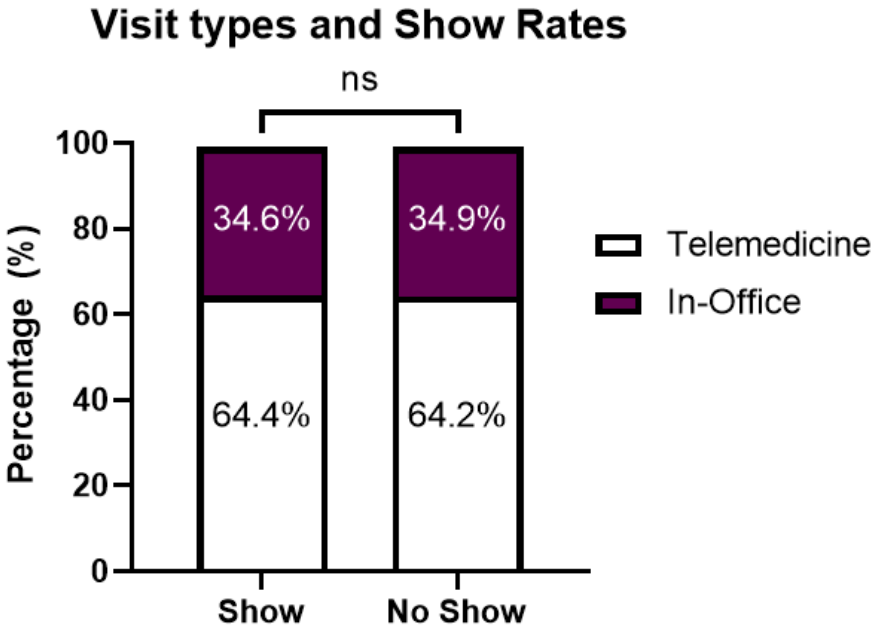
Credit: Melina McCabe, MS-2; accepted ACC 2025

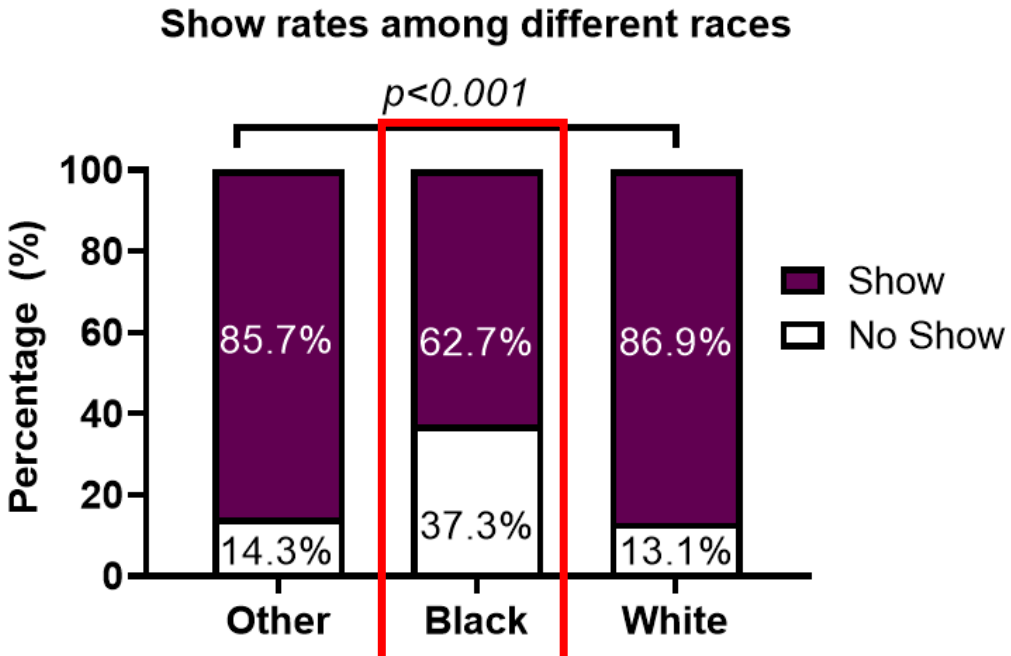
Demographic Data by Attendance at Clinic Visit



Credit: Nuzhat Kabir, MS-3

Demographic Data by Attendance at Clinic Visit





Credit: Nuzhat Kabir, MS-3

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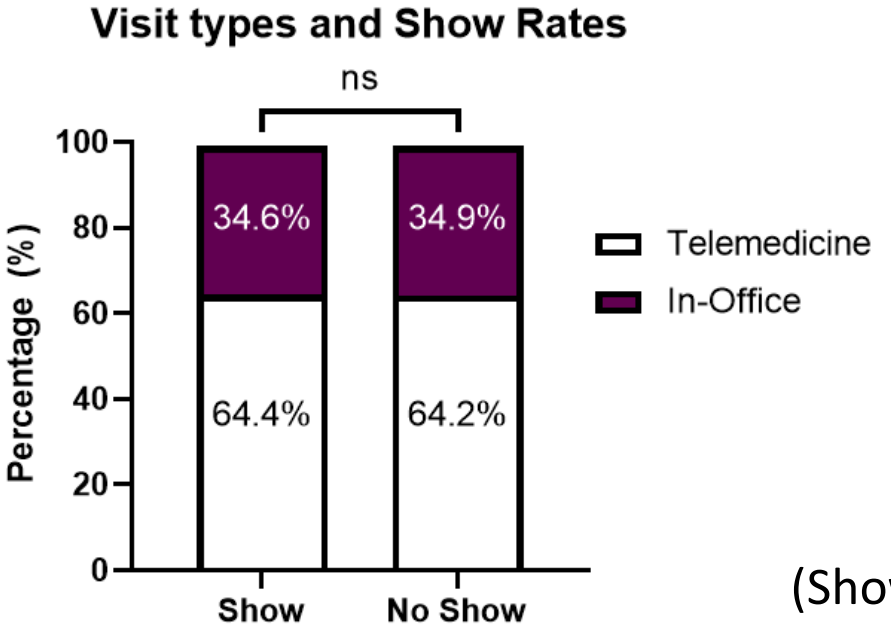
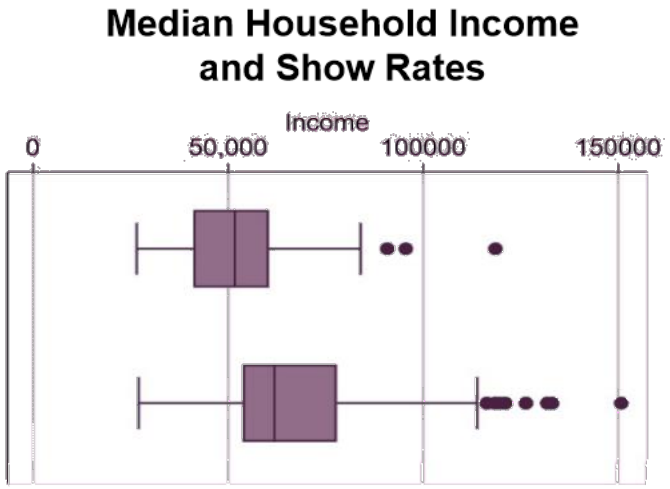
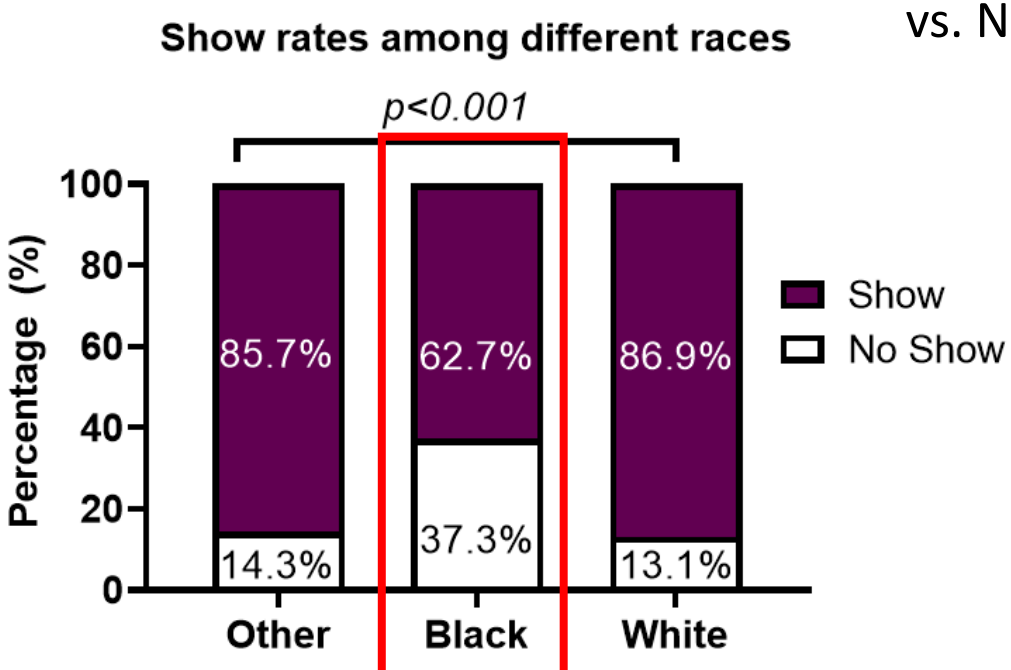


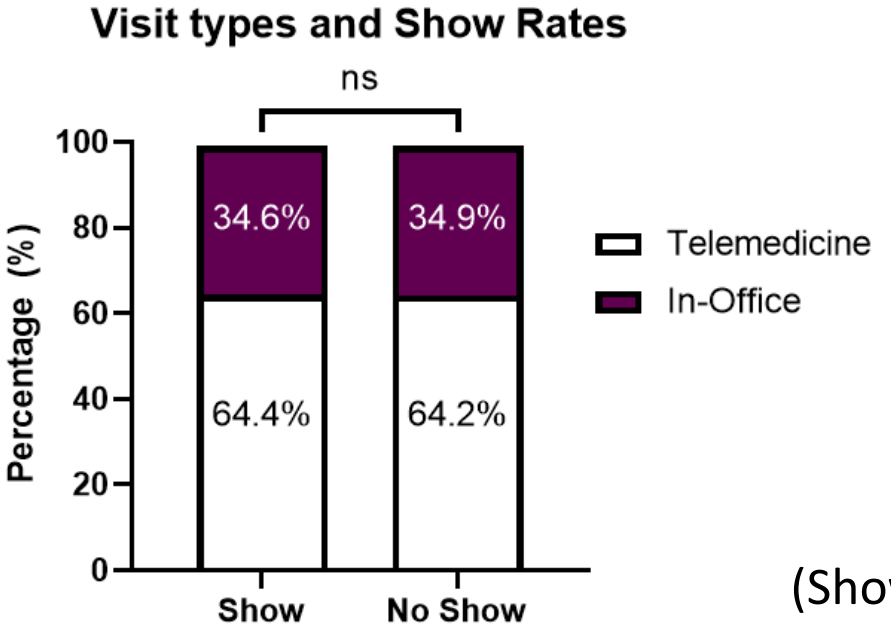


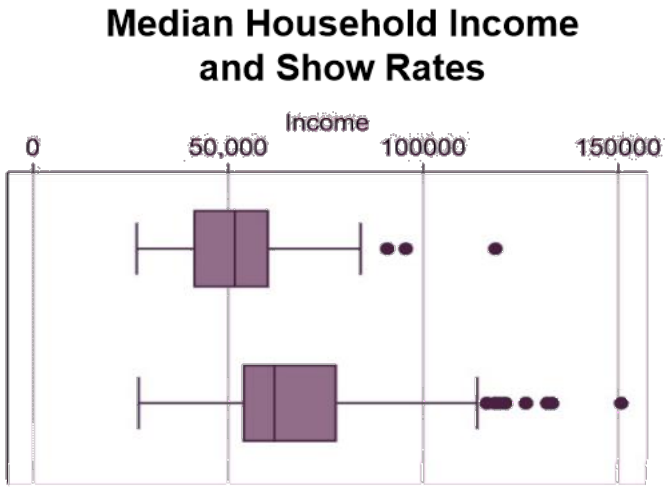
(Show: $68,293 [interquartile range; IQR $53,721, $76,375] vs. No Show: $52,868 [IQR $41,065, $59,867]; *p*<0.001)



Credit: Nuzhat Kabir, MS-3

Demographic Data by Attendance at Clinic Visit





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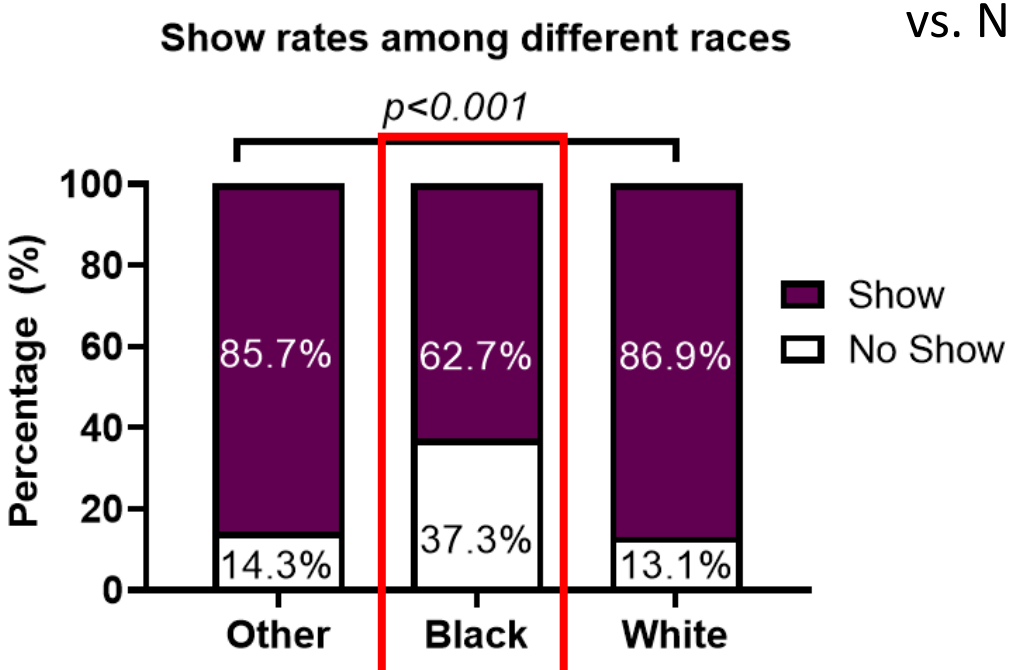
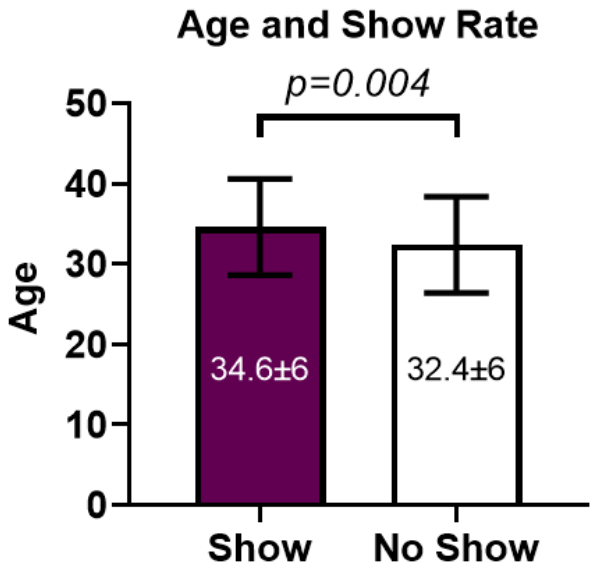




Credit: Nuzhat Kabir, MS-3

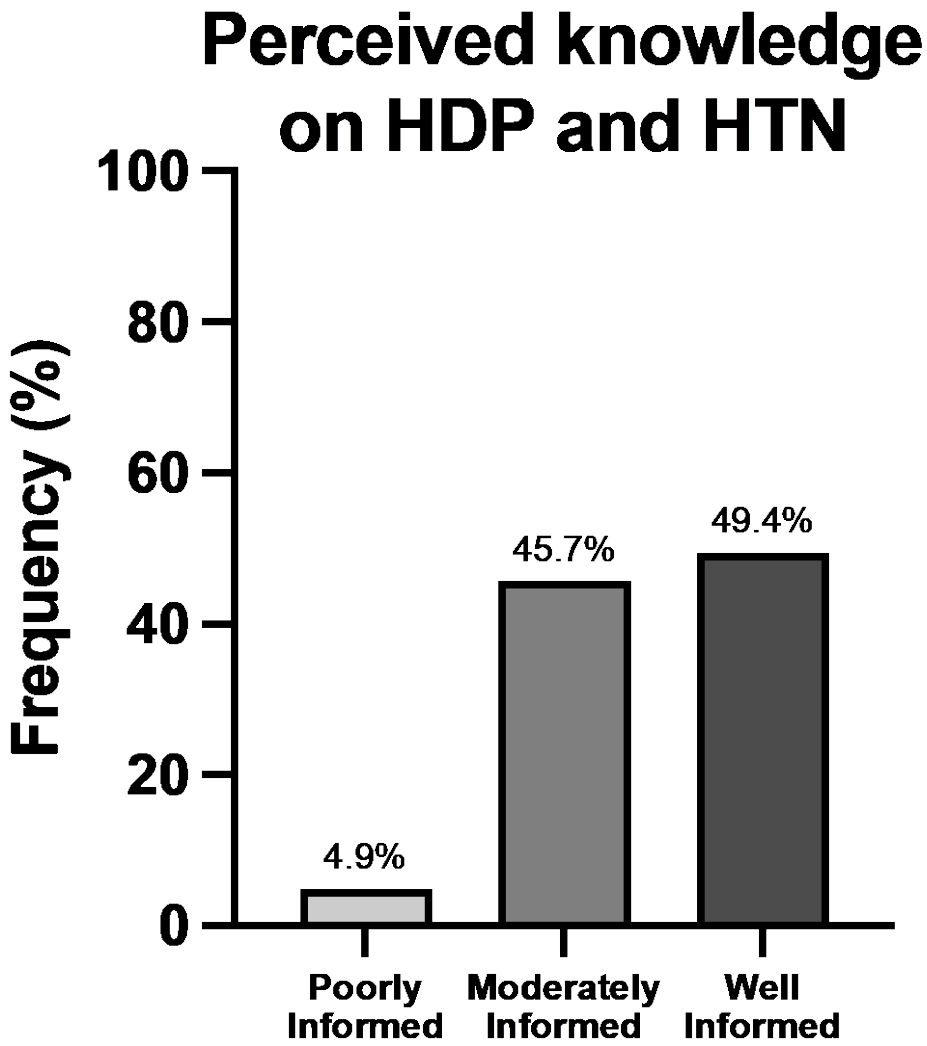
Results of Intervention to Address Barriers to Attendance

Self Reported Reasons for Non-Attendance	n
Technology issue	5
Childcare	4
Death in the family	3
“A lot going on” (NICU, ED visit, school)	4

Outcome After Follow-Up Call (n=32)	
Rescheduled	15 (47%)
Following with PCP	8 (25%)
Declined to reschedule	4 (13%)
Did not answer	5 (16%)

Credit: Nuzhat Kabir, MS-3

HDP patients in postpartum HTN clinic are well-informed about risk of HTN and future CVD



Credit: Caroline Smith, MS-2

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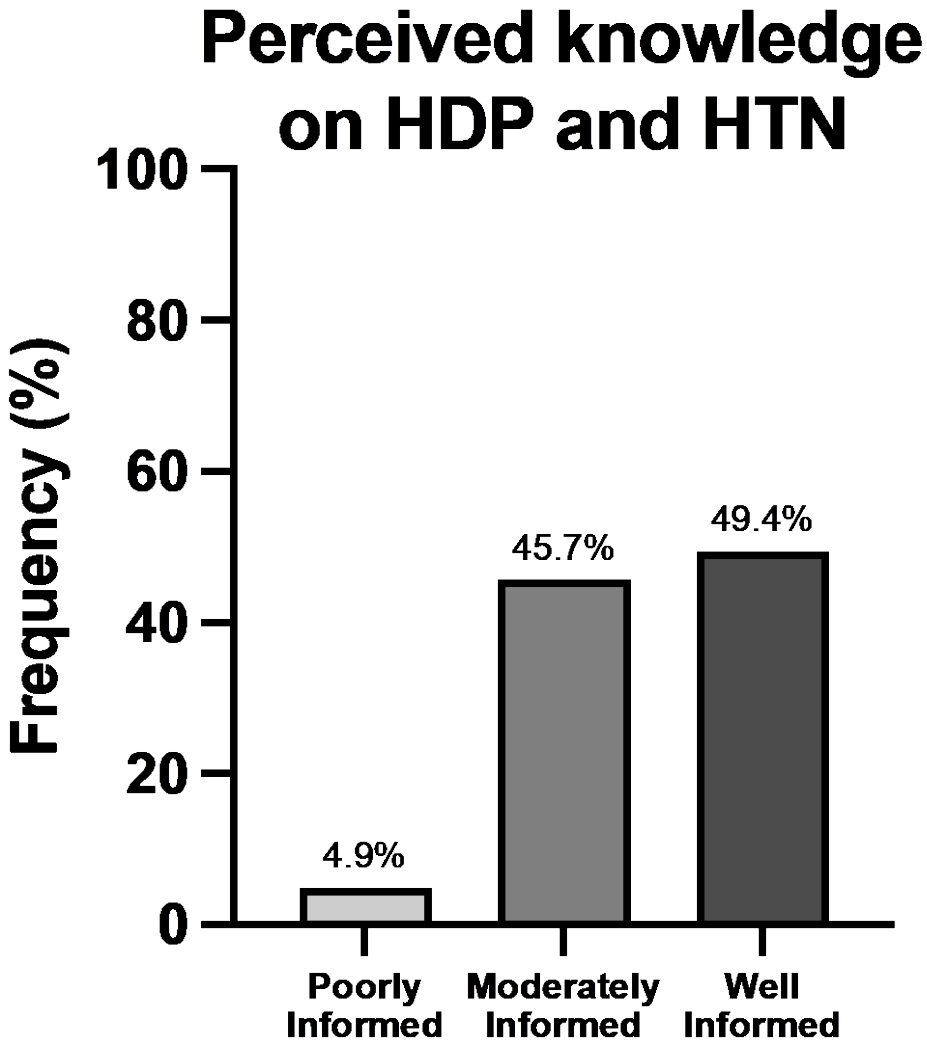

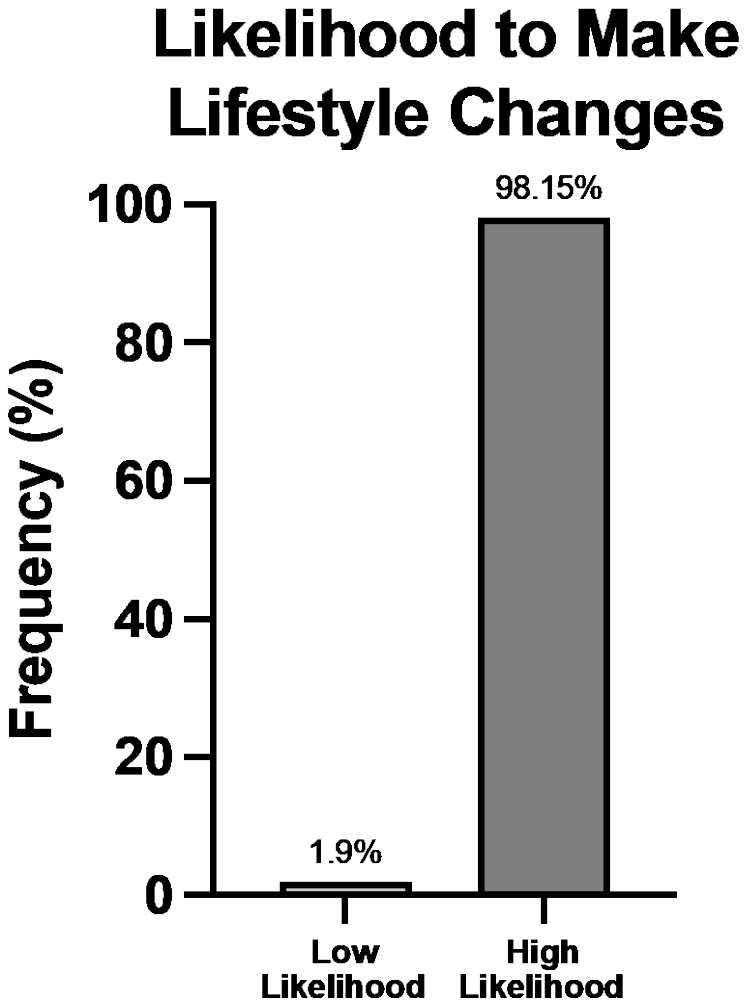

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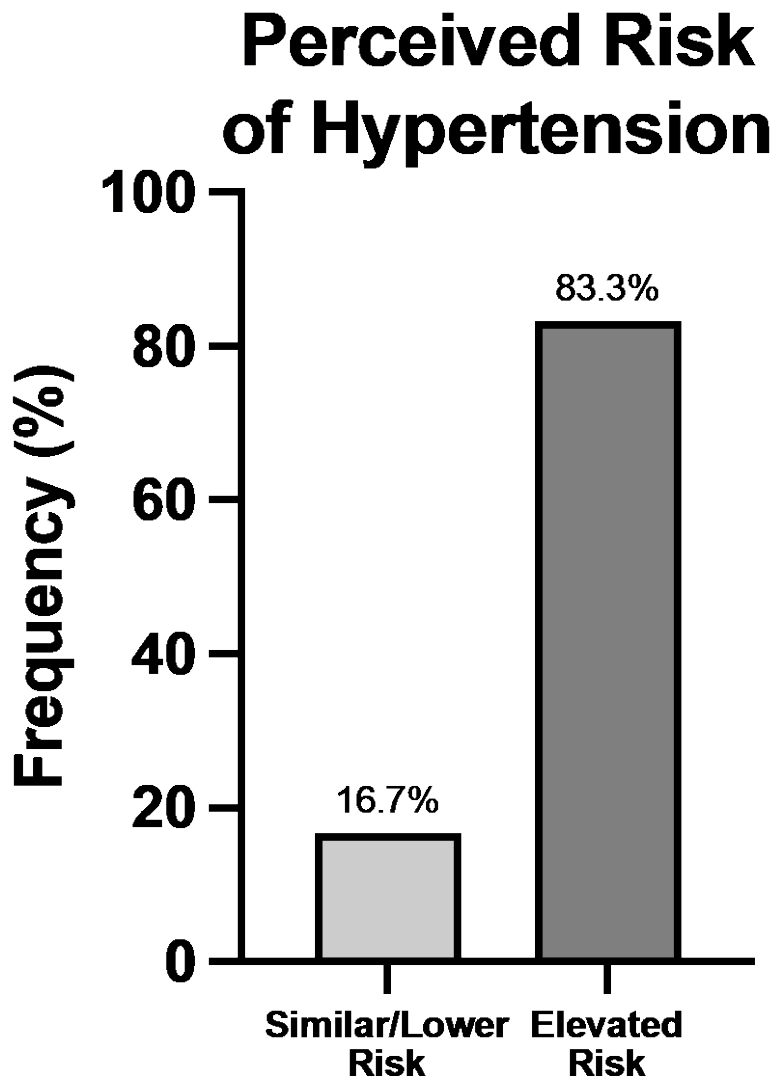

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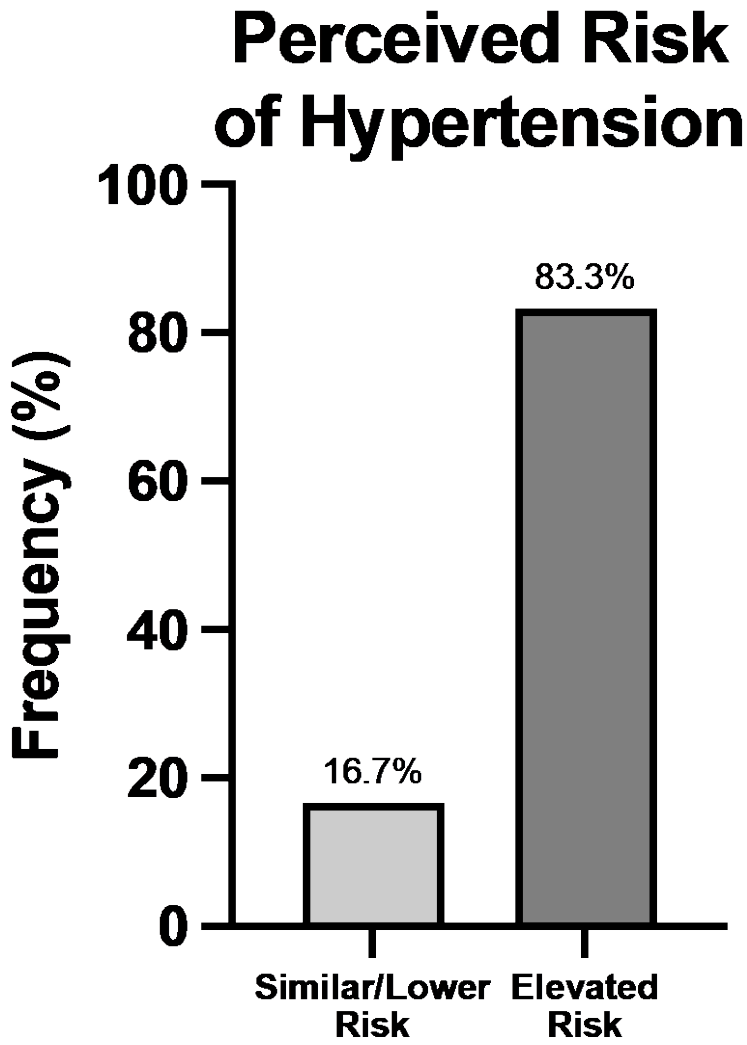
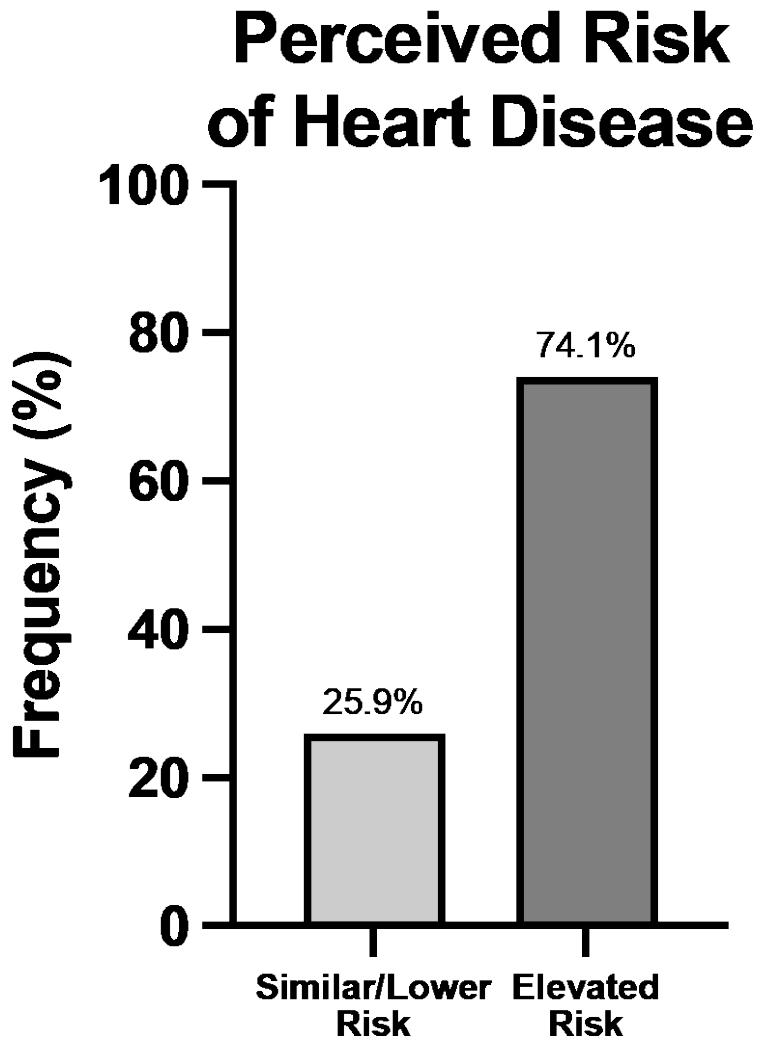
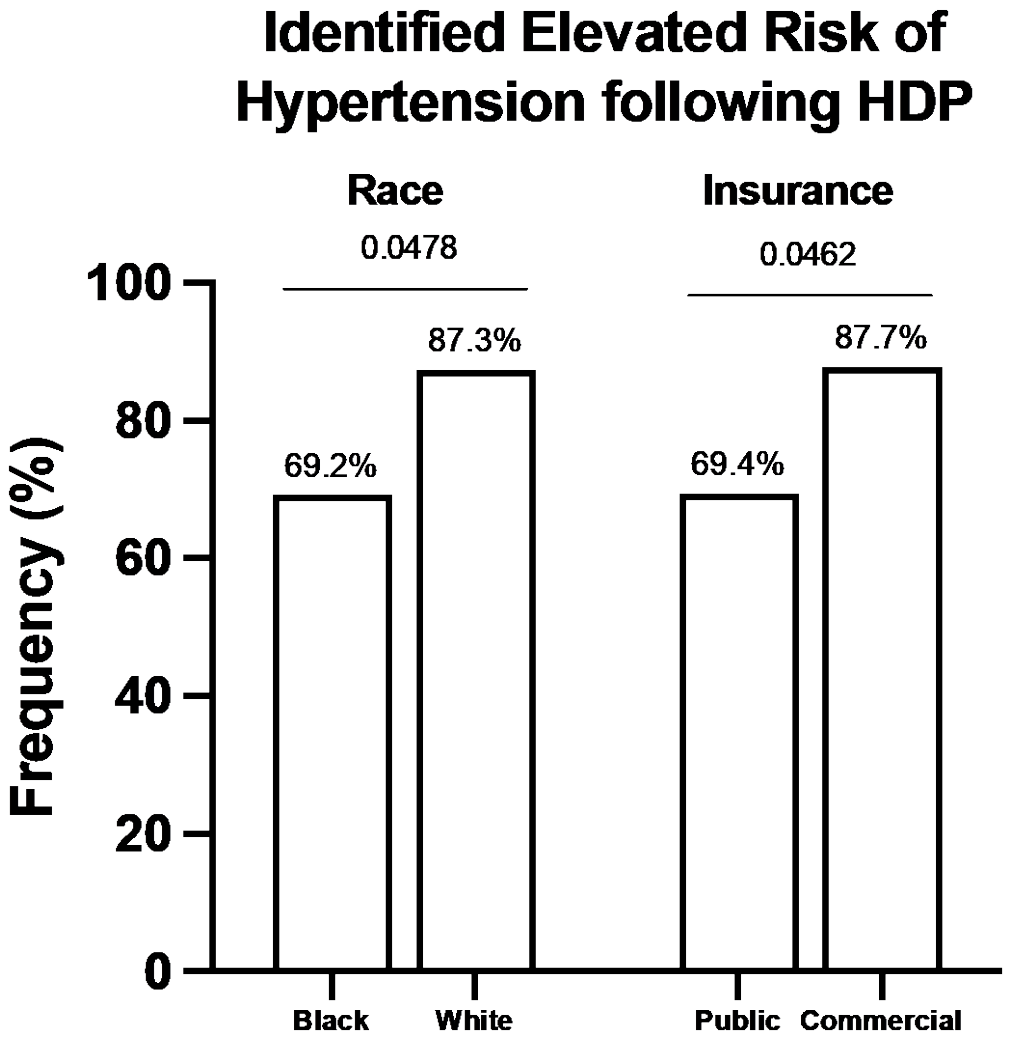




Credit: Caroline Smith, MS-2

Race and SES are associated with knowledge of HTN & CVD Risk



Credit: Caroline Smith, MS-2

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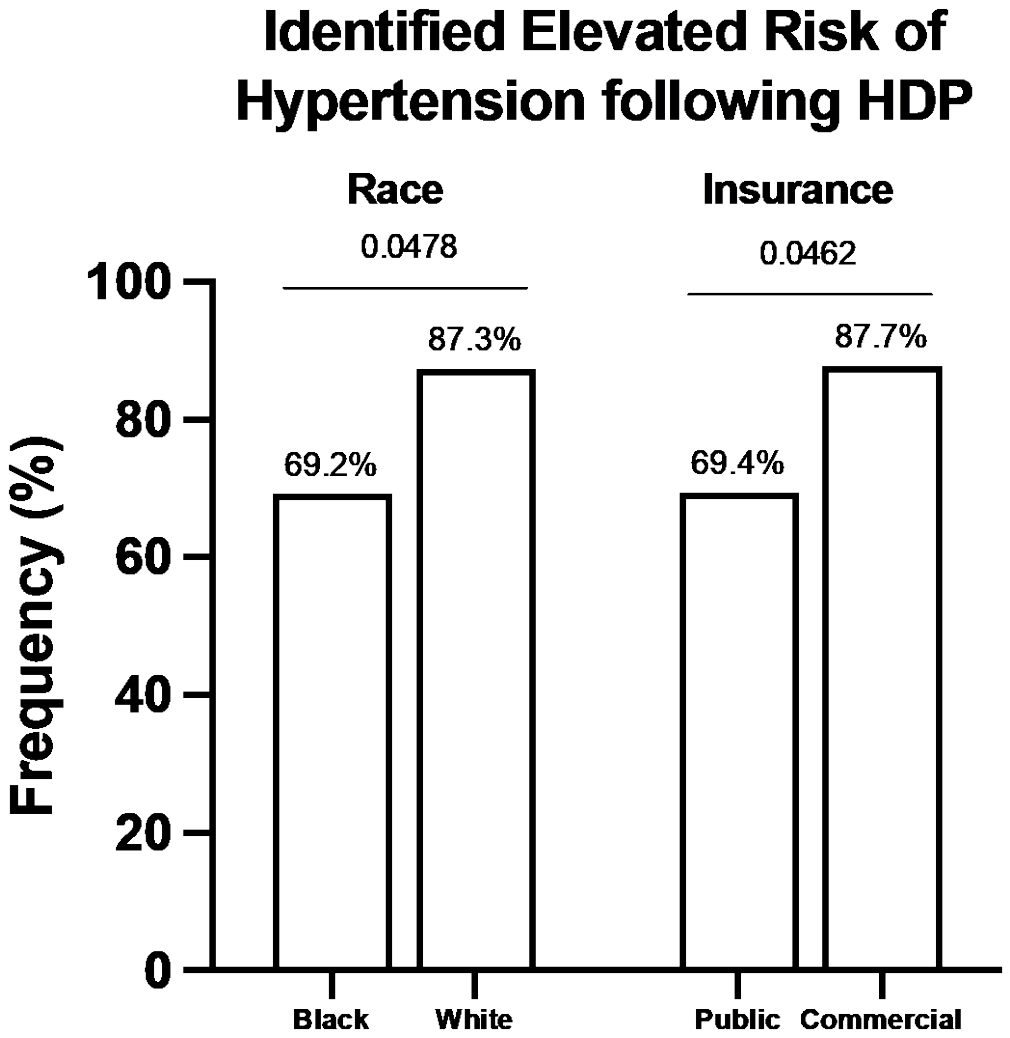
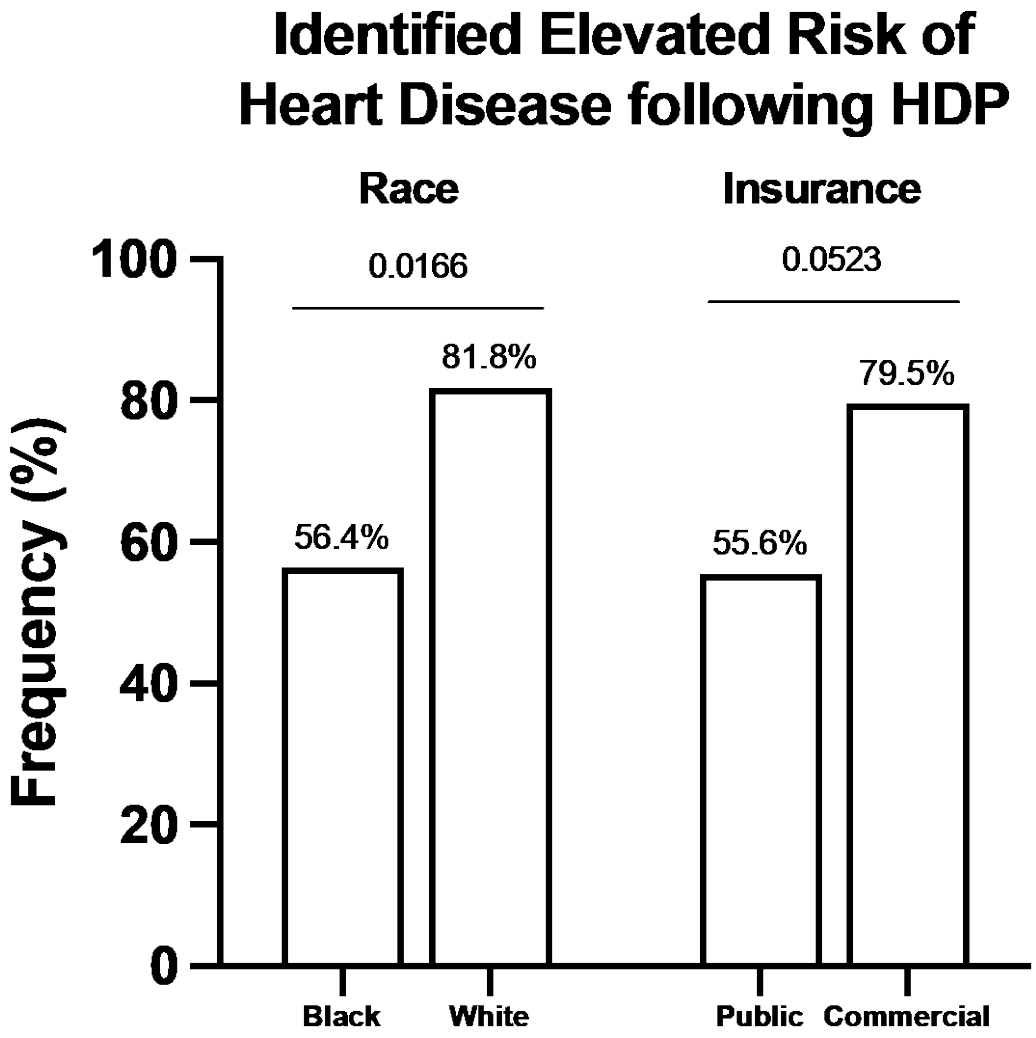
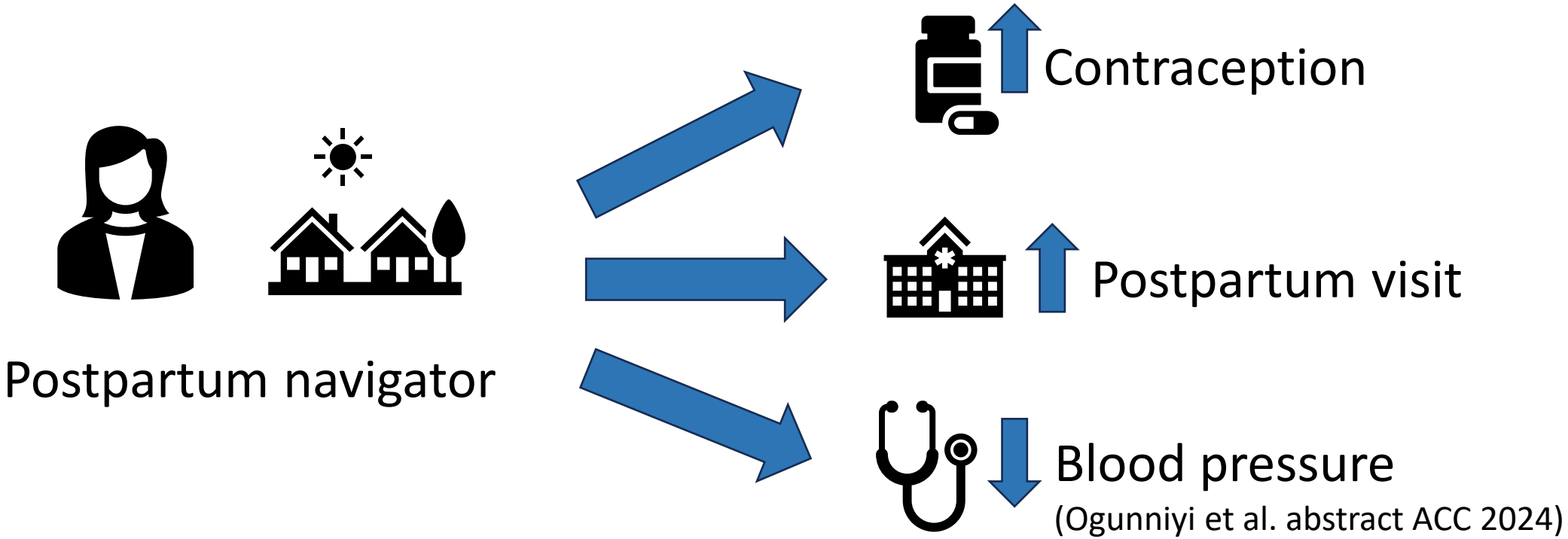




Credit: Caroline Smith, MS-2

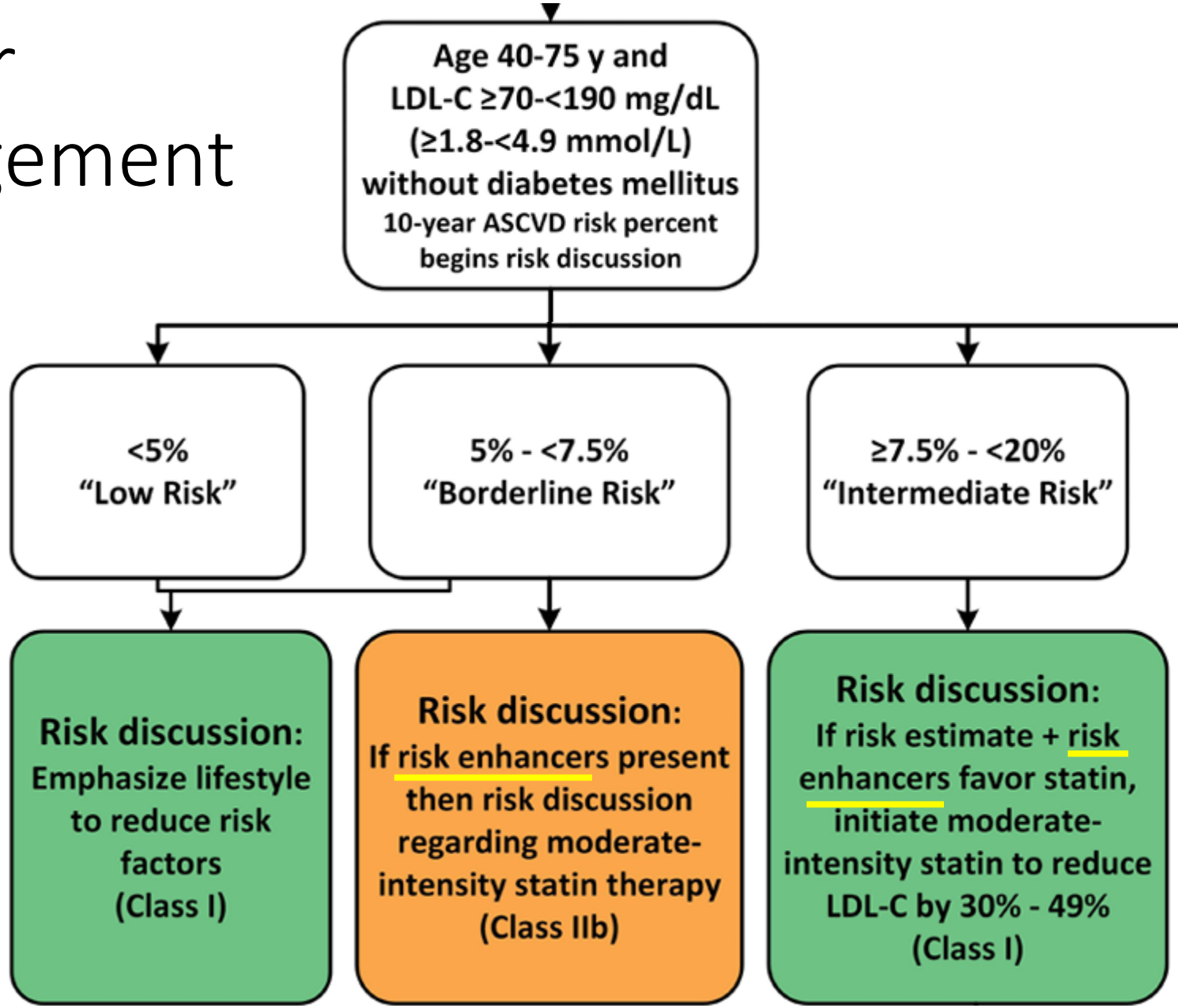
Postpartum Navigators, Doulas, and Community Health Workers



Yee et al., *Obstet Gynecol,* 2017

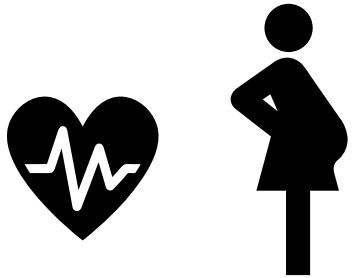
Aggressive Risk Factor Screening and Management

- Yearly BP check
- Regular lipid panel and diabetes screening
- AHA/ACC 2018 Cholesterol Guidelines
  - Preeclampsia is a “risk enhancer”



Guideline on the Management of Blood Cholesterol. *Circulation*. 2018

Future Pregnancy Considerations



- Recurrent preeclampsia risk: ~20%
- ASA for prevention of preeclampsia starting in 2nd trimester (12 weeks gestation) in high risk groups
- Be aware of starting medications that are contraindicated
  - ACE/ARB
  - Statins
- **Shared decision making**

Back to the Case: What Would You Do to Help Her?

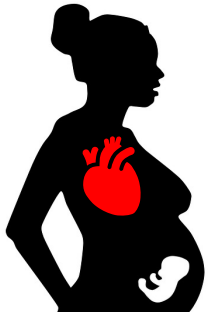
1. Blood pressure control – Goal < 130/80 mmHg
   - DASH diet
2. Recommend risk factor screening
   - Lipid panel
   - HbA1C
3. Lifestyle modification
   - Exercise
   - Diet
   - BMI

"Being a new patient at the Postpartum Hypertension Program, this was a level of care I had not experienced with my other two pregnancies."

"The program made me feel good after a time frame of feeling so out of control with all the complications and all the stress that comes with preeclampsia."

"This was definitely empowering."

Conclusions



Pregnancy complications increase risk of hypertension and cardiovascular disease in later life

Postpartum hypertension clinics with virtual visits & remote monitoring programs:

- Improve BP control
- Provide risk factor screening and lifestyle modifications
- Reduce disparities
- Help with transitions of care

Bridges Clinic

Implementing a clinic involves identifying key stakeholders and deciding on clinic structure

High blood pressure in pregnancy is common and increases future cardiovascular risk

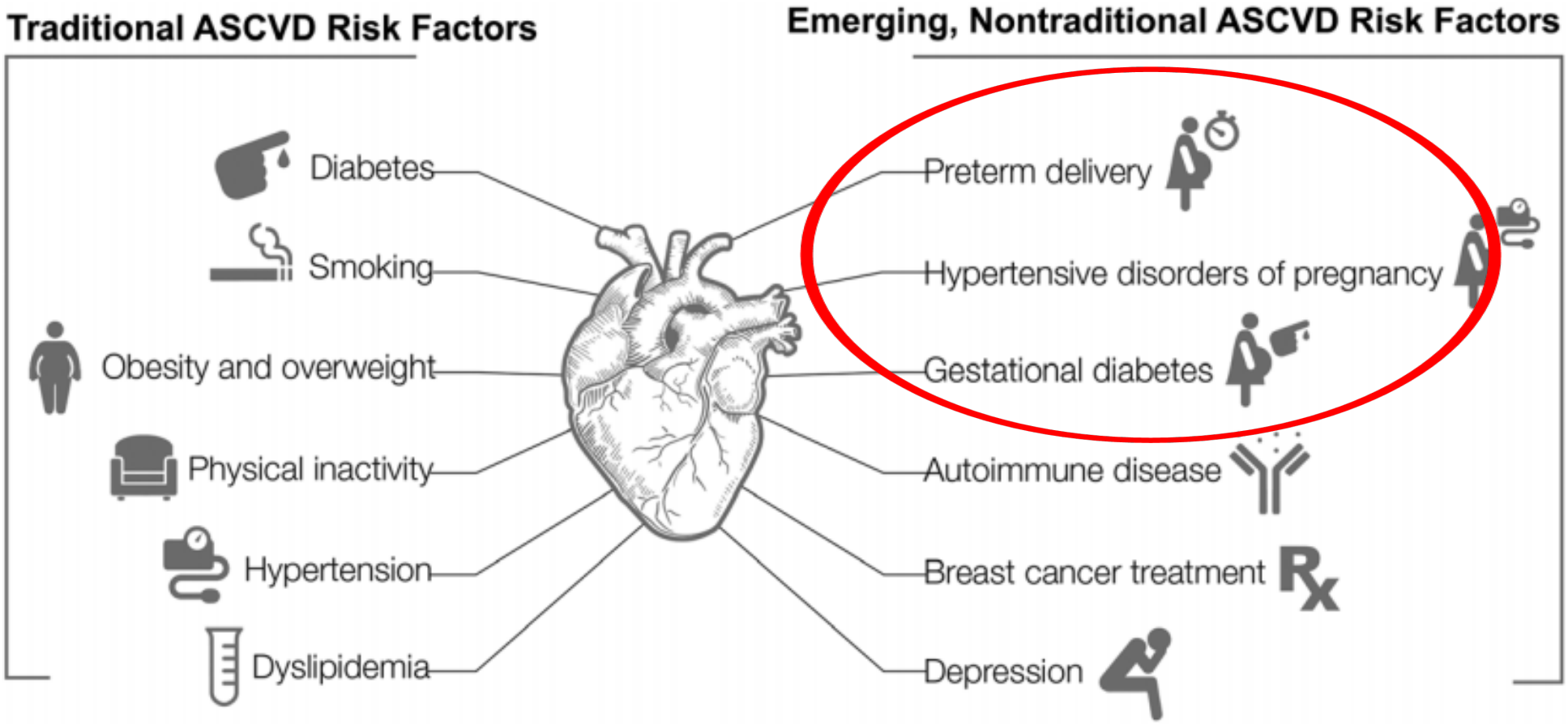
Complicates 10-20% of pregnancies

Most common reason for postpartum hospitalization

40% develop hypertension within 5 years

2 out of 3 women die from cardiovascular disease

What are some risk factors for heart and vascular disease?



Garcia et al., *Circulation Research*, 2016

Sex Specific CV Risk Factors Over Lifetime

Pre/ Peri-Pregnancy
Early menarche
Hormone-contraceptive use
PCOS
Spontaneous pregnancy loss

Adverse Pregnancy Outcomes
Pre-eclampsia
Gestational Diabetes
Gestational Hypertension
Pre-term Birth
Small for Gestational Age

Ovarian
Premature ovarian failure
Early-Onset Menopause

Agarwala et al. Circ 2020

Do PCPs and ObGyns ask about pregnancy history when doing CV risk assessment?

	Primary Care Physicians n=75	OB/Gyn Physicians n=49	p value
Obtain pregnancy history as part of assessment for cardiovascular risk	75%	90%	0.039
Identify a history of preeclampsia as important for cardiovascular risk	75%	55%	0.028

Wilkins-Haug et al. *Obstet and Gyencol* 2015

How often do you as a cardiologist as about pregnancy??

How often do you ask about menopause?

What do you ask?

Stepping to Success: Reducing CVD Risk in Women

Step 1

Screen for Sex-specific Risk Factors:

- Prematurity
- Age at menarche
- Polycystic ovarian syndrome
- Hormone-based contraceptive use
- Recurrent spontaneous pregnancy loss
- Gestational diabetes
- Gestational HTN
- Pre-eclampsia
- Pre-term delivery
- Delivery of small for gestational age infant
- Early menopause/ premature ovarian failure

Step 2

If sex-specific risk factors are present:

1. Assess for traditional CVD risk factors early and more frequently

2. Screen for, prevent, & treat intermediate phenotypes

Hypertension
Diabetes
Hyperlipidemia
Metabolic Syndrome

Step 3

Begin aggressive risk factor management

Implement lifestyle modifications with AHA's Life's Simple 7:

1. Manage blood pressure
2. Control cholesterol
3. Reduce blood sugar
4. Stay active
5. Eat Healthy
6. Lose weight
7. Stop Smoking

Step 4

Estimate risk & treat accordingly with consideration of sex-specific risk factors:

1. Assess 10-year ASCVD Risk/ Lifetime risk

2. Treat early if borderline or intermediate risk and if sex-specific risk factors are present

Agarwala et al. Circ 2020

Preeclampsia Increases Risk of CVD

Outcome	Mean follow up (yrs)	Relative Risk
Hypertension	14.1	3.70 (95% CI 2.70 -5.05)
Ischemic heart disease	11.7	2.50 (95% CI 1.43-4.37)
Stroke	10.4	1.81 (95% CI 1.45-2.27)
Heart failure	7.0	4.19 (95% CI 2.09-8.38)
CVD mortality	14.5	2.21 (95% CI 1.83-2.66)

41% with severe preeclampsia have HTN 1 year after delivery.

50% with preeclampsia develop chronic HTN

Benschop et al. *Hypertension*. 2018
Bellamy et al. *BMJ*. 2007
Wu et al *Circulation 2019*

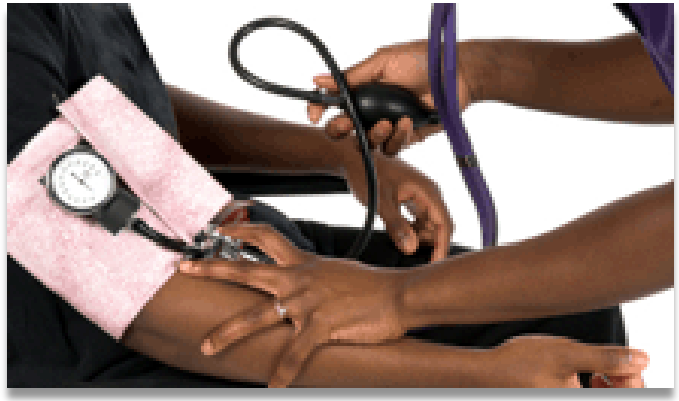
Pregnancy & Cardiovascular Disease

Gestational Diabetes

2x the risk of future CVD

8x risk of T2DM

Bellamy et al *Lancet* 2009



Hypertensive Disorders of Pregnancy

2x risk for future CVD

5x risk for HTN

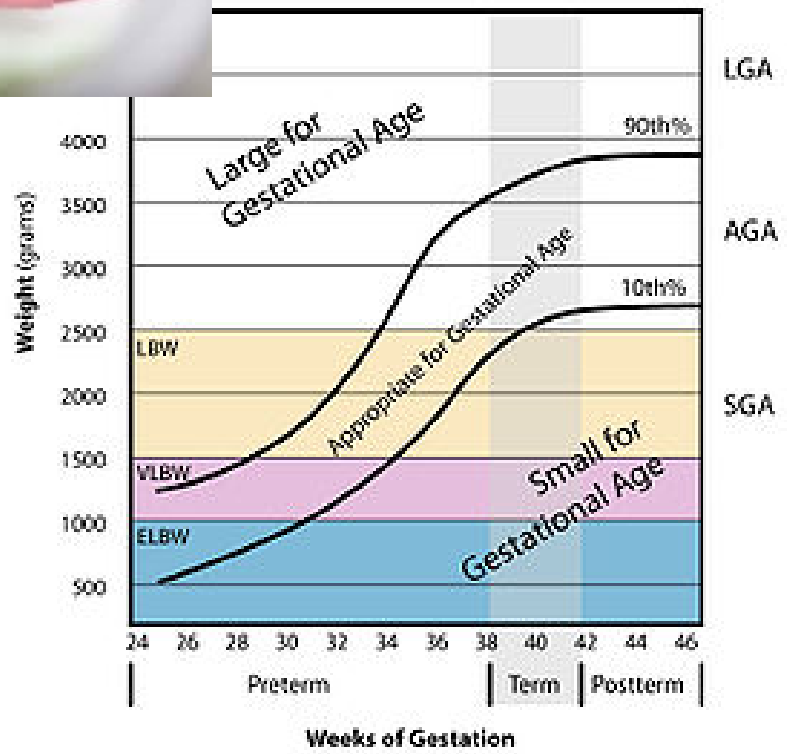
Grandi et al *Ped Perinat Epi* 2017

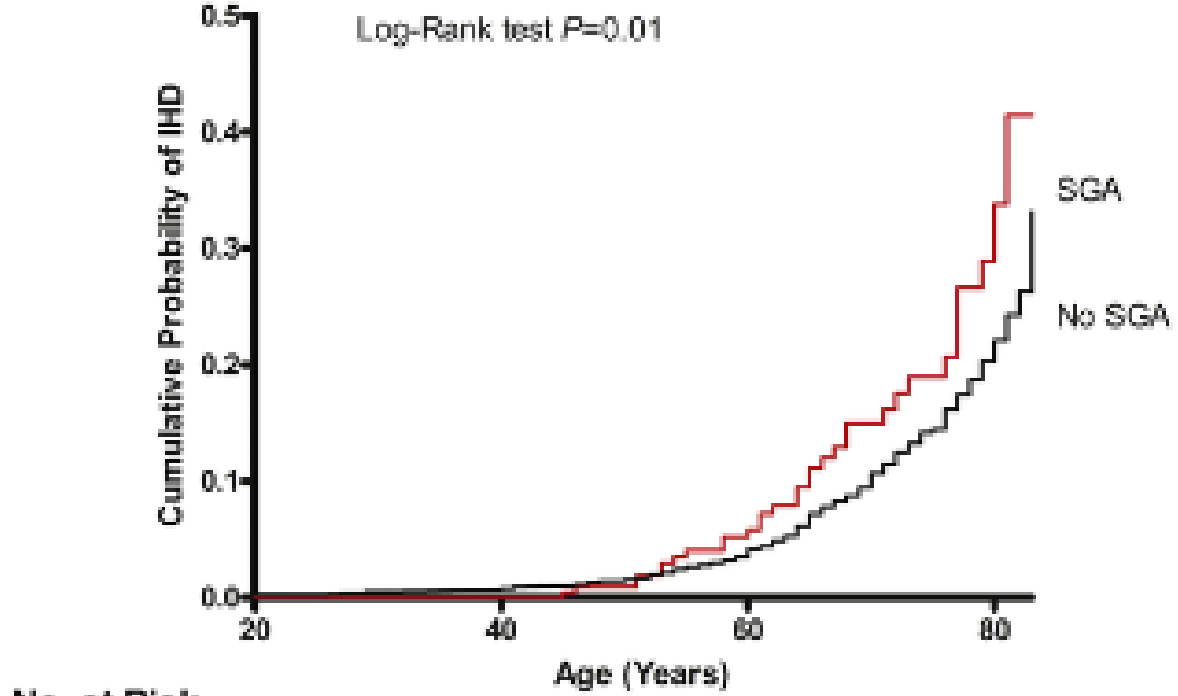
Preterm Delivery (<37 weeks)

1.5 - 3x risk of CVD

Tanz *Circ* 2017; Minissian *Circ* 2018

Evolving Data: Small for Gestational Age





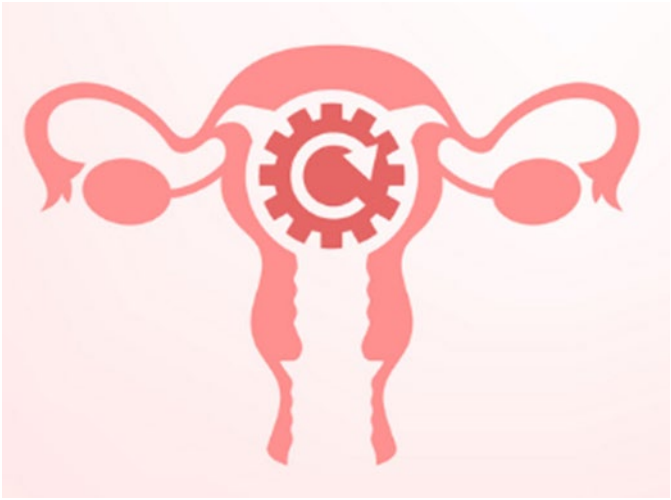
No. at Risk				
SGA	13	225	152	29
No SGA	366	3892	2233	533

OR for IHD if have SGA infant 1.8 (CI 1.2-2.9

Bukowski et al. PlosOne 2012

Timing of Menopause

Average age of menopause = 51 yo
Early menopause < 45 yo
Premature menopause < 40 yo



Early Menopause is associated with increase risk of CVD (RR 1.5 CI 1.28-1.76)

Muka *JAMA Card* 2016

Under Pressure? Just Ask.

- Ask about pregnancy
  - Did you have Gestational DM, HTN, PreE?
  - When did you deliver? Was it complicated?
  - How big was your baby?
- Ask about menopause
  - Are you pre- post- or peri-menopausal?
  - What age did it occur?

When in doubt? Call us!

Happy 2022 Go Red for Women Day!!

Reclaim Your Rhythm

Stay *on beat* with your Blood Pressure!

GaPQC

GEORGIA PERINATAL QUALITY COLLABORATIVE

Questions?

gapqc@dph.ga.gov