Hypertensive disorders of pregnancy:
What one public health department and hospital system are doing to address the crisis.

Public Health
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St. Louis County

Community Health Board

ASPIRUS®
ST. LUKE'S

DEPARTMENT OF HEALTH

HEART to HEART

Who we are

We are a team of Registered Nurses from St. Louis County Public Health and Aspirus St. Luke's hospital system working together to address the crisis of HDP's in St. Louis County.

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Heart-to-Heart (H2H) Home Visiting Program

Hypertensive disorders of pregnancy (HDP) have been increasing in St. Louis County, around Minnesota and around the nation. Impacts can be devastating on both birthing people and their infants. Data shows that Black and Indigenous individuals are disproportionally impacted by HDP.

Aspirus St. Luke's hospital system and St Louis County Public Health joined forces to try to tackle this through a health equity lens.

Today's Objectives:

We will summarize the key components of the Heart-to-Heart program.

We will identify challenges / potential challenges / opportunities of program implementation.

We will talk about steps to create a similar intervention with your systems.

But first...

What are hypertensive disorders of pregnancy (HDP)
and how do they affect birthing people and infants?

How does Birth Equity play a role in HDP and what is happening in local communities in Minnesota?

What is the Heart-to-Heart program and how is it addressing HDP in our region?

What are Hypertensive Disorders of Pregnancy (HDP's)

- Chronic hypertension:
  - High blood pressure that develops either before pregnancy or during the first 20 weeks of pregnancy.
- Chronic hypertension with superimposed preeclampsia:
  - People with this condition may develop protein in the urine or other complications.
- Gestational hypertension:
  - High blood pressure that develops after 20 weeks of pregnancy. There's no excess protein in the urine and there are no other signs of organ damage. Can eventually lead to preeclampsia.
- Preeclampsia/Postpartum Preeclampsia:
  - Hypertension that develops after 20 weeks of pregnancy and is associated with signs of damage to other organ systems, including the kidneys, liver, blood or brain.
  - Preeclampsia can be present without hypertension.
- Eclampsia/HELLP Syndrome
  - Eclampsia is new onset seizures and possibly coma that occur in those with preeclampsia.
  - HELLP (Hemolysis, Elevated Liver enzymes and Low Platelets) a life-threatening pregnancy complication usually considered to be a variant of preeclampsia.

Why does this matter?

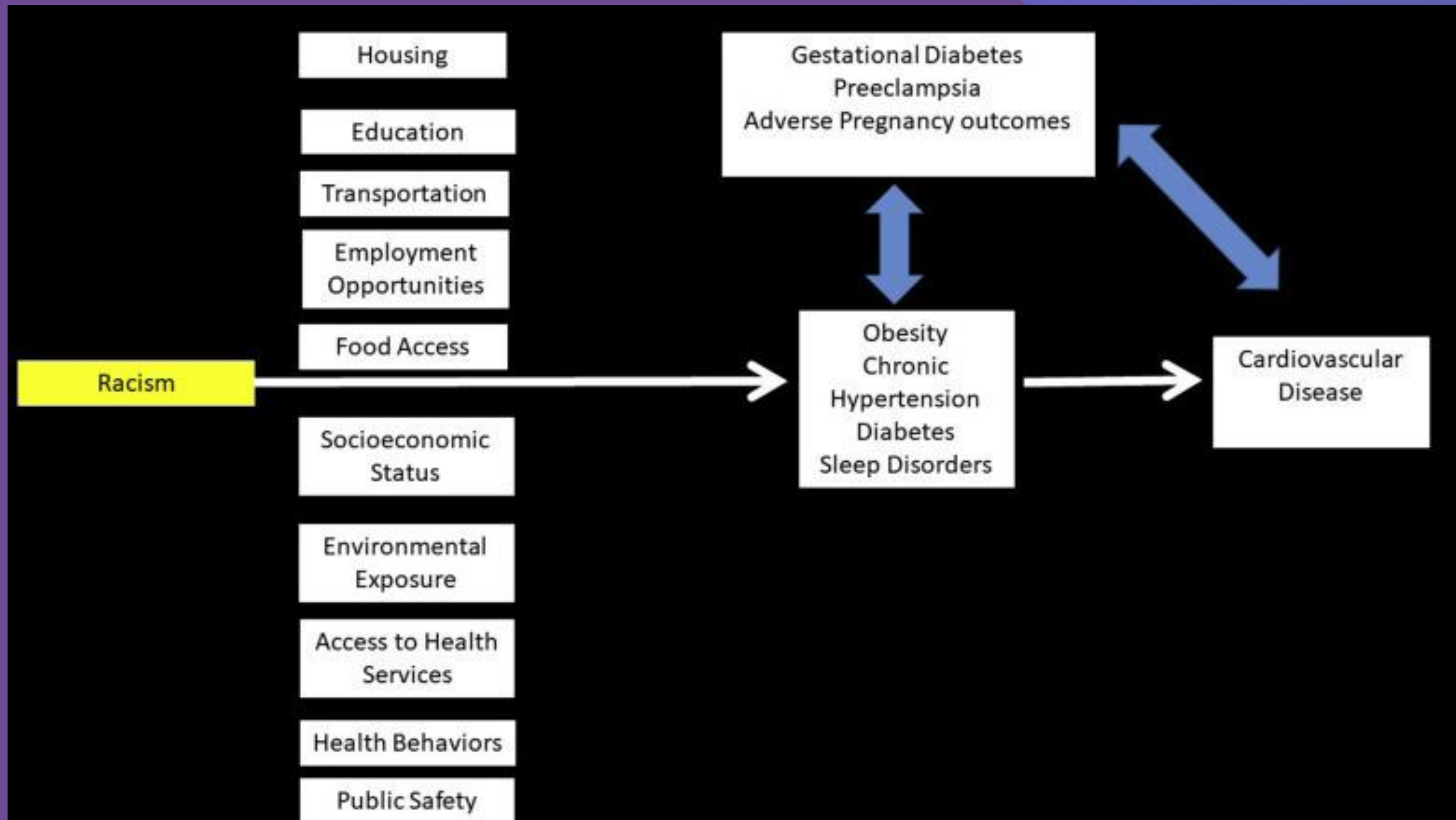
Poor Birthing Outcomes: For the birthing Individual

- Increased risk of stroke, heart attack, and miscarriage.
- Risk of eclampsia which can cause seizures, coma, and death if untreated.
- Risk of Placental Abruption.
- Risk of HELLP (Hemolysis, Eleveted Liver enzymes, low Platelet count).
- Permanent organ damage to the kidneys, heart, liver, lungs and other organs.
- Increased likelihood of future chronic cardiovascular disease.

Why does this matter?

Poor Birthing Outcomes: For the Infant

- Intrauterine growth restriction (IUGR) which can result in low birth weight.
- Preterm birth which can lead to increased risk of infection, breathing problems, feeding difficulties, vision or hearing problems, and developmental delays.
- Increased risk of stroke, and stillbirth.



This framework describes the way racism works through social determinants of health to impact maternal health along the life course.

Johnson. Race and ethnicity in preeclampsia. Am J Obstet Gynecol 2022.

Severe Maternal Morbidity and Mortality (SMMM)

According to the Centers for Disease Control and Prevention, there are approximately 700 maternal deaths and an additional 50,000 cases of severe maternal morbidity in the U.S. every year

01 Greater Minnesota & Maternal Deserts

Rural residents have 9% greater odds of experiencing SMMM, compared with urban residents.

02 Race and ethnicity

Non-Hispanic black, American Indian or Alaska Native, Hispanic, and Asian residents of both rural and urban areas had at least 33% increased odds of SMMM, compared to non-Hispanic white residents.

03 Socioeconomic status

Medicaid beneficiaries or patients with no insurance, including those who are uninsured, self-pay, or other, at delivery had at least 30% increased odds of SMMM, compared to those with private health insurance.

How does Birth Equity play a role in HDP?

On February 7, 2023, the US Preventive Services Task Force issued a draft recommendation statement on screening for hypertensive disorders in pregnancy, and made this statement: "...Black, American Indian, and Alaska Native people are much more likely to both have and die from a hypertensive disorder of pregnancy."

These statistics are according to The National Inpatient Sample (NIS), the largest publicly available all-payer hospital inpatient care database in the United States:

46.6 OF 1,000

Total number of birthing people that experience preeclampsia.

43.3 OF 1,000

Total number of white birthing people that experience preeclampsia.

69.8 OF 1,000

Total number of black birthing people that experience preeclampsia.

The local data

From 2020-2021, there was a 30% increase in preterm deliveries (less than 37 weeks gestation) at Aspirus St. Luke's Hospital.

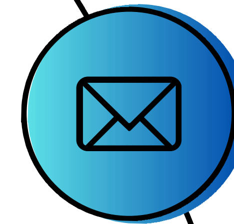
From 2020-2021, there was an 81% increase in deliveries complicated by hypertension and preeclampsia at Aspirus St. Luke's Hospital.

The birth of Heart-to-Heart!

How does the

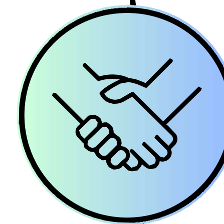
Program work?

Referral



- Aspirus St. Luke's OB providers and care team monitor for patients with a history of HDP's and any other risk factors.
- They will discuss the H2H program with the patient, and if the patient is interested they fax a referral over to St. Louis County (SLC) Public Health.

Connect

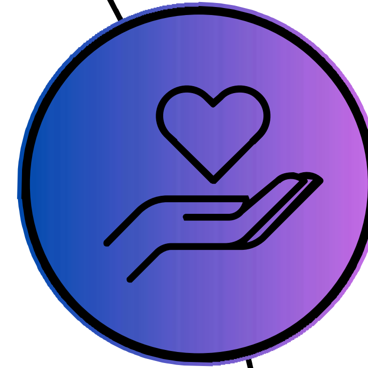


- After SLC receives the referral, our H2H nurse reaches out to the client via phone and text.
- Together, they work out a time and place where the patient is most comfortable to meet, ie. their home, the park, coffee shop, and so forth!

The Visits

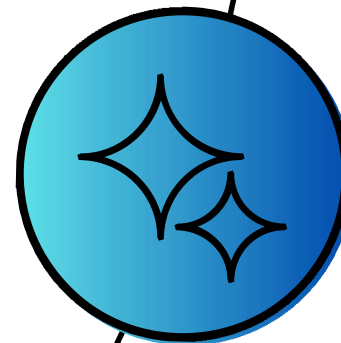
- Each visit will look different. At first the H2H nurse will ensure they have a correct fitting blood pressure monitor and cuff.
- During each visit, the nurse checks their blood pressure, and assesses them for HDP warning signs.

Additional Services



- The H2H nurse can also help with infant feeding, complete weights and measurements and growth and development screenings as their baby grows!
- Also help to connect patients with other community resources such as support groups, food resources, assistance with accessing government resources, accessing mental health resources, the list goes on!

What Next?



- After the postpartum preeclampsia risk has decreased (around 8-12 weeks postpartum) the client can choose to be discharged from the program, or stay enrolled until the child is 1 year old
- Clients will also be informed of other home visiting programs that SLC offers.
- The client leads the way and the nurse comes alongside to support them at however they need.

It's more than a home visiting program with a blood pressure cuff.

- H2H includes family home visiting components, such as a variety of screenings, referrals and emphasis on attachment and cue recognition--in addition health screenings for birthing individual and infant.
- Intensive focus on symptoms, education, BP, etc., including offering a validated BP monitor, and a significant amount of follow-up compared to typical home visiting programs.
- The coordination between Aspirus St Luke's, St Louis County PH, and patient is significantly more than for those seen in our other home visiting programs.
- All of the above means this is a very holistic program.

Client Story

One individual's story of going from hypotensive most of her pregnancy to a hypertensive crisis.

To Review: Key Components of the Heart-to-Heart Program

- The Identified Need:
- The Services: What is Being Offered and By Which Agency?
- The Champions (or go-to people):
- The Processes, Protocols and Communication:
- The Resources and Funding:
- Adaptation and Evaluation:

Also known as:

Communication
Collaboration
Commitment

You too can start your own HDP home visiting program!

The Identified Needs:

- What is your population? How many patients/clients are at risk? Is there a service or agency in your community already or that you can connect with to partner? If so, does it represent your community well, is it a trusted ally in your

The Services: What is Being Offered and By Which Agency?

- What do you feel would be most useful for your patients?
- What is realistic and doable?

The Champions (**or go-to people**):

- Who will spearhead this for your agency/hospital? Who is your counterpart, and what support does that person have within their own organization for this project?

You too can start your own HDP home visiting program!

The Processes, Protocols and Communication:

- Who will take the lead for each agency/hospital for evaluating/adapting the processes and protocols, and how do they connect with those in your partner agency?

The Resources and Funding:

- WHAT and WHO do you need to fund? Do you need to seek outside funding? How will you manage growth, both program and costs? And who manages the funding, if there is additional funding?

Adaptation and Evaluation:

- What is your process for changing what you're doing? (Formal/informal) Where are these changes documented?
- What do you want to evaluate--what does your funder want to know (if you have a funder)?

Or, you too can start...something?!

What does *something* look like?

- It doesn't have to be a public health department.
  - Are there other home visiting programs in your community who can add some components into their existing curriculum or visit schedule?
- What about within your own system?
  - And then connect the patients to other services, such as other home visiting programs for additional pieces of education, resources and support?
- Other considerations:
  - VALIDATED, QUALITY blood pressure monitors--with education--and parameters
  - Who is the patient's clinical contact when concerns arise?

What have we learned, including any challenges

- Communication is key.
- Flexibility is also key! Change is inevitable, including program parameters. (aka Learn to embrace change!)
- Offering a blood pressure monitor and incentives encourage participation.
- Staff and staff/agency capacity is fluid.
- Trust your partners and give grace as needed! Remember the shared vision.
- Each agency needs at least one champion or go-to person.
- Funding and sustainability: current funding and long-term sustainability.
- Data is needed--and stories to illustrate the work.

Successes--and the Future of Heart-to-Heart

- In the first year (July 1, 2023 - June 30, 2024) our goal was to offer H2H to at least 12 individuals; we saw 21 individuals, with a 0.5 FTE public health nurse.

- For year two (July 1, 2024 to June 30, 2025) we were able to expand to two 0.5 FTE PHNs and are hoping to offer services to 24 individuals, and as of 10/14/2024, H2H has enrolled or served/closed 22 individuals.

- Programmatic additions: 1. increased and early conversations about potential for cardiovascular disease and subsequent management and self-advocacy; 2. early conversations about connecting with a primary care provider.

- Fine tuning program practices while being responsive to new research; supporting others to do this kind of work; and sustainability.

Questions?

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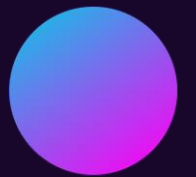

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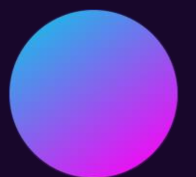

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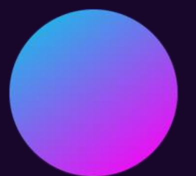

Thank you

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