

Telemedicine engages newly postpartum women in cardiovascular monitoring

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America has the highest maternal mortality rate in the developed world, and it's getting worse. Since cardiovascular disease is the primary cause, researchers at the University of Pittsburgh School of Medicine and the Magee-Womens Research Institute (MWRI) created a blood pressure home-monitoring program to rapidly detect concerning trends in postpartum women before their situation becomes critical.

To address the rising maternal mortality rate, the American College of Obstetricians and Gynecologists (ACOG) recently upped their recommended frequency for postpartum checkups, starting within three weeks of birth. But right now, only about 66% of new mothers diagnosed with a [hypertensive disorder](#) are making it back to the clinic for what is usually a single follow-up appointment around six weeks postpartum. That figure jumped to 88% when the researchers gave [women](#) a [blood](#) pressure cuff and periodically prompted them to text their readings to a nurse, according to a study published today in the journal *Obstetrics & Gynecology*.

"We're meeting women where they are instead of saying they have to come to the hospital for all these blood pressure checks when they have a new baby," said lead author Alisse Hauspurg, M.D., assistant professor of obstetrics, gynecology and reproductive sciences at Pitt. "I think this is supported by recent ACOG recommendations and is an opportunity to improve care for high-risk women."

Between February 2018 and January 2019, the researchers enrolled 499

patients with preeclampsia, eclampsia or chronic, gestational or postpartum hypertension. Each was discharged from the postpartum unit with an automatic blood pressure cuff and instructions on how to take their own readings at home.

A computerized system integrated with the participants' electronic health records prompts them to take their own blood pressure and heart rate readings once a day for five days. If their readings are normal, their one-week follow-up appointment is automatically cancelled, which was the case for 43% of the women. Patients taking blood pressure medications start to taper down, and patients who aren't taking any medications decrease the frequency of their readings.

Abnormal readings lead to an increase in monitoring frequency and automatically notify the patient's [health care provider](#). Dangerously high readings trigger a trip to the [emergency room](#).

Overall, 83% of participants continued the program beyond three weeks postpartum and 74% continued for four weeks or more.

According to the researchers, this study demonstrates feasibility and high levels of engagement in the program, which should be straightforward to expand.

"One of the big advantages here is scalability," said senior author Hyagriv Simhan, M.D., professor of obstetrics, gynecology and reproductive sciences at Pitt, and executive vice chair of obstetrical services UPMC Magee-Womens Hospital. "Connecting women in their 'fourth trimester' to online care allows us to engage a larger number of patients over a larger geography with the infrastructure and workforce we already have."

Of the 250 women who filled out a post-program survey, 94% said they

were satisfied with the experience and 82% said they were more comfortable knowing that a nurse was checking on their health every day.

One goal of the program is to bridge care from obstetricians to ongoing—albeit less intensive—cardiovascular monitoring. So far, 63% of the study participants have either scheduled an appointment or established care with a primary care provider.

"Home blood pressure monitoring gives patients ownership. They're texting their numbers in," Hauspurg said. "Hypertensive disorders of pregnancy impact women for the rest of their lives, so to have ownership over their own health is really important. We're empowering them to know their numbers."

Provided by University of Pittsburgh

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