NATIONAL ACADEMIES
Sciences
Engineering
Medicine

Protecting Maternal Heart Health

Prevention and Care Before, During, and After Pregnancy

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Statement of Task

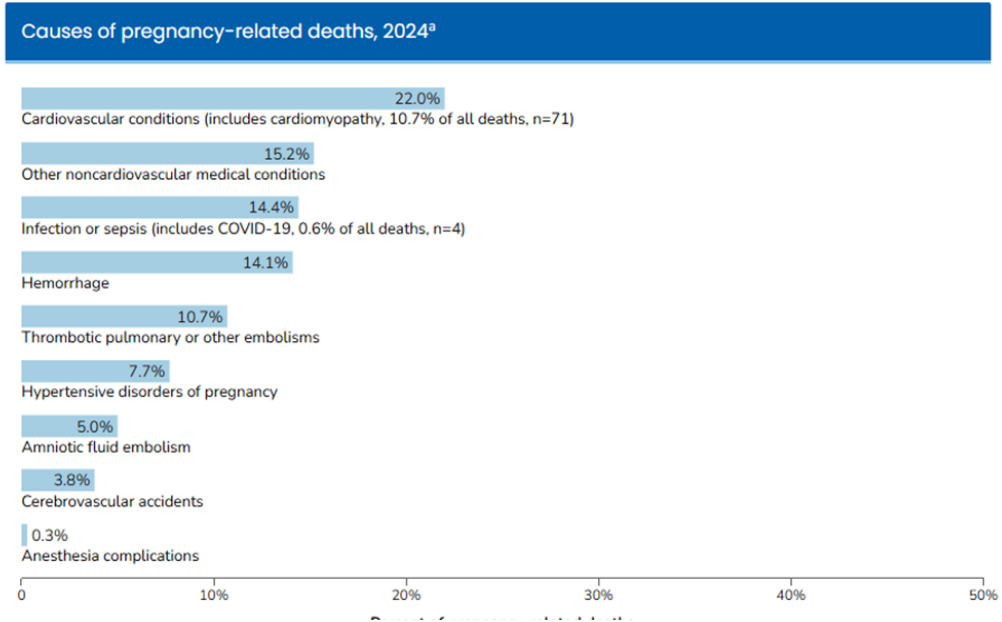
- Identify gaps in clinical preventive services and screenings to reduce pregnancy-related morbidity and mortality associated with cardiovascular conditions.
- Consider timing across before, during, and after pregnancy and applicability by life stage and cardiovascular risk.
- Identify how HRSA programs can reduce barriers to access, delivery, uptake, and follow-up for these services across settings and communities.
- Identify research priorities for promising interventions where evidence is not yet conclusive.

Report Highlights

- Two services supported for implementation now (Recommendations 1 and 3)
- Seven additional services are promising and can be implemented and evaluated locally as evidence develops
- Six system/workforce recommendations (Recommendations 4–9)
- Four research recommendations (Recommendations 2 & 10–12)

Why CVD Matters for Maternal Morbidity and Mortality

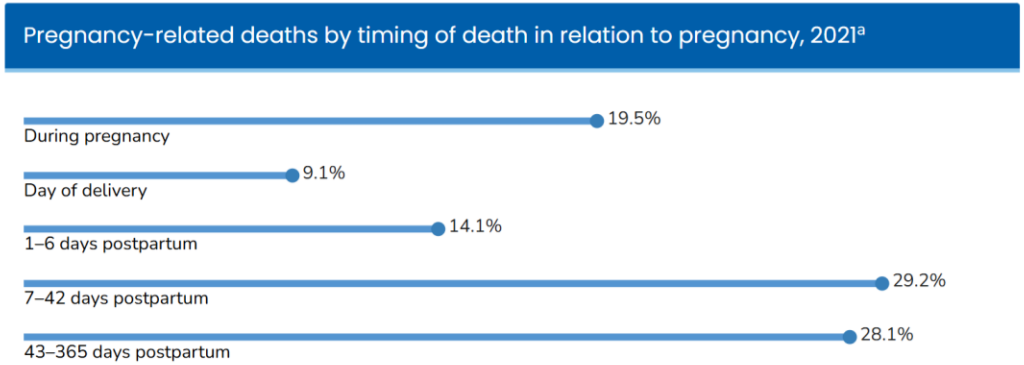
- Cardiovascular-related causes account for the largest share of pregnancy-related deaths in the United States.
- In 2024, there were 665 pregnancy-related deaths (18.4 per 100,000 live births).
- Many serious cardiovascular events occur **after delivery**, including in the weeks and months postpartum, underscoring the importance of prevention and follow-up across pregnancy and the postpartum year.



SOURCE: CDC. 2025. *Data from the Pregnancy Mortality Surveillance System.* https://www.cdc.gov/maternal-mortality/php/pregnancy-mortality-surveillance-data/index.html (accessed November 3, 2025).

Timing and Preventability

- 57.3% of pregnancy-related deaths occur 7 days to 1 year postpartum.
- Maternal Mortality Review Committee findings indicate most pregnancy-related deaths are potentially preventable:
  - >80% of pregnancy-related deaths overall
  - >75% of pregnancy-related cardiovascular deaths
- These patterns highlight opportunities to strengthen clinical preventive services before, during, and after pregnancy, including between pregnancies.



SOURCE: CDC. 2025. *Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees.* https://www.cdc.gov/maternal-mortality/php/data-research/mmrc/index.html (accessed December 19, 2025).

Pregnancy History Matters: Adverse Pregnancy Outcomes Signal Cardiovascular Risk

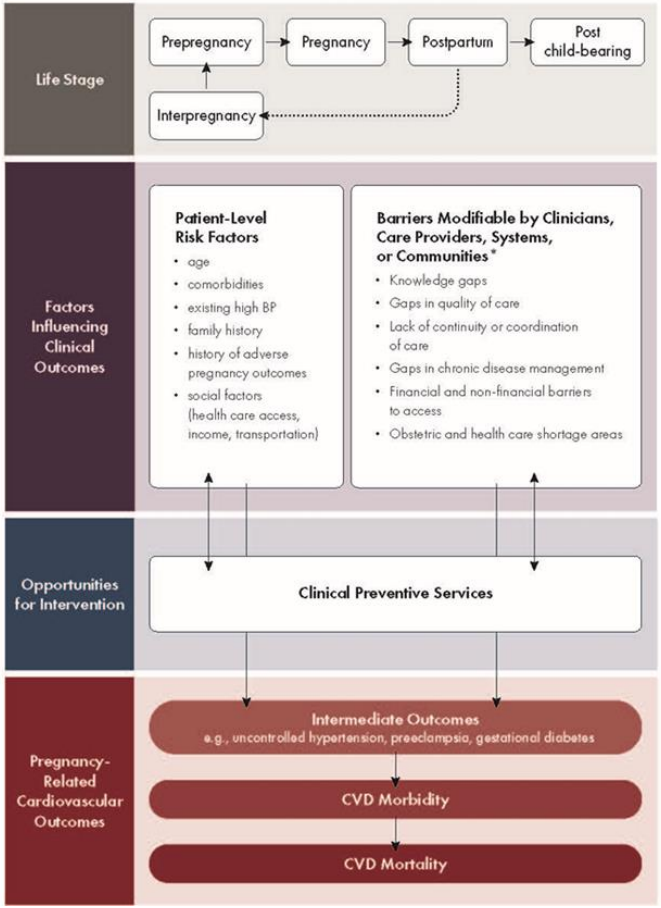
- Pregnancy is a physiologic “stress test” that can reveal unrecognized cardiovascular risk and accelerate risk factors such as hypertension and diabetes.
- Adverse pregnancy outcomes are associated with higher risk of cardiometabolic conditions after delivery and later in life.
  - Examples: hypertensive disorders of pregnancy—gestational hypertension, preeclampsia/eclampsia, HELLP; gestational diabetes; preterm birth; fetal growth restriction/small for gestational age; placental abruption; pregnancy loss/stillbirth.
- Clinical implication: Capturing pregnancy history and adverse pregnancy outcomes supports risk stratification, follow-up planning, and timely preventive services across pregnancy, postpartum, and between pregnancies.

Committee Approach (at a glance)

- Convened by the National Academies at the request of the Health Resources and Services Administration (HRSA)
- Information gathering and deliberation across multiple meetings; input from patients, clinicians, professional organizations, agencies, and researchers
- Evidence review of selected clinical preventive services; report includes conclusions and recommendations
- External peer review
- Final Product: 7-chapter report with 16 conclusions and 12 recommendation

Committee's Conceptual Framework

- Framework illustrates how cardiovascular risk can accumulate over time, be modified, and contribute to pregnancy-related outcomes
- Organized across the reproductive life course: prepregnancy → pregnancy → postpartum → interpregnancy
- Highlights how patient factors and system factors can shape prevention and follow-up.



What Existing Guidelines Already Cover—and Where Gaps Remain

- The committee first reviewed existing preventive services guidance from the U.S. Preventive Services Task Force (USPSTF), the Women's Preventive Services Initiative (WPSI), and Bright Futures.
- These already cover many important services, including routine blood pressure screening, diabetes screening, lipid management, tobacco cessation, physical activity and nutrition counseling, and pregnancy-specific screening.
- HRSA asked the committee to complement—not duplicate—those recommendations.
- Based on the identified gaps, the committee focused on gaps in postpartum timing, risk recognition, care coordination, transitions, and implementation across settings.

Services Reviewed: Screening, Early Detection, and Clinical Management

- Blood pressure thresholds/targets for treatment during pregnancy
- Enhanced postpartum hypertension management
- Urgent maternal warning signs (education/ screening) and response protocols postpartum
- Cardiovascular risk assessment tools in pregnancy and postpartum
- Comprehensive cardiovascular health assessment (Life's Essential 8 framework)

Services Reviewed: Care Delivery and Support Services

- Telehealth approaches across prepregnancy, prenatal, and postpartum periods
- Integrated cardio-obstetrics care models
- Supportive services (doulas, peer navigators, community health workers)
- Transitions from postpartum to longitudinal preventive care

Evidence Supports Implementation Now for Two Services

Chronic Hypertension in Pregnancy: BP target <140/90 mmHg

Substantial evidence shows treating chronic hypertension in pregnancy to a blood pressure target of <140/90 mmHg reduces risk of adverse outcomes (including severe-range hypertension and preeclampsia), without evidence of harm to fetal growth in the available studies.

Recommendation 1:

Support implementation of care models and education to achieve BP <140/90 mmHg during pregnancy for women with preexisting chronic hypertension.

Recommendation 2:

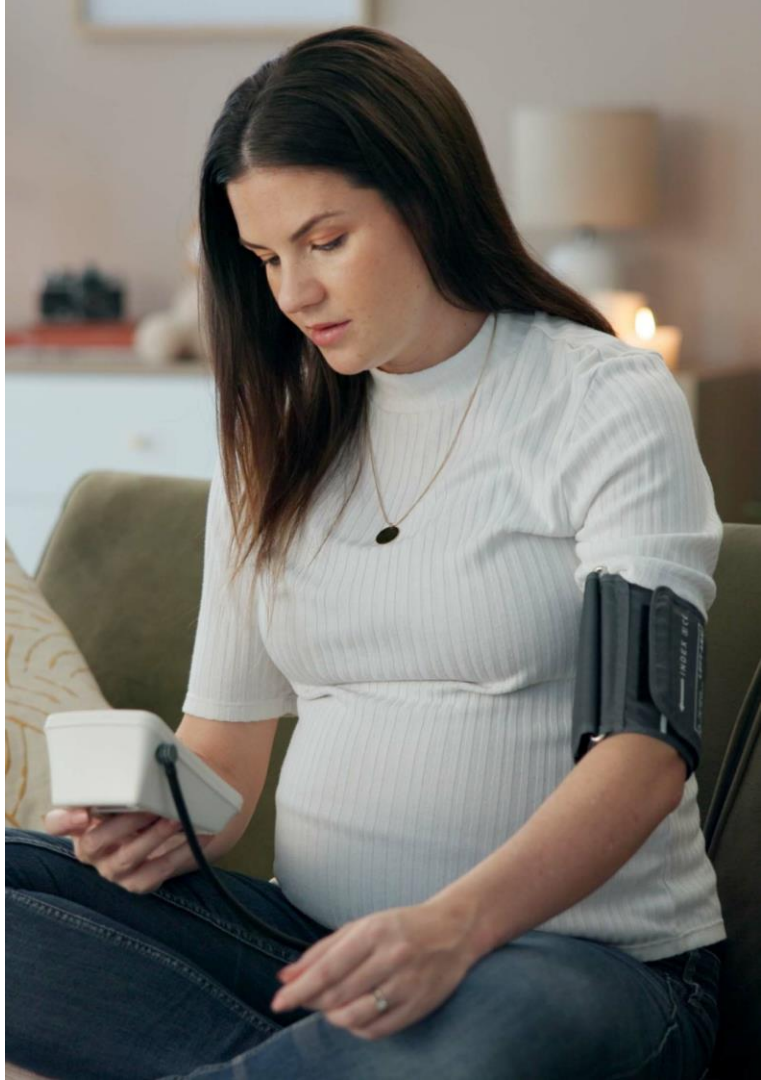
Federal funders prioritize trials and implementation-effectiveness studies to determine optimal prenatal and early postpartum blood pressure thresholds/targets and treatments.

Enhanced Postpartum Hypertension Management

- Enhanced postpartum hypertension management programs consistently improve:
  - early BP assessment
  - engagement in follow-up care
  - short-term blood pressure control
- Evidence is insufficient to determine effects on severe maternal morbidity, mortality, or long-term cardiovascular outcomes.

Recommendation 3:

Support postpartum hypertension management programs and education, including self-measured/remote blood pressure monitoring paired with timely review, action thresholds, and treatment adjustment.



Cross-cutting Delivery Strategies to Improve Access and Continuity

Why Prevention Can Fall Through: Cross-cutting Barriers

- **Coverage and affordability:** coverage gaps/interruptions and cost barriers can limit follow-up and chronic disease management.
- **Workforce and geography:** limited maternity and specialty access in some communities; travel/time constraints can delay care.
- **Fragmented handoffs:** incomplete documentation and weak transitions between obstetric, primary care, and acute care settings.
- **Operational barriers:** limited capacity for care coordination, remote monitoring workflows, and data sharing.
- **Measurement gaps:** limited longitudinal tracking of preventive services and outcomes across pregnancy and postpartum.

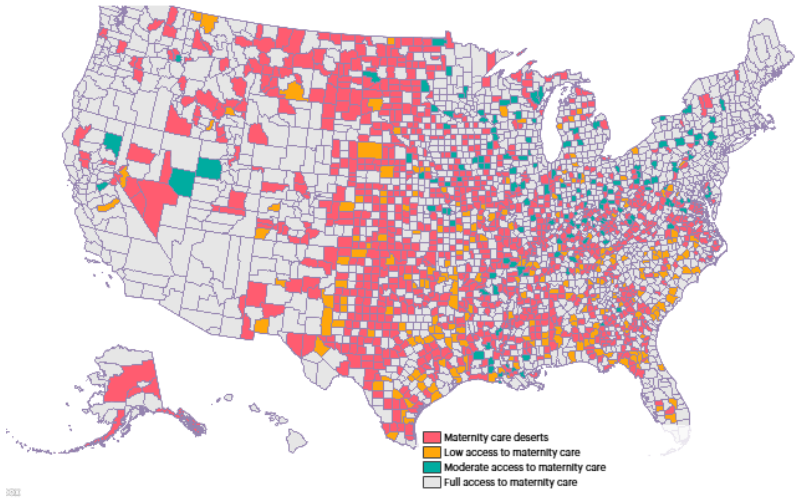
Improve Access and Continuity of Preventive Services

Recommendation 4:

HRSA, working with federal and state partners, including CMS and state agencies should support and incentivize programs that reduce barriers to preventive care by strengthening coverage continuity, care transitions/hand-offs, and coordination across the reproductive life course.

Recommendation 5:

HRSA should leverage its telehealth, rural health, and maternal health programs to expand access to preventive cardiovascular services—prioritizing telehealth-enabled approaches and evaluating additional applications.



SOURCE: Stoneburner, A., R. Lucas, J. Fontenot, C. Brigance, E. Jones, and A. L. DeMaria. 2024. Nowhere to go: Maternity care deserts across the US. Arlington, VA: March of Dimes. https://www.marchofdimes.org/sites/default/files/2024-09/2024_MoD_MCD_Report.pdf (accessed March 9, 2026).

Strengthen Data, Quality Measurement, and Learning

Recommendation 6:

HRSA, in partnership with CDC, CMS, NIH, AHRQ, and other partners should improve data infrastructure and quality measurement to support delivery of preventive services and learning from real-world implementation.

Key elements include:

- Build on existing quality improvement and dissemination platforms (e.g., AIM)
- Strengthen research–practice learning networks
- Improve coding, linkage, and longitudinal measurement so systems can track services and outcomes over time

Education and Workforce Capacity

Recommendation 7:

HRSA should leverage its programs to expand patient, clinician, and community-based education on pregnancy-related cardiovascular risk and urgent maternal warning signs.

Recommendation 8:

Strengthen clinician competencies and team-based models to support prevention across pregnancy and postpartum, including pregnancy history capture, reliable follow-up, and escalation pathways.

Federally Qualified Health Centers and Community-Oriented Programs

HRSA-supported health centers and other community-oriented programs can expand the reach of preventive cardiovascular services across the reproductive life course.

Recommendation 9:

HRSA should incentivize and support Federally Qualified Health Centers and other community-oriented health programs it administers, as applicable, to expand the delivery of preventive clinical services for cardiovascular disease risk reduction during the prepregnancy, pregnancy, postpartum, and interpregnancy periods.

Research Priorities to Strengthen the Evidence Base

Core outcomes and Multicenter Research Infrastructure

Recommendation 10:

Develop core outcomes and consistent definitions for pregnancy-related cardiovascular studies; prioritize health outcomes and strongly linked intermediate outcomes.

Recommendation 11:

Establish a national research network across diverse settings to enable multicenter studies of severe maternal morbidity and maternal mortality.

Building the Evidence Base for Postpartum Year

A substantial share of cardiovascular deaths occur in the later postpartum period (43–365 days), highlighting the need for follow-up beyond the early postpartum visit window and across care transitions.

Recommendation 12:

HRSA, NIH, and other sponsors support should support a full spectrum of research on clinical services to reduce adverse cardiovascular outcomes during the 12 months after delivery—from early-stage studies to definitive controlled evaluations.

Research Gaps and Needs (Building the Evidence Base)

Cross-cutting conclusion:

Across many preventive clinical services, the evidence base is insufficient and fragmented, limiting conclusions about effectiveness on clinically meaningful maternal cardiovascular outcomes and broader adoption.

- **Outcomes that matter:** More studies powered to detect effects on severe maternal morbidity, emergency care use, readmissions, and longer-term cardiovascular outcomes.
- **Standardized measures:** Core outcome definitions and consistent follow-up windows to improve comparability across studies.
- **Longer follow-up:** Evaluation of clinical services and care pathways across the 12 months after delivery, not only the early postpartum period.
- **Implementation research at scale:** Evidence on sustainable technology, workforce models, reimbursement, and partnerships that improve access and follow-up

Opportunities to Accelerate Progress: Near-Term Actions

- Align programs and funding to support preventive cardiovascular care across prepregnancy, pregnancy, postpartum, and interpregnancy periods.
- Implement what is supported now in HRSA-supported settings: chronic hypertension treatment in pregnancy to <140/90 mmHg and enhanced postpartum hypertension management (Recommendations 1 and 3).
- Strengthen handoffs and accountability by improving care transitions.
- Improving data systems and quality measurement to track preventive services and outcomes over time.

Key Takeaways

- Prevention matters across the reproductive life course
- Evidence supports immediate implementation of select clinical services
- Access, continuity, and delivery systems are central to improving outcomes
- Advancing impact will require stronger data, measurement, and research

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To access the report and supporting materials, visit nationalacademies.org/CVD-pregnancy.

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