



Merck for mothers



MAKING PREGNANCY AND CHILDBIRTH SAFER IN THE U.S.  
**INSIGHTS FROM 12 STATES**

# REVIEWING MATERNAL DEATHS TO END PREVENTABLE TRAGEDIES

Awareness is growing about the unacceptable rise in the number of women dying from pregnancy and childbirth-related complications in the United States (U.S.), even as maternal deaths have declined across the globe. Learning from an unexpected death by examining the circumstances is one of the most effective ways to develop the right solutions to prevent future loss.

That's why *Merck for Mothers* – Merck's 10-year, \$500 million global initiative to end preventable maternal deaths – supported a national project to help 12 states study the cases of women who died and translate those findings into action. These states convened maternal mortality review committees which identified the medical and social factors that contributed to a woman's death. Their important work has already led to changes in policy and practice.

*Merck for Mothers* aims to encourage all states to review maternal deaths, disseminate their findings and improve the quality of care and support they provide to pregnant women and new mothers. Once this happens, the U.S. will be better equipped to reverse the disturbing trend in maternal mortality and save many more women's lives.



## WHY MATERNAL MORTALITY REVIEWS MATTER

Unfortunately, the U.S. does not have comprehensive data to shed light on the tragedy of maternal mortality. When a woman dies during or after pregnancy and childbirth, the cause of death reported on her death certificate does not tell the entire story. Best practice dictates that after a pregnant woman or new mother dies, a maternal mortality review committee – composed of an interdisciplinary group of physicians, nurses, community health workers and public health leaders – convenes to discuss the events surrounding her death and recommend ways to prevent future tragedies. However, less than half of states currently have functioning maternal review committees.

Investing in review committees throughout the U.S. enables health providers, hospitals and health departments to uncover trends in maternal mortality and develop targeted interventions to improve maternal health for all women.



## NEW PRACTICES TO SAVE WOMEN'S LIVES

With *Merck for Mothers*' support, the Association of Maternal & Child Health Programs strengthened the capacity of 12 states to understand why women are dying so that they could implement more effective solutions.

The following states – representing one-third of the nation's four million births each year – participated in the *Every Mother Initiative* between 2013 and 2016: Colorado, Delaware, Florida, Georgia, Illinois, Louisiana, Missouri, New York, North Carolina, Ohio, Oklahoma and Utah.

The states' maternal mortality review committees identified underlying causes of maternal death including hypertension and hemorrhage and uncovered emerging causes such as chronic disease, mental health issues, substance use and domestic violence. The committees then used the insights from their individual states to design life-saving solutions for health providers, women and communities.

### COMPONENTS OF THE EVERY MOTHER INITIATIVE:



Peer-to-Peer Learning



Grants to Implement Recommendations of The Committee

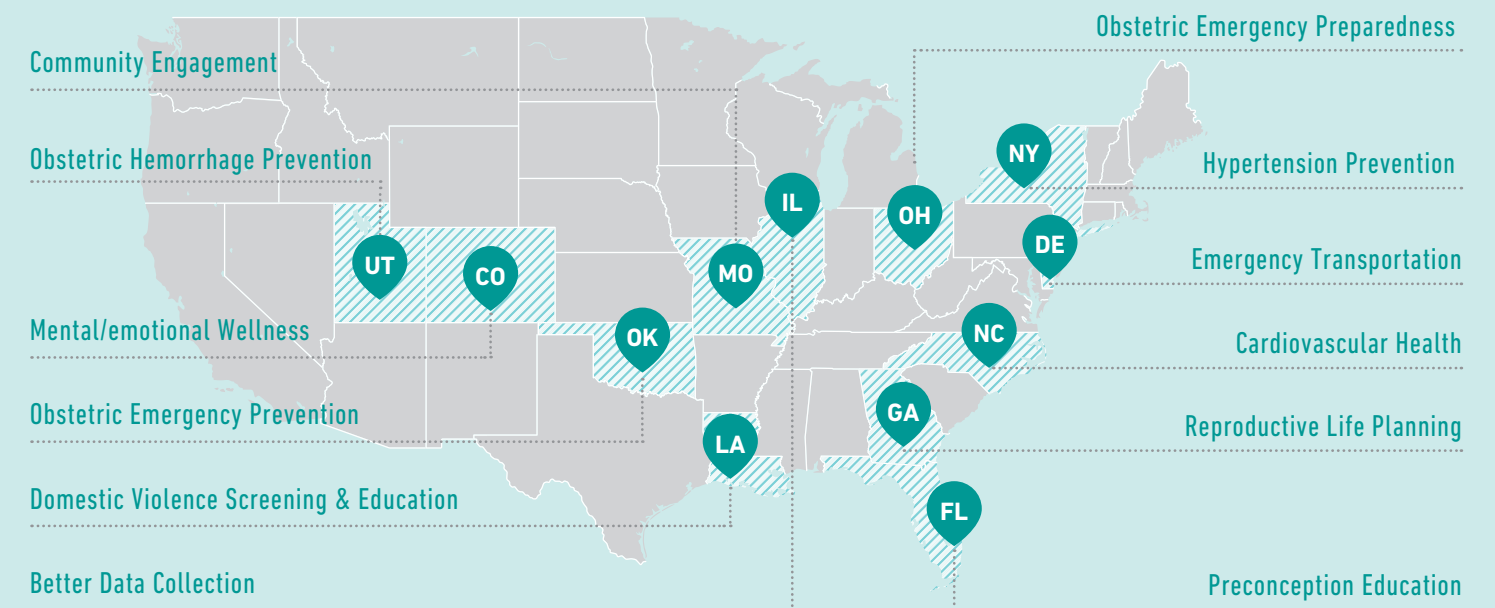


In-Person & Virtual Technical Assistance



## TRANSLATING KNOWLEDGE INTO ACTION: LEARNINGS FROM 12 STATES

Each state identified and implemented solutions to make sure that no woman dies giving life. These solutions were developed in response to the context in each state, but there are several commonalities across the country. For example, chronic conditions – such as diabetes, hypertension and obesity – affect a woman’s health during pregnancy and beyond. Support for mental health is critical to improving maternal health outcomes. And helping healthcare teams provide high quality care during an obstetric emergency can save lives. With their initiative, innovation and commitment, these states and their partners are working to change the trajectory of maternal mortality in the U.S. – their insights and experiences can help prevent future maternal mortality and morbidity.



## COLORADO: TACKLING THE PROBLEM OF PREGNANCY-RELATED DEPRESSION

CO

### REVIEW COMMITTEE FINDING

The **Colorado Maternal Mortality Review Committee** identified a high number of maternal deaths resulting from **suicide, homicide, and substance use**.

### SOLUTION

The team interviewed recently pregnant women who experienced a non-fatal/near-miss suicide attempt or substance overdose, as well as their close family, friends and health providers, to identify factors that influence a woman's ability to obtain support and services to address mental health issues. The state then used the findings to develop **resources** for clinicians that provide guidance on how best to identify, treat and refer pregnant women experiencing depression. Additionally, the Colorado Department of Public Health and Environment launched a campaign to encourage pregnant women to disclose their mental health symptoms with their providers so that they can receive the care they need.

## GEORGIA: ENSURING GOOD HEALTH BEFORE PREGNANCY

GA

### REVIEW COMMITTEE FINDING

The **Georgia Maternal Mortality Review** committee found that **women with chronic and complex medical conditions were not receiving the information and support they needed** to avoid pregnancy until their conditions were well-managed, placing them at increased risk of death during pregnancy and childbirth.

### SOLUTION

The review team partnered with Grady Healthy System and the Georgia Department of Public Health to test a new toolkit to help health providers provide better counseling to patients on reproductive life planning and contraception. The toolkit includes patient education materials (a **video**, poster and four different types of flyers) for display in clinical centers and three recorded lectures for providers that outline pregnancy risks associated with unmanaged chronic diseases and describe how to refer patients to family planning services. The materials have been distributed to clinics and health providers throughout the state.

## DELAWARE: EDUCATING PROVIDERS ON MATERNAL DEPRESSION AND SAFE TRANSPORT OF PREGNANT WOMEN

DE

### REVIEW COMMITTEE FINDING

Although Delaware has a relatively small number of maternal deaths, the team identified several recommendations to help health providers better manage pregnancy and childbirth complications. These include **improved screening for depression and domestic violence and enhanced communication** between hospitals' Emergency Departments and primary care physicians.

### SOLUTION

To implement these recommendations, the Delaware team enlisted a specialist in maternal depression to educate providers about this problem at a special training with the Medical Society of Delaware. Additionally, the team developed a first-of-its-kind statewide course for nurses on maternal transport – **"Safety on the Road"** – to train them on a standard of care for transporting pregnant women via ambulance. To date, 90 percent of all labor and delivery nurses in Delaware have completed the course.

## FLORIDA: EDUCATING PROVIDERS ON MATERNAL DEPRESSION AND SAFE TRANSPORT OF PREGNANT WOMEN

FL

### REVIEW COMMITTEE FINDING

The **Florida Pregnancy-Associated Mortality Review** committee found that **non-Hispanic Black women were significantly more likely to die** from pregnancy complications than non-Hispanic White and Hispanic women. As part of its review, the team also identified **the importance of promoting women's health before pregnancy (preconception) to address chronic conditions more effectively**.

### SOLUTION

The team partnered with **REACHUP Inc** – a community-based health organization – and the U.S. Department of Health and Human Services' Office of Minority Health to establish **Preconception Peer Educator** programs within three Historically Black Colleges/Universities and other state colleges, with a special focus on raising awareness about preconception health, maternal mortality and racial disparities in maternal health. Sixty youth peer educators have been trained to promote the importance of being healthy before pregnancy and provide resources to women of childbearing age. Because of its success translating its findings into practice, the Florida committee established an "Action Subcommittee" with the explicit goal of supporting similar initiatives that urge providers to respond to drivers of maternal mortality in the state.



## ILLINOIS: GATHERING BETTER DATA ON LIFE-THREATENING COMPLICATIONS

### REVIEW COMMITTEE FINDING

The **Illinois Maternal Mortality Review Committee** identified an opportunity to improve its ability to address maternal health in the state by developing **new data collection methods for both injury-related maternal deaths and life-threatening complications during pregnancy and childbirth (severe maternal morbidity)**.

### SOLUTION

To more effectively monitor several maternal morbidity – a problem estimated to affect 60,000 women in the U.S. a year – the Illinois Department of Public Health partnered with the University of Illinois at Chicago to adapt hospitals' maternal morbidity review tools so that it could conduct state-level surveillance. To complement its existing maternal mortality review committee, the team also established a committee of experts to serve on a separate injury review panel and piloted **new mechanisms** to assist the committee in reviewing injury-related maternal deaths from causes such as suicide, substance overdose and homicide.



## MISSOURI: ENLISTING COMMUNITY PERSPECTIVES ON THE CONTRIBUTORS TO MATERNAL MORTALITY

### REVIEW COMMITTEE FINDING

Upon establishing a review committee in 2011, the **Missouri Pregnancy-Associated Mortality Review** completed a historical analysis of maternal deaths from 1999 through 2008. By 2013, the committee had not yet engaged community stakeholders, and decided to use its findings as an opportunity to **raise awareness of maternal mortality in the state**.

### SOLUTION

The Missouri Department of Health and Senior Services conducted town hall meetings with health providers and the public to share its findings from reviewing more than a decade of maternal deaths. In addition to raising awareness of the problem of maternal mortality, the committee wanted to solicit community perspectives on the major barriers to care for pregnant women so that it could develop targeted interventions. The community's feedback was consistent with the committee's findings: limited access to care, unhealthy lifestyles, prevalence of chronic conditions and substance use, poor health literacy and inadequate provider knowledge of contributors to maternal mortality are all challenges that require greater attention. Ultimately, these findings led Missouri to prioritize preconception health on its state health agenda.



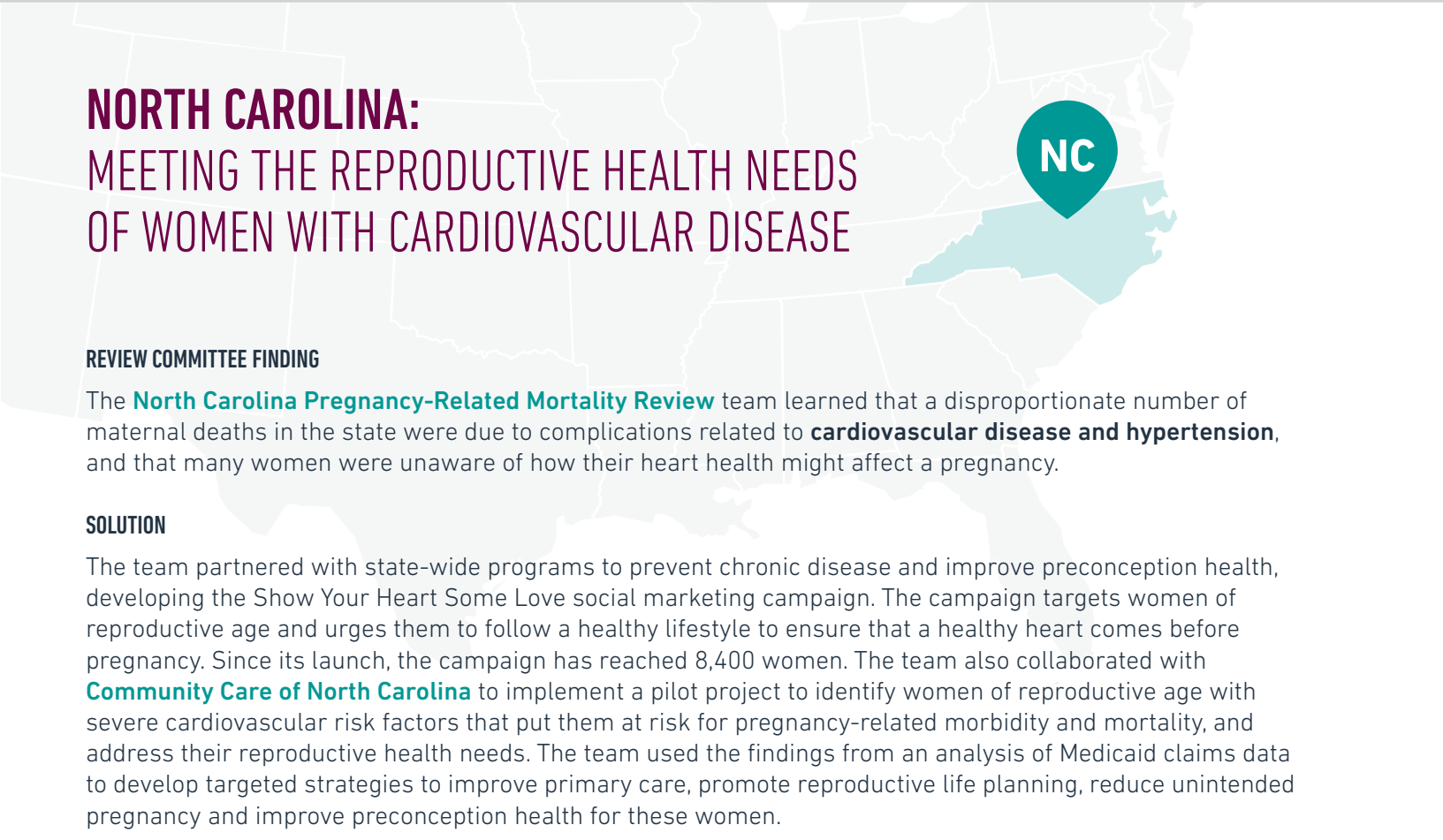
## LOUISIANA: HELPING PREGNANT WOMEN WHO ARE EXPERIENCING DOMESTIC VIOLENCE

### REVIEW COMMITTEE FINDING

The **Louisiana Pregnancy-Associated Mortality Review** uncovered high rates of deaths associated with **domestic violence, mental health issues and substance use**.

### SOLUTION

The Louisiana Department of Health and Hospitals partnered with the **Louisiana Coalition Against Domestic Violence** to address the often-overlooked problem of domestic violence during pregnancy. Together, the organizations created a range of English and Spanish materials, including educational posters for community health centers and "shoe cards" – cards small enough to be hidden from the perpetrator, minimizing risk of discovery – which provide information on resources, including emergency phone numbers, for victims of domestic abuse. The partnership also trained over 100 health and domestic violence service providers working in **16 affiliated programs** across the state on how to effectively screen for domestic violence.



## NORTH CAROLINA: MEETING THE REPRODUCTIVE HEALTH NEEDS OF WOMEN WITH CARDIOVASCULAR DISEASE

### REVIEW COMMITTEE FINDING

The **North Carolina Pregnancy-Related Mortality Review** team learned that a disproportionate number of maternal deaths in the state were due to complications related to **cardiovascular disease and hypertension**, and that many women were unaware of how their heart health might affect a pregnancy.

### SOLUTION

The team partnered with state-wide programs to prevent chronic disease and improve preconception health, developing the Show Your Heart Some Love social marketing campaign. The campaign targets women of reproductive age and urges them to follow a healthy lifestyle to ensure that a healthy heart comes before pregnancy. Since its launch, the campaign has reached 8,400 women. The team also collaborated with **Community Care of North Carolina** to implement a pilot project to identify women of reproductive age with severe cardiovascular risk factors that put them at risk for pregnancy-related morbidity and mortality, and address their reproductive health needs. The team used the findings from an analysis of Medicaid claims data to develop targeted strategies to improve primary care, promote reproductive life planning, reduce unintended pregnancy and improve preconception health for these women.



## NEW YORK: DEVELOPING RESOURCES TO HELP PROVIDERS MANAGE HYPERTENSION AND HEMORRHAGE

### REVIEW COMMITTEE FINDING

The **New York Maternal Mortality Review Committee** identified **hypertension and hemorrhage as the leading causes of maternal death** in the state.

### SOLUTION

In 2013 the New York State Department of Health developed and released **guidelines** for managing hypertensive disorders of pregnancy, which were posted on major websites and disseminated across the state. With the assistance of the Department, the **New York State Perinatal Quality Collaborative** developed **point-of-care resources** for maternity care providers, including posters on techniques to accurately monitor blood pressure, a Preeclampsia Recognition Tool, and a **webinar** for continuing education credits to help providers adhere to clinical guidelines. Over 300 nurses, physicians, and emergency responders have viewed the webinar and the resources were distributed to all New York State's 126 birthing hospitals.



## OKLAHOMA: IMPLEMENTING EVIDENCE-BASED PRACTICES TO MANAGE HYPERTENSION AND HEMORRHAGE

### REVIEW COMMITTEE FINDING

The **Oklahoma Maternal Mortality Review Committee** identified **hypertension in pregnancy and hemorrhage** as major contributors to maternal mortality and morbidity in the state.

### SOLUTION

The **Oklahoma Perinatal Quality Improvement Collaborative**, in partnership with the Oklahoma State Department of Health, Oklahoma University Health Sciences Center, Oklahoma Hospital Association and Oklahoma Health Care Authority, designed and **launched a hospital-based maternal safety quality improvement initiative**. Teams from 37 hospitals were recruited to participate in the program, implementing evidence-based practices associated with readiness, recognition, response and reporting on obstetric hemorrhage and hypertension. The evidence-based practices were adapted from similar efforts in California and New York, and have been endorsed by the Council on Patient Safety for Women's Health Care. Oklahoma was the first state to enroll in the nationwide initiative, the **Alliance for Innovation on Maternal Health**, to help scale its efforts across the state.



## OHIO: TRAINING HEALTH PROVIDERS TO RESPOND TO OBSTETRIC EMERGENCIES

### REVIEW COMMITTEE FINDING

The **Ohio Pregnancy-Associated Mortality Review** identified a need to **train clinical staff to effectively respond to obstetric emergencies**.

### SOLUTION

The Ohio Department of Health and The Ohio State University conducted **simulation training** on obstetric emergencies to help providers respond effectively to these rare events. The three simulation scenarios (postpartum hemorrhage, cardiomyopathy and preeclampsia) were developed based on the results of a statewide survey of birthing hospitals that identified staff members' specific training needs. To date, the team has successfully conducted low-tech, easy to replicate obstetric emergency simulation training for 122 healthcare professionals.



## UTAH: TRAINING HEALTH PROVIDERS TO MANAGE OBSTETRIC HEMORRHAGE

### REVIEW COMMITTEE FINDING

The **Utah Perinatal Mortality Review** identified **hemorrhage** as one of the top three causes of maternal death in the state.

### SOLUTION

As a first step in responding to the problem of hemorrhage, the Utah Department of Health compiled data on statewide rates of obstetric hemorrhage and circulated the findings to 44 delivery hospitals across the state to raise awareness among providers. The team then **disseminated** tools to help health providers improve clinical management of hemorrhage and instructed 25 hospitals on evidence-based practices associated with identifying, treating and responding to complications related to hemorrhage during pregnancy and childbirth. The team also hosted bi-monthly virtual trainings over six months through **Project ECHO** – a virtual learning technology platform – hosted by the University of Utah.



## WORKING TOGETHER TO END PREVENTABLE MATERNAL DEATHS

Learning from a maternal death is a critical step toward preventing future tragedies. We believe that all states should review these deaths and translate the findings into life-saving action. To help achieve this goal, we need to:



**STANDARDIZE HOW STATES COLLECT DATA TO ENSURE THAT EVERY MATERNAL DEATH IS COUNTED**



**STRENGTHEN MATERNAL MORTALITY REVIEW COMMITTEES ACROSS THE COUNTRY — VISIT [WWW.REVIEWTOACTION.ORG](http://WWW.REVIEWTOACTION.ORG) FOR GUIDANCE ON HOW TO IDENTIFY CASES AND DEVELOP ACTIONABLE RECOMMENDATIONS**



**INCLUDE COMMUNITY PERSPECTIVES — IN ADDITION TO CLINICAL ONES — TO MAKE SURE THAT REVIEW COMMITTEES HAVE A COMPREHENSIVE PICTURE OF THE SOCIAL AND MEDICAL FACTORS CONTRIBUTING TO A MATERNAL DEATH**



**INCREASE THE NUMBER OF STATES THAT CONTRIBUTE THEIR DATA TO [NATIONAL ANALYSES](#) TO BETTER IDENTIFY TRENDS AND TRACK U.S. PROGRESS IN ENDING PREVENTABLE MATERNAL MORTALITY**

## ABOUT

### **MERCK FOR MOTHERS**

**Merck for Mothers** is Merck's 10-year, \$500 million global initiative to help create a world where no woman dies giving life.

### **THE ASSOCIATION OF MATERNAL & CHILD HEALTH PROGRAMS**

**The Association of Maternal & Child Health Programs** is a national resource, partner and advocate for state public health leaders and others working to improve the health of women, children, youth and families, including those with special health care needs.





