Yvette and Tamer Ibrahim thought they were equipped to face whatever challenges that the Minnesota winter could throw at them. That is until it came time for Yvette to deliver their first child and a five hour drive in a blizzard stood in their way. Yvette had endured a complicated pregnancy according to **MPR of January 2019** and faced unexpected challenges that had her driving five-hours to and from Duluth every month for checkups. She had been able to manage this drive; up until December 2016 when her water broke. The Ibrahim's story is not an isolated case. **Stacy Stewart, President of March of Dimes, a nonprofit organization that works to improve the health of mothers and babies** declared the U.S to be the “most dangerous developed country" in which to deliver a baby, especially for rural Americans. Maternal health care inequality disproportionately affects residents of rural clinics, leaving them in maternity care deserts. **The aforementioned March of Dimes** defines a maternity care desert as an area where there are not enough hospitals, health care providers or health care services for pregnant and postpartum women. **A study conducted in April of 2017 by Katy Kozhimannil and Peiyin Hung** set the definition for rural areas to being “areas with less than 10,000 residents”. Chances are you know a mom, have a mom, have been a mom, have SEEN a mom, and when 5 million women in the U.S. live in a maternity care desert, it is essential that mothers in these rural areas have access to high-quality maternity care. Today, we will look at the causes, effects, and actions that can be taken to eliminate the maternity care inequality crisis that is sweeping rural America.

Jessica Sheridan of Iowa Falls, Iowa told **Side Effects, a podcast about public health in September of 2019,** that when the obstetric care unit just miles from her house closed 7 months into her pregnancy, it sent her frantically searching for another place to deliver her child. There are two causes to the lack of high quality maternity care mothers in rural areas face: declining access to obstetric services, and increasing cost of delivery for hospitals.

First, declining access. **The aforementioned study by Katy Kozhimannil and Peiyin Hung,** found that one in ten rural counties lost access to a hospital that provided a form of obstetric care. **The American College of Obstetricians and Gynecologists (ACOG) last updated in 2019** defines obstetric care as "the care and treatment given to mothers in childbirth and during the period before and after delivery." If these units were to close, 12 million individuals would lose access to health care. **The National Rural Health Association** released a policy brief in 2018 that highlights the biases of obstetricians and their contribution to the declining access rural mothers face. Obstetricians often prefer to work in urban centers where they are not isolated from other specialty or obstetrics providers. Rural obstetricians and family practice physicians who provide obstetric services fear this isolation because they may not have nearby colleagues to consult or share responsibilities with. **The aforementioned ACOG reports** only about 6 percent of the nation's obstetricians, defined as a "surgeon or physician whose practice of medicine is focused on pregnancy, childbirth, and the postpartum period", but 15 percent of the country's population, meaning 46 million people, live in rural America. In turn, this leaves up to 40% of mostly rural counties in the U.S without a qualified childbirth provider.

Second, the economic cost of delivery is causing smaller, rural hospitals to close their obstetric care units. **The Washington Post of November 8th, 2017** reports, birth is unpredictable. Hospitals must have staff and infrastructure in place constantly to offer obstetric services. Unlike a knee replacement, it is hard to anticipate the exact length of a delivery, so the number of nurses, doctors, surgeons and anesthesiologists that need to be available throughout the delivery process adds up. **George Pink, a University of North Carolina** health care finance expert explains that "All those costs continue whether you have patients or not, and that's the basic source of unprofitability." In addition to obstetric care unit staffing costs, there is also the issue of high costs regarding medicaid reimbursement and malpractice insurance. T**he aforementioned National Rural Health Association of 2018** reports that Medicaid covered 51 percent of rural births and only 39 percent of births in urban settings. This becomes an issue for rural hospitals because "medicaid's reimbursement for childbirth" is close to half of what private insurers provide. Furthermore, the malpractice premiums that hospitals must purchase for insurance varies from 85,000 to 200,000 dollars, and is different state to state. **The Carolina Public Press of September 25, 2017** furthers that because rural areas population is sparse and have fewer births, all of this causes difficulty for hospitals trying to balance the books.

Lucy Parker of Boone, North Carolina is expecting her second child. But unlike her first childbirth, Lucy told **Politico Magazine of October 3, 2017** that she is being forced to drive an hour and a half to Asheville, North Carolina in the middle of February on mountain roads that could be slick with ice and snow, to give birth in a room with nurses and staffers who are strangers. Closed obstetric care units impose two harrowing effects on expecting mothers: endangerment of both mother and child, and the financial burden.

First, endangerment of both mother and child. The aforementioned study from **the National Rural Health Association** indicates infant mortality rates have doubled where counties have obstetric services. **A 2016 study by Sarka Lisonkova, Matthew D. Haslam, et. al** found that infants in rural areas are more likely to have severe birth complications or die. **The National Center for Health Statics 2017 Data Brief** furthers that the survival rate for infants born in communities lacking high quality maternity care are at a higher disadvantage of survival than those born in urban areas. **The University of Minnesota Rural Health Research Center** states that when obstetric services aren't available, mothers attend fewer doctor's appointments and birth complications are more common. When women finally do go into labor, they're likely to end up at a hospital without the necessary resources or, in the worse case scenario, are forced to deliver in unsafe environments outside hospitals. **According to the Commonwealth Fund of August 2019**, less than half of all rural counties have practicing obstetrician, contributing to the lack of prenatal care, which triples the likelihood of mothers dying during birth.

Second, Financial Burden. **The aforementioned Washington Post**, reports that mothers in communities without maternity wards must travel greater distances in order to receive intrapartum care. **In a 2016 study by Peiyin Hung published in Health Services Research**, researchers found that Drive-times to maternity care varies significantly. Some states have as few as 56% of their reproductive-aged women within a 30 minute drive to a maternity ward. Expecting mothers take on the costs of travel, childcare, and lost wages from taking off work in order to drive the nearest hospital for ultrasound, shots, and tests. In the weeks leading up to the expected date of labor, that means multiple back and forth trips to the maternity ward every month, which is a privilege isolated mothers in rural areas simply don't have. **The aforementioned Washington Post recounts stories of women saying** they have ended up on waiting lists at overwhelmed clinics, and that waiting room became a scene of sadness and confusion as they worried about where they would go next. The **Scientific American of**

January 2017 asserts that this issue is exacerbated, since rural Americans are less likely to be insured, and are forced to pay out of pocket.

Families like Yvette's, Jessica's and Lucy's have endured the complications of their isolation from high-quality maternity care for too long. Every mother deserves the right to feel safe and cared for during their pregnancy. While midwifery is often thought about as a solution to maternity care deserts, **The U.S Bureau of Labor Statistics reports in May of 2018,** that urban areas are the places that have the highest level of midwifery employment. If midwives are also choosing to live in urban centers, they aren't a viable, constant option that rural mothers so desperately need. However, there are a couple forms of actions that can be taken to improve rural mothers' access to quality health care. **Loan repayment for medical professionals and telemedicine.**

First, loan repayment incentive. **The National Health Service Corps** awards scholarships and provides loan repayment to primary care providers who commit to relocating for at least two years in a designated shortage area. The hope is that once these medical professionals put down some roots, they will continue to stay in the community and provide services. Find me after the round, give me your name and email, and I will send you a map that highlights the distribution of obstetric providers by U.S. Counties. Additionally, I have provided a QR code on the bottom that sends you to the National Health Service Corps Website. I encourage you to look into this solution if you are considering a future in medicine, or let future medical professionals to you know about options once they finish their schooling.

Second, Telemedicine. The Association of State and Territorial Health Officials of 2018 defined Telemedicine as "the use of medical information exchanged from one site to another via electronic communication to improve the patient's clinical health status". Specifically within the state of Georgia, it has been implemented through provided telemedicine carts that nurses use to facilitate video conferences between patients and specialty providers for a variety

of healthcare services. The carts come equipped with a stethoscope, general examination camera, and an ultrasound. This new form of medicine will allow expecting mothers the opportunity to send their images to a specialist for review, genetic counseling, and provide the capability to detect high-risk pregnancies in the first trimester, meaning mothers and infants are being referred to specialized, high-quality care, much sooner. **Robyn Horsager-Boehrer, an obstetrician residing in Dallas, Texas tells the UT Southwestern Medical center on January 23, 2018** that this new form of medicine will help reduce mothers from having to take time off of work and losing wages, long travel distances, high-quality maternal care can be give in the comfort of their own community, and avoidance of waiting room backups. If you are or know an expecting mother who is struggling to find quality care, telemedicine could be the new path of medical care for you. Ask your local medical professionals if telemedicine is a viable option for you or your loved ones.

The options presented aren't immediate solutions, but they are a step in the right direction during a time where maternity centers are closing and the risk of child and maternal mortality continues to rise in the United States. Stories of families like Yevette and Tamer, Jessica, and Lucy are just a few in a growing maternal healthcare inequality crisis that is effecting so many rural Americans. Today, we've looked at the causes, effects, and forms of action that can be implemented to eliminate maternity care deserts. Mothers should not have to worry about the quality of maternal care received based on where they live. Geography should be a determinant factor to whether a mother, or her child, lives.

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