

Leveraging Telehealth to Improve Maternal Diagnosis in Rural Minnesota

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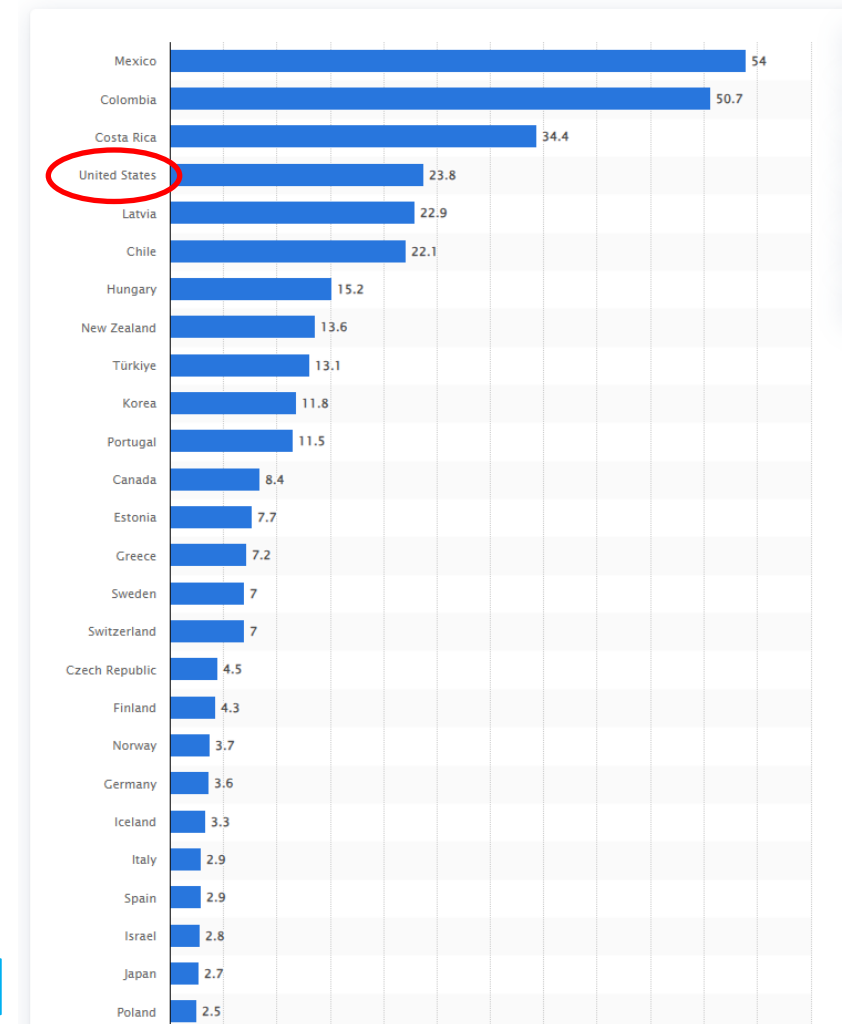
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Severe Maternal Morbidity (SMM)

- U.S. maternal mortality rate 23.4 maternal deaths per 100,000 live births
- Increases length of hospital stays up to 70%
- Contributes to disabilities and chronic illness from cesarean delivery, stroke, adverse outcomes for children (i.e., preterm birth)
- Most morbidity occurs after hospital discharge
 - 1 in 7 privately insured birthing people
 - 1 in 6 Medicaid insured birthing people

Maternal mortality rates worldwide in 2020, by country
(per 100,000 live births)

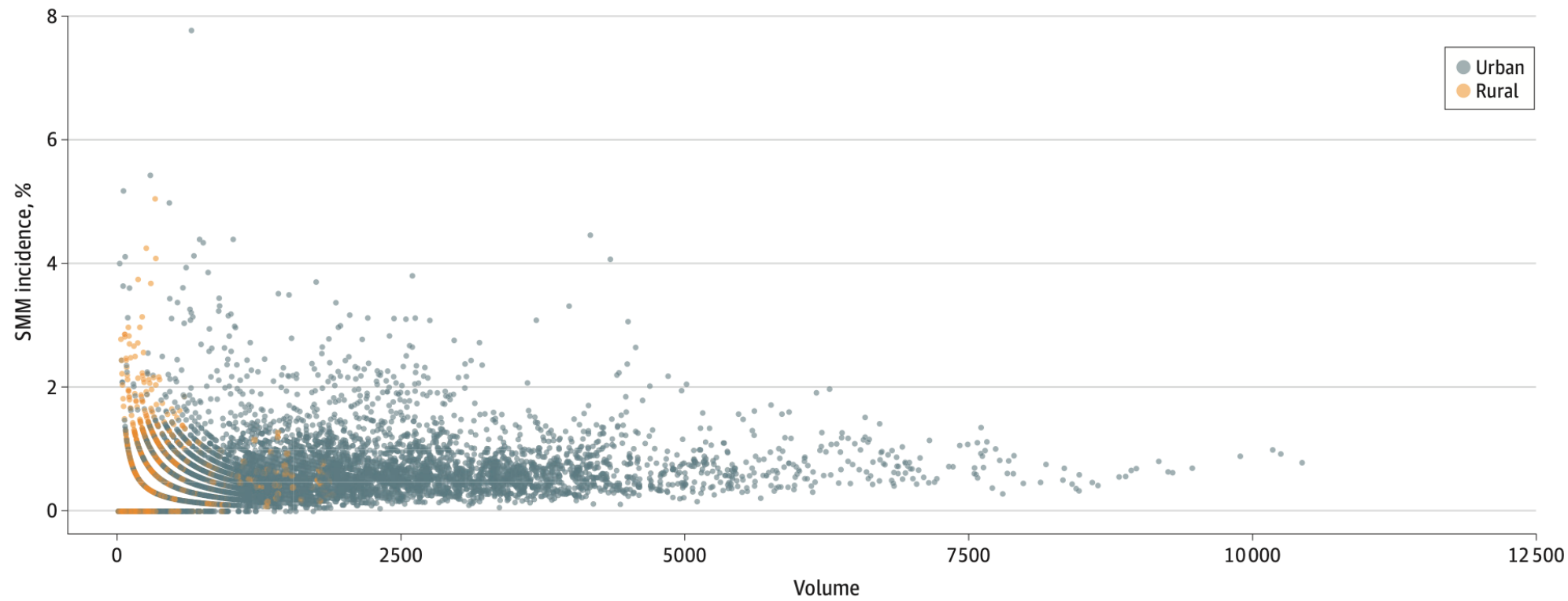


Where you give birth matters

Table 2. Associations Between Annual Birth Volume Category and Severe Maternal Morbidity (SMM) for Hospitals in Urban and Rural US Counties, Only Including Urban Hospitals With 600 or Fewer Annual Births

Births, No.	Total patients, No.	SMM incidence, No. (%)	Risk ratio (95% CI)	
			Unadjusted	Adjusted
Low-volume hospitals in urban counties				
10-110	5308	37 (0.70)	1.24 (0.88-1.76)	1.28 (0.93-1.77)
111-240	24 238	98 (0.40)	0.72 (0.54-0.95)	0.90 (0.72-1.12)
241-400	170 076	675 (0.39)	0.67 (0.51-1.00)	0.66 (0.49-1.10)

Figure. Associations Between Hospital Obstetric Volume and Severe Maternal Morbidity (SMM) Incidence for US Hospitals in Urban and Rural US Counties

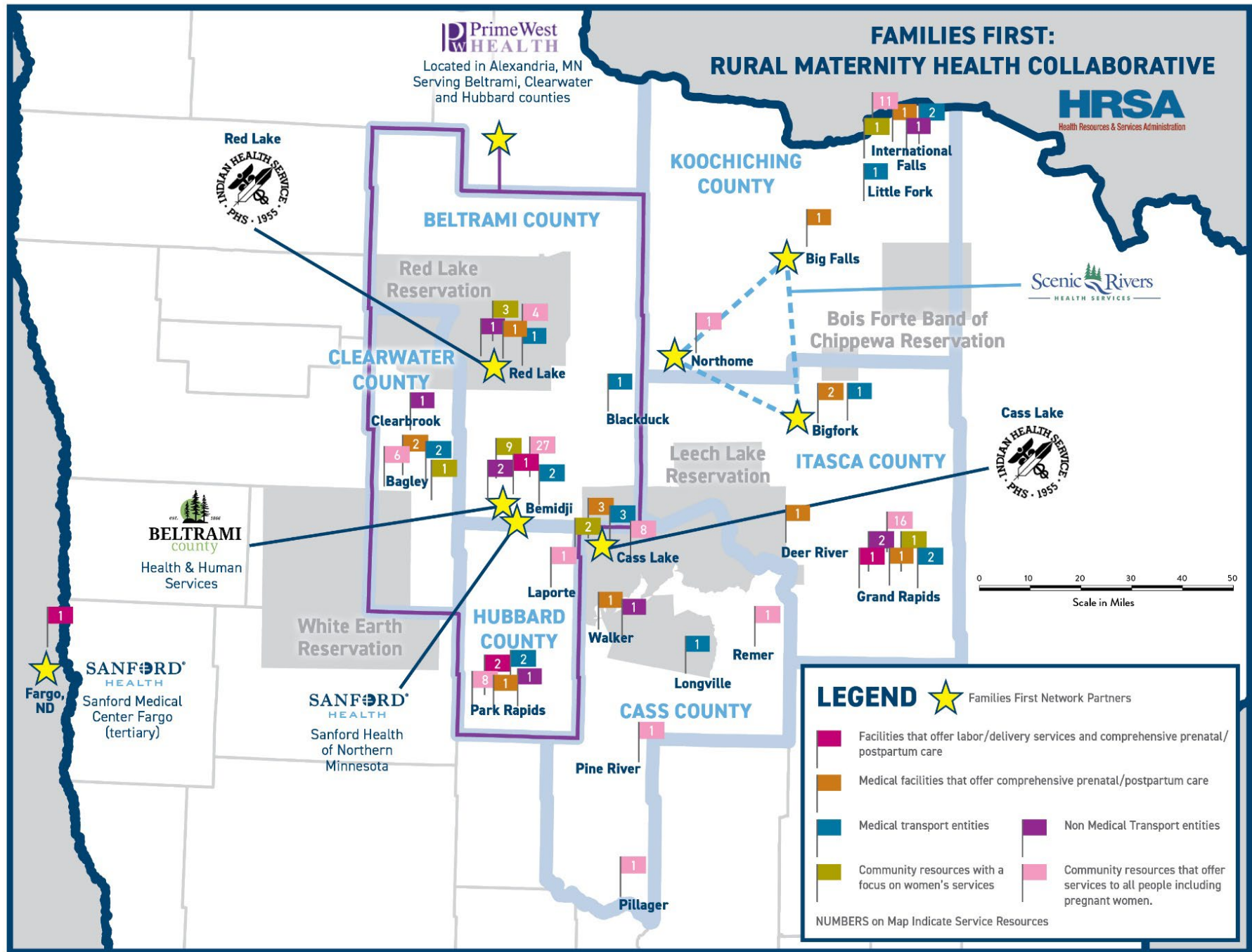


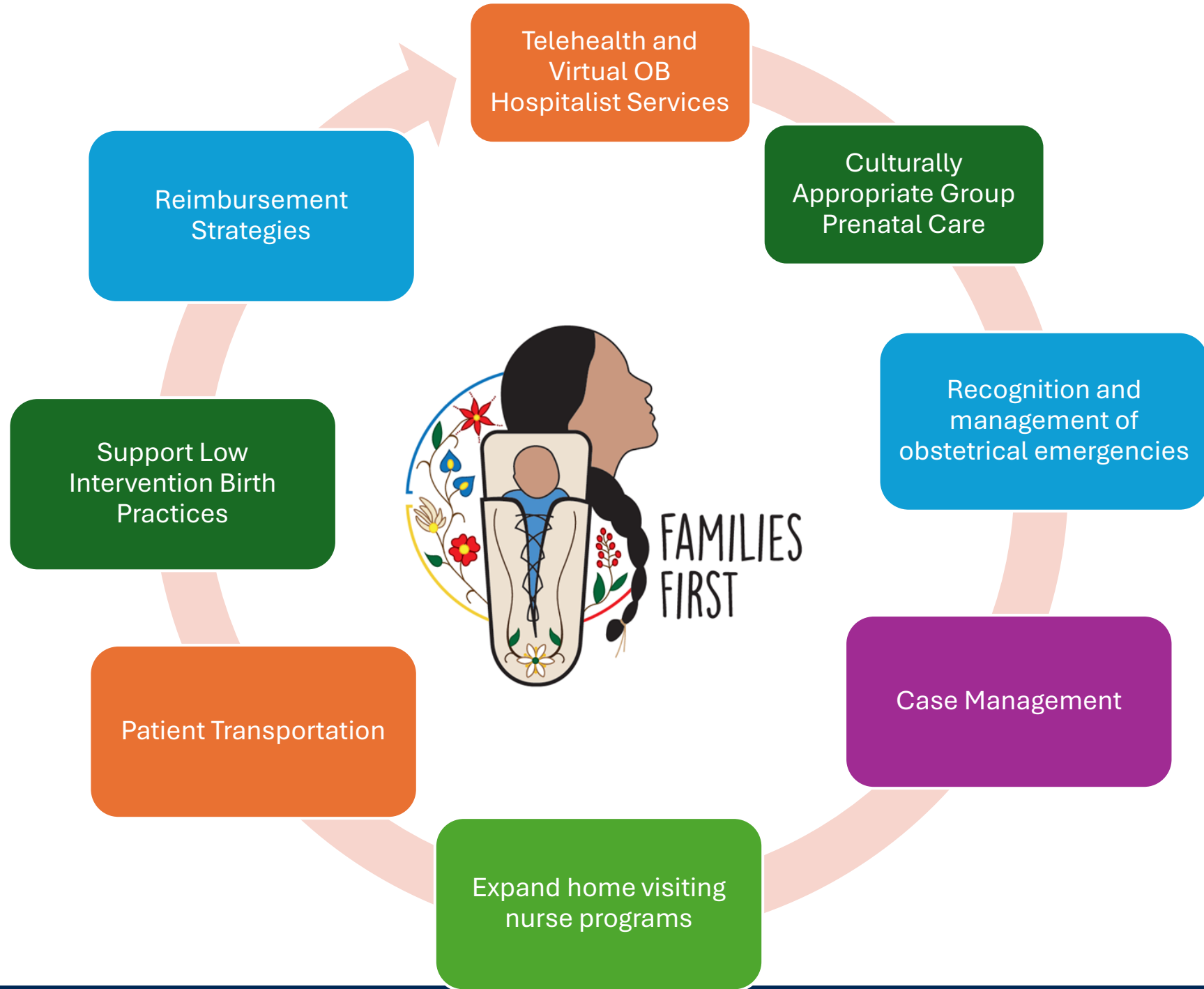
Kozhimannil KB, Leonard SA, Handley SC, et al. Obstetric Volume and Severe Maternal Morbidity Among Low-Risk and Higher-Risk Patients Giving Birth at Rural and Urban US Hospitals. JAMA Health Forum.2023;4(6):e232110. doi:10.1001/jamahealthforum.2023.2110

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- In Minnesota, **American Indian/Indigenous women face maternal mortality rates nearly 8 times higher** than white women.
 - Indigenous birthing individuals represent **2% of Minnesota's birthing population** but account for **12% of pregnancy-related deaths**.
 - Only **55%** of Native American women receive prenatal care in the **first trimester**, compared to **87% of white women**.
 - Adequate prenatal care is reported by only **47% of Native American women vs. 82% of white women**.
 - Among all AIAN births in the U.S., **24% occur in "maternal care deserts"**—areas lacking obstetric care access.
 - **93% of AIAN maternal deaths are preventable:** mental health, overdose, hemorrhage

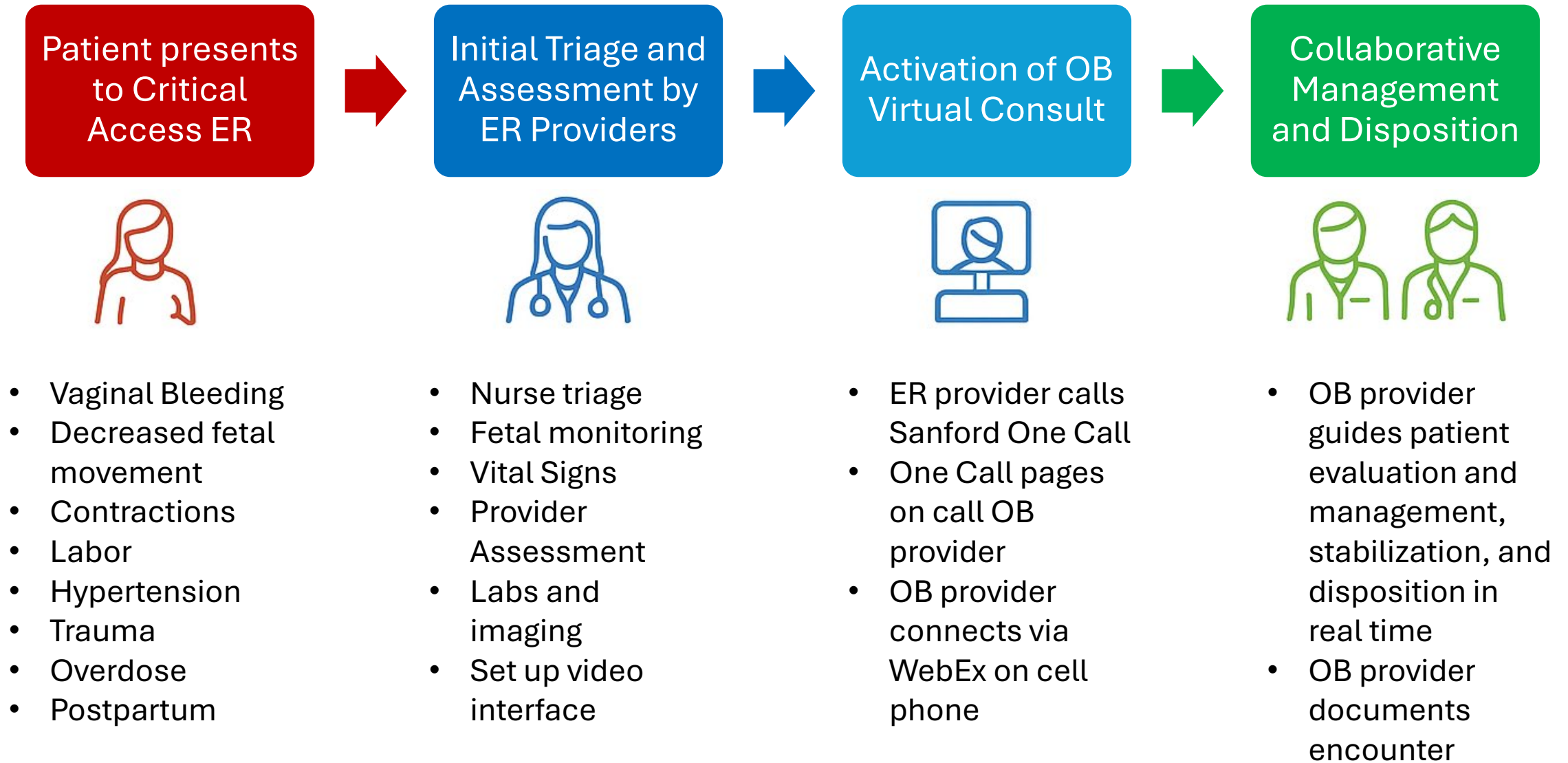


- Our vision is to provide high quality and culturally related healthcare for moms and their families in Northern Minnesota. We will work within our communities to build trust and make sure the care they deserve will be available for the next seven generations.





OB Virtual Hospitalist Telemedicine Workflow





OB Virtual Hospitalist Program Goals

- Improve timely recognition and response for OB Emergencies
 - Hypertension/Preeclampsia
 - Preterm labor
 - Hemorrhage
- Escalation to appropriate levels of care
- Stabilization prior to transfer
- Rural workforce stabilization
- Reliable access to evidence-based maternal care services



Challenges

Upfront cost of telemedicine equipment

Expansion of rural broadband internet

Multiple human dependent steps

Contracting with Government agency

Reimbursement strategies with future sites



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www.familiesfirstminnesota.org

Enhancing Maternal Health in Rural Minnesota

Healthy babies and healthy mothers are the foundation to healthy families.