The Fetal Connections: Connecting Fetal Delivery Plans from Mother's Chart to Baby's Chart

Clinician-developed baby delivery plans are often credited for saving lives during high-risk deliveries. With minutes to spare, these plans detail pre-existing conditions and help ensure the baby is assigned to the most relevant care team. Historically, clinicians at VUMC recorded these plans in the mother's chart and relied heavily on personal emails to communicate plans with members of the infant's care team. However, the information was likely to be overlooked, leaving teams unaware of detailed requirements specified for infants. Furthermore, high-risk deliveries could be associated with emergency situations where teams resuscitating and admitting the baby were different than teams planning the care after delivery.

CHALLENGE

Low visibility of prenatal plans developed by Maternal Fetal Medicine (MFM) providers elevated chances for complications commonly associated with high-risk deliveries

SOLUTION

Record plan in mother's chart and utilize the mom-baby link within eStar to seamlessly transfer plan to baby's chart at the time of delivery

OUTCOMES

Increased patient safety and quality of care, improved neonatal and pediatric provider satisfaction, stronger communication between MFM and neonatal providers, and heightened esteem of VUMC and its clinicians

"*Using this innovative program, our clinicians have been able to provide individualized, patient-centered care to each baby that draws from the data gathered prenatally. We have seen improved survival in some of our highest-risk patients which is likely due to the improved communication that the Fetal Connections has fostered.*"

—Dupree Hatch, MD, MPH, NICU Medical Director

Teams knew there was a possibility of including the delivery plan in the fetal chart. However, obstetrics providers were unable to document within a fetal chart due to medicolegal concerns and billing ramifications. Since providers were already storing the delivery plan in the mother's chart, a method was needed to transfer the care plan to the newborn's chart at the time of delivery.

This led Physician Builder Wael Alrifai, MD, MS to create the Fetal Connections application within Epic. Physician Builders are trained to understand all the complexities within Epic and assist in designing and improving eStar functionalities. These physicians combine their practical skills from using eStar in a professional setting along with their Epic expertise to create advancements that contribute to an improved workflow. Dr. Alrifai utilized the mom-baby link, a Stork (Epic's specialized OB/GYN module) tool that links information from the mother to the baby.

Using this integration, if a provider performed a consult with a mother, a fetal connect could be created.

The provider would make a brief plan for a fetus with an underlying condition in a newly designated section of the mother's chart. At the time of delivery, all the information would flow to the baby's chart. Labor and delivery would see a "grease board" showing mothers who carry a high-risk fetus. The plan of care would then be visible to the newborn admitting providers with a report displaying critical care taking steps.

Dr. Alrifai used a variety of tools to build the Fetal Connections application, including Epic Navigator, filter rules to limit to pregnant mothers and relevant departments and specialties, summary reports, reporting workbench, and In Basket notifications. The handoff to relevant departments would only be initiated after a relevant pregnancy such as multiple gestation or in the case of a premature infant.

He selected display locations after examining existing users' workflows. The Stork team supported the build by developing a testing environment with applications used in the clinic. Training on the tool was limited to a selected number of clinicians because of its specialized use.

Thirteen clinics within Vanderbilt are currently using the Fetal Connections application since it was initially implemented three years ago. The application has been fully adopted in the Epic foundation system and many large organizations have begun to incorporate it. The work of Dr. Alrifai and his fellow team members resulted in several positive outcomes:

- Increased patient safety and quality of care: in one audit pre/post implementation 16 misses to 1 miss of prenatally made plans

- Improved neonatal and pediatric provider satisfaction

- Stronger communication between MFM and neonatal providers

- Heightened esteem of VUMC and its clinicians