

Submission Id: 4998

Title

A Failure, Modes, and Effects Analysis (FMEA) exposes failures in prenatal home visitation referral for pregnant persons

Priority 1 (Research Category)

Community based participatory research

Presenters

Vaishali Patil, PhD, Catherine Kothari, PhD, Ruth Butters, Nia Evans

Abstract

Context: In Kalamazoo County, infants of color are dying at 4X the rate of White infants; only 53% of eligible birthing people get home visitation (HV) referrals and a mere 13% are enrolled. The medical settings provide the lowest enrollment rate despite producing most HV referrals. Objective: We used FMEA (a Six Sigma tool) to map the HV prenatal referral processes to identify gaps in care coordination with an aim to improve equity within HV programs and decrease disproportionate infant deaths. Study Design: We conducted one-on-one interviews with CHWs and clinical providers serving pregnant persons. From these interviews, we created workflows and mapped the most commonly occurring failures. Risk priority numbers (RPN) for each of the identified failures were calculated via the product of their severity, frequency, and detectability. Failures were categorized as critical, high, medium, or low based on RPN. Setting: Obstetrics clinics and home visitation programs serving pregnant persons and Medicaid patients in Kalamazoo, MI. Population studied: Providers at 4 obstetrics clinics and CHWs at the 7 HV programs in Kalamazoo, MI. Intervention: The semi-structured interviews with HV programs (referral-responding) and obstetric clinics (referral-generating) serving pregnant Medicaid patients helped to understand the processes involved in the referral of patients from point of entry into the clinic to receiving the services. Outcome measures: The steps and fail points in the referral processes. Results: Multiple fail points were identified in both the processes. High-impact failures on the clinic-side included understaffing on the medical side (RPN 482) and CHWs (RPN 462), navigation burden falling on stressed patients (RPN 464), and lack of follow-up (RPN 427). On the HV-side, failures included inaccurate and missing contact information (RPN 559), insufficient administrative capacity to track referrals (RPN 518), and lack of HV-integration into care pathway (RPN 450). Conclusion: The iterative quality improvement process will continue with developing and implementing plans to address the critical failures within both systems. This will be followed by generation of another set of RPN. Comparison of pre-, post-RPNs will aid in quantifying the change in the system post implementation thereby ensuring a continuous qualitative improvement of the processes and the system. This will help address care quality gaps and create an equitable health system.