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**Background**

Postpartum depression (PPD) is the most under-diagnosed obstetric complication in the U.S. (Earls, M. F., & Committee on Psychosocial Aspects of Child and Family Health, 2010) Nearly 20% of new mothers will experience an episode of major or minor depression within the first three months postpartum. (Marcus, S. M., Flynn, H. A., Blow, F. C., & Barry, K. L., 2003) Because the burden of depression and other psychological distress is so debilitating for mothers and their children, and because it is often overlooked, many advocacy groups and expert clinicians believe that pregnant and postpartum women should be routinely and universally screened.

Geisinger recognizes the need for universal pregnancy and postpartum screening and access to reliable education and information about mental health problems. Prior to implementing our program, the PHQ 2/9 was utilized to screen for depression and patients were provided, both written and verbal, education during appointments. This system fell short in identifying at-risk women and for meeting the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) requirements.

**Objective of Program**

The objective of the program is to increase the effectiveness and standardization of postpartum care through early detection and treatment of depression in pregnancy and postpartum depression using a close the loop system of care leveraging education, outreach, and advanced informatics technology that connects the woman's care journey across Women's Health and Pediatrics. Our innovative approach enables a sophisticated and seamless clinical program to meet our goals and is made possible through funding and collaboration with our insurance entity, Geisinger Health Plan (GHP).

**Planning/Research Methods**

Literature review, standing best practices, regulation, and policy informed the program proposal. Funding for the project's development and implementation was pursued through GHP. Various cross-functional workgroups were developed to ensure appropriate guidance and oversight of project components, while ensuring scope was upheld. Through design thinking and a creative approach to problem solving, patients, clinicians, and staff were engaged to ensure the program meets the needs of individuals who live the experience.

**Implementation Methods**

Depression screening: Implementation of the Edinburgh Postnatal Depression Screening (EPDS) relies on staff engagement, integrated clinical decision support and close the loop processes. Staff were engaged through awareness meetings and trainings and were provided documentation for future reference.

Integrated clinical decision support is employed within the electronic health record to ensure patients receive the appropriate care (i.e. further screening, real-time referrals, etc.) based upon their EPDS risk score. In addition, close the loop processes in the form of triggered messages, are sent to nurse triage pools for review to ensure patients are provided care which matches their need.

Implementation was scheduled at an initial pilot site, followed by wider regional roll-outs. This step-wise implementation process allowed for appropriate technical setup, awareness, training, and resolution of issues (i.e. workflow considerations, etc.) to occur. Because the technical complexities involved in the Pediatrics workflow, the program was first implemented at the Women's Health sites, followed by Pediatrics.

In Pediatrics, the identified patient is the child which introduces complexities given it is mothers who are screened. To address this, authentication measures ensure results are filed in the appropriate (mother's) electronic health record. The screening methods, integrated clinical decision support, and close the loop measures are identical to those applied in Women's Health.

Digital solution: Stakeholder feedback and patient engagement suggested the existing pregnancy sub-site (within the Geisinger.org website) needed a refresh. A design agency was engaged to provide a foundation for the design and overall strategy of the refresh, and Geisinger's marketing experts provided content and website integration. An existing marketing plan was updated to ensure dissemination of the website to women who are in their pregnancy journey.

**Results**

Depression screening: Since the first roll-out in early March 2019, our screening rates have increased; 143% more patients are being screened at prenatal visits and 97% more patients are being screened at postpartum visits. 21 Women's Health sites have screened 5,861 pregnant women, with 507 scores in the low-to-moderate risk range, 567 scores in the high-risk range, and 50 scores indicating suicidal ideation. Since the first rollout in late September, Pediatrics (1 site), has screened 146 mothers, with 6 scores in the low-to-moderate risk range, 5 in the high-risk range, and 0 at risk for suicidal ideation. Compliance rates are continually monitored by project team members and operations staff for each site.

Digital solution: Implementation of the refreshed website resulted in a 115% increase in site traffic and a 3,200% increase in total keyword ranking. In addition, 45 lead-gen forms were completed by site visitors, many resulting in scheduled appointments.

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