Maternal Post-Partum Mood Disorder Screening Implementation in a Neonatal Intensive Care Unit: Lessons Learned through Multnomah Project LAUNCH

Background

Multnomah Project LAUNCH supported the Oregon Pediatric Society, the state chapter of the American Academy of Pediatrics, to deliver maternal post-partum mood disorder (PPMD) screening and referral trainings with health care providers. Two PPMD trainings were provided in a Portland neonatal intensive care unit (NICU) in spring 2013. To understand the implementation process and outcomes, data were collected through: 1) interviews with the physician champion in September 2013 (6 months post-training) and again in May 2014 (12 months post-training); 2) analysis of screening data from the unit's electronic health record (EHR); and 3) a review of documents developed in the implementation process.

Randall Children's Hospital Neonatal Intensive Care Unit (RCH NICU) provides neonatal intensive care for 500-600 babies per year. These infants are primarily from families living in Portland Metro region but are also referred from across the Pacific Northwest including Oregon, Washington, Idaho, Alaska, and Hawaii. RCH NICU is a Level IV NICU that provides the full spectrum of subspecialty and surgical care to infants born across the gestational age spectrum. Although the average length of stay at RCH NICU is approximately 3 weeks, many infants are hospitalized for several months or more due to their complex medical and/or surgical needs, making RCH NICU their primary care home.

Why did this NICU participate?

Maternal depression is increasingly recognized as the leading complication of childbearing.[1] The importance of mothers' mental health on the well-being and long-term outcomes of children and families is becoming increasingly recognized.

To optimize NICU infants' outcomes and support maternal and population health, RCH NICU partnered with Oregon Pediatric Society's START (Screening Tools and Referral Training) program to screen for and refer mothers for needed psychiatric care. With training and support from START, RCH NICU developed and implemented maternal PPMD screening and referral in the NICU. RCH NICU staff have shared this model with five other NICUs who are also developing this program.

Implementation

Who participated in the training?

START provided education and training on maternal PPMD epidemiology, screening, and referral to multidisciplinary teams including 22 providers in March and May 2013. One additional training involving 10 staff was provided internally in October 2014 by the maternal PPMD team to provide sufficient personnel for program support.

A task force met four times to plan steps to train staff and establish screening protocols and workflow. After the training in Spring 2013, the task force developed documents and tools, including selection of the Edinburgh Postnatal Depression Scale, development of screening workflow protocols, and development of worksheets to document the administration of screens at 2 weeks postpartum and 1, 2, and 4 months postpartum. The task force also developed screening and referral algorithms and worked with the electronic health record (EHR) to incorporate screening data. Implementation began July 2013.

Maternal PPMD screening and referral at RCH NICU is primarily performed by lactation specialists. The majority of RCH NICU mothers (> 80%) provide breast milk, and lactation specialists are a relatively small group of NICU providers with a consistent and physically and emotionally close relationship with mothers. As a result, they are well positioned to describe the rationale for maternal PPMD screening and referral to support the mother-infant dyad, as well as complete the screenings.

Additional staff involved in the maternal PPMD screening training and referral process at RCH NICU includes the NICU case manager, NICU social worker, NICU nurses, neonatal nurse practitioners and neonatologists. These providers are involved in multidisciplinary team meetings and consultations about each family.

What is the screening and referral process?

The RCH NICU screens all mothers of infants hospitalized in the NICU using the Edinburgh postnatal depression scale at 2 weeks, 1 month, 2 months, and 4 months post-partum. Screenings are performed at the targeted date +/- 4 days. Screening and referral is performed in person whenever possible but is occasionally performed by phone. Language translators are included when needed.

To support screening/referral of mothers in the expected timeframe, the NICU case manager provides the screener a daily list of the mothers eligible for screening/referral. The NICU case manager also notifies the NICU nurse for each infant whose mother is due for screening/referral and provides him/her that day's screener information so s/he can facilitate in-person contact between the mother and screener.

Screens are considered positive (i.e., concerning for mood disorder) based on total screen score and concern for possible self-harm. Referral of mothers is based on the NICU algorithm for screen results.

Mothers with a negative screen are referred to self-care and community resources (e.g., Baby Blues Connection, the local chapter of Post-Partum Support International) in the event that they later seek additional support for emerging symptoms. Mothers with a positive screen are referred to a maternal health care provider and, if needed, to emergency mental health crisis support.

What occurs post-screening?

After a screening is completed, screeners document the maternal PPMD score and referral in the EHR. This information is discussed amongst care providers, including at weekly multidisciplinary NICU rounds and is used to support families.

Since maternal well-being directly influences infants' long-term health, growth and development,[2] pediatric providers must be aware of maternal psychiatric illness. Thus, the RCH NICU maternal PPMD screening and referral program recommends maternal PPMD screening and referral information be routinely included in each infant's NICU discharge summary and patient hand-off to the outpatient pediatric provider.

NICU physicians were initially concerned about possible maternal privacy issues (HIPAA) and possible responsibility/liability for mothers' medical well-being related to the screening/referral process in the NICU. These concerns were vetted by the HIPAA and legal representatives at RCH who consider documentation and communication of maternal PPMD screening scores (positive vs. negative outcome without raw scores) and referrals (self-care/community versus physician/crisis line) appropriate to for inclusion in the infants' medical records. To support inclusion of this information in the discharge summary and patient hand-off to the outpatient provider, maternal PPMD screen/referral data is pulled from the EHR into templated discharge summary documents.

Results

Number of screens completed

Prior to initiating the maternal PPMD screening/ referral program at RCH NICU, mothers were not screened for maternal depression. Since initiation of the maternal PPMD screening/referral program at RCH NICU, a total of 373 screens were completed with mothers at 2 week, 1 month, 2 month, and 4 month periodicities, between July 2013 and December 2014 (during the 18 months post-implementation period), resulting in a screening completion rate of 89%.

An overall rate of 18% of NICU mothers screened positive for maternal postpartum mood disorder and were referred for support per the NICU algorithm. This incidence of positive maternal PPMD screen is similar to that noted in the literature for post-partum women whose infants are not hospitalized.[3]

Key documents developed

Key documents that were developed to support the screening and referral process included:

- "How are you feeling?" document distributed to each family addressing post-partum depression and routine screening in the NICU
- Maternal PPMD screening flowsheet to document screening due dates, completion dates, score, outcome/referrals, and screener
- Screening & referral algorithm
- Lactation workflow document including screening protocol

- Templated EHR documentation of PPMD screening and referral in the daily physician progress note and discharge summary

What challenges have been encountered?

Although the rate of screening and referral for maternal PPMD at RCH NICU is extremely high, gaps in the screening/referral process include the following:

- Mothers decline screening. Some mothers consider their mood/depression an expected response to having an infant hospitalized in the NICU and decline additional support. Others may already have been screened/referred by other non-NICU providers and decline additional screening. A total of 13 mothers declined screening in the time period for these reasons.
- Language and/or cultural factors may contribute to mothers declining screening/referral. A total of 10 mothers declined screening in the time period for these reasons.
- Mothers may not be available in the NICU or reachable for screening/referral. A total of 23 mothers declined screening in the time period for this reason.
- NICU physicians were initially reluctant to adopt screening/referral practices in the NICU due to concerns about the impact of this additional work on NICU workflow and viewing screening/referral as more appropriately occurring outside of the NICU setting. Physicians also expressed concern about liability and privacy issues involved in maternal PPMD screening/referral. However, these concerns were intentionally addressed and resolved through the PPMD screening/referral implementation process, and ultimately embraced and supported by the NICU physicians.

What have been key implementation supports?

Staff Engagement:

- An alternate group of screeners, primarily involving lactation consultants, provide maternal PPMD screening/referrals at RCH NICU. The team involved with these screening/referrals is highly engaged with the process and considers the work to be very valuable to the families.

Continuous Quality Improvement:

- Ongoing process improvements including group and individual screener/referral education, general staff education, improved work flows, physician education, and revisions to EHR and templated documents. This work is also shared by RCH NICU with multiple other state and regional NICUs including through the Vermont Oxford Network Micro Preemie conference hosted by RCH NICU in June 2015.

"It's been well-received and despite some initial resistance, the culture is shifting and physicians are realizing it's important. They are accountable for population health, it matters, and reimbursement will ultimately be tied to it."

Recommendations

For other clinics interested in implementing maternal PPMD screening and referral, key elements of a successful process include:

- Identifying dedicated staff to be trained to conduct maternal PPMD screening/referrals.
- Ensuring availability of screening/referral staff on all shifts to meet families' needs (e.g., days, evenings, or weekends, if applicable).
- Establishing and auditing a process for data collection and documentation.[1]
- Confirming the level of detail that can be included in the infant's chart about the outcome of the PPMD screen.
- Cultivating engagement from all stake-holders.
- Engaging a multidisciplinary team to champion the project and support all steps.

[1] For information about the key documents developed in this project, please contact the START program of OPS: http://oregonstart.org/

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References

[1] Santoro, K, & Peabody, H. (2010). *Identifying and treating maternal depression: Strategies & considerations for health plans*. Washington, DC: National Institute for Health Care Management.

[2] National Research Council and Institute of Medicine. (2009). Depression in parents, parenting, and children: Opportunities to improve identification, treatment, and prevention. In M. J. England & L. J. Sim (Eds.), *Committee on depression, parenting practices, and the healthy development of children*. Washington, DC: The National Academies Press.

[3] Ko, J. Y., Farr, S. L., Dietz, P. M., & Robbins, C. L. (2012). Depression and treatment among U.S. pregnant and nonpregnant women of reproductive age, 2005-2009. *Journal of Women's Health, 21*, 830-836.

Endnote

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