



## BORN Ontario Maternal Newborn Dashboard Briefing Note

### What is the Maternal Newborn Dashboard and why use it?

BORN Ontario (Better Outcomes Registry & Network) has responsibility for measuring the performance of provincial maternity care services and supporting continuous quality improvement in this setting. Quality improvement requires identification of goals that an entire team will work towards, a data collection and feedback process, targeted evidence-informed strategies for implementation and maintenance, and ongoing evaluation.

In Ontario, we have the means to collect, display and provide feedback on data as part of the BORN Information System (BIS). We would like to take this opportunity to update you about an exciting new resource that is being launched this fall to assist Ontario Hospitals to meet their quality mandate as set out in the newly legislated Excellent Care for All Act (2010). This resource, known as the **Maternal Newborn Dashboard (MND)**, is an innovative online audit and feedback tool designed to help hospital users identify areas where practice is good and areas where there is room for improvement. The MND has been designed to provide **feedback** on selected key performance indicators (KPIs), compare performance to established **benchmarks**, and other hospitals, and provide **signals** to trigger action if performance is sub-optimal.

### How were the key performance indicators and benchmarks selected?

The BORN Ontario Maternal Newborn Outcomes Committee (MNOC) established a Maternal Newborn Dashboard Subcommittee to direct this project and create a valid and reliable process for indicator and benchmark selection. Membership was interprofessional and included representatives from across the province representing obstetrics, neonatology, midwifery, nursing, pediatrics, and epidemiology. This group was chosen for their clinical expertise as well as from the perspective of being responsible for quality improvement within their practice settings covering all levels of care.

The MND Subcommittee first examined BIS data elements looking for high quality data that reflected current practice issues. Data elements were mapped to a quality domains framework to identify potential indicators of quality across the antepartum, intrapartum, postpartum and newborn time periods. Janakiraman & Eker's (2010) criteria of a good measure was used as a guide to identify potential indicators (i.e., important to patients and health care providers; easy to define and collect data about; and "ripe" for improvement - amenable to change).

To establish face validity, and to prioritize the list of KPIs to a manageable number for hospitals, the MND Subcommittee then undertook a decision-making process that included survey and deliberation. Evidence summaries for each of the potential indicators were developed in collaboration with the *Knowledge to Action Research Centre* at the Ottawa Hospital Research Institute. This group, led by Dr. David Moher and Dr. Jeremy Grimshaw, has particular expertise in review and synthesis of literature to support evidence-informed healthcare decision making. They assisted us in determining the level of scientific evidence to support each indicator. The evidence summaries prepared for this project are available at: <http://www.bornontario.ca/>. Six indicators were ultimately recommended for the inaugural MND following investigation of

scientific validity through systematic literature reviews and examination of existing provincial data. The selected indicators are listed below in Figure 1.

The MND Subcommittee then used various forms of evidence (e.g. peer-reviewed literature, current clinical practice within Ontario, and the clinical expertise of our committee members) to set the benchmarks for each indicator. Where no indicator benchmark existed, we examined current practice by analyzing data for the 2009/2010 fiscal year. After reviewing these data, the committee voted on what they believed to be the most appropriate benchmark for Ontario, including not only the target (green light), but also the range that would generate a warning (yellow light) and an alert (red light).

**Figure 1: Maternal Newborn Dashboard – Home Page Display**

Date: November 1, 2012

### Maternal Newborn Dashboard - Home Page

Hospital, 1-July-2012-31-Sept-2012

Key Performance Indicators	Rate (%)	Status	Status Range (%)			Comparator rates (%)		
			Target (green)	Warning (yellow)	Alert (red)	Other same level of care hospitals	Other similar birth volume hospitals	Ontario
Proportion of newborn screening samples that are unsatisfactory for testing	5.0	●	<2.0	2.0-3.0	>3.0	4.0	4.3	4.5
Rate of episiotomy in women having a spontaneous vaginal birth	14.1	●	<13.0	13.0-17.0	>17.0	0.1	0.2	0.1
Rate of formula supplementation at discharge in term infants whose mothers intended to breastfeed	15.0	●	<20.0	20.0-25.0	>25.0	0.2	0.2	0.2
Proportion of women with a cesarean section performed prior to 39 weeks' gestation among low-risk women having a repeat cesarean section at term	16.0	●	<11.0	11.0-15.0	>15.0	0.1	0.4	0.4
Proportion of women delivering at term who had Group B Streptococcus (GBS) screening at 35-37 weeks' gestation	97.0	●	>94.0	90.0-94.0	<90.0	0.9	0.9	0.9
Proportion of women induced with an indication of post-dates who are less than 41 weeks' gestation at	5.0	●	<5.0	5.0-10.0	>10.0	5.1	4.9	5.2

Data source BORN Ontario, 2012-2013

**Notes**

1. Rates and status are based on three prior months of data that are acknowledged for submission, allowing a one month lag.
2. Grey status indicates data have not been acknowledged for submission for all three months in the reporting period. Please ensure acknowledgement is complete for each month in the reporting period.
3. Comparator rates are calculated from a minimum of three or more hospitals who have acknowledged their data for submission for all three months in the reporting period, within a given comparator category. The comparator rates for other same level of care hospitals and other similar birth volume hospitals exclude the reporting hospital, whereas the rates for Ontario include the reporting hospital.

### How does the Maternal Newborn Dashboard work?

Once sufficient data has been entered into the BIS to populate the dashboard (e.g., three month's of data that has been validated and acknowledged for submission from your hospital), it will appear on the landing page when authorized staff login to the BIS. Site-specific rates for each indicator and a green, yellow or red signal will be visible indicating the status of the site-rate benchmarked against target thresholds. Once users with reporting access navigate to the dashboard homepage, comparator data (i.e., same level of care, similar size hospital and provincial rates) will also be provided. These users will be able to drill down for more detailed data tables for each indicator. Having comparator group data and the provision of 95% confidence intervals around point estimates will help to reduce misinterpretation of potentially variable estimates and will facilitate more appropriate conclusions. Within each hospital, authorized staff will be able to use the BIS to generate a standard report that can be used to obtain individual chart number(s) for cases requiring review to support practice audits.



## Implementation Plan and Next Steps

The MND and its accompanying standard reports will be launched in November, 2012. Training sessions will be provided for all hospital users prior to the launch to facilitate use of the MND and interpretation of the data. Targeted messages about the MND are being distributed to all hospital Chief Executive Officers, Chiefs of Obstetrics and Pediatrics, Administrative Directors, and key decision support leads to support the initiative.

In order to optimize use of the MND, it is recommended that each hospital/unit have a clearly defined mechanism and named individuals responsible to deal with issues as they arise. In addition, we encourage the entire maternity team to take an active part in monitoring clinical practice from the 'front lines' with escalation to relevant leaders when indicators have a yellow or red designation. BORN Coordinators, members of the BORN Data Analysis and Research Team (DART) and clinical subject matter experts will be available to provide knowledge translation support where needed.

The MND is an innovative, evidence-informed 'audit and feedback tool' that has been designed to assist your team to: monitor performance within your organization, identify evidence-practice gaps, and facilitate practice change to enhance quality care. We anticipate that the performance indicators and benchmarks will evolve over time with some indicators retired and others added as issues are resolved or as new evidence, new clinical needs, and/or new data sources are added in the BIS. While audit and feedback does not guarantee that individuals or institutions will make practice changes and move towards quality improvement, they are an important first step.

BORN Ontario has developed this resource to facilitate quality improvement at the hospital, health region, or provincial level. However, the responsibility for quality rests with the organization and is dependent on ensuring complete, valid and reliable data is entered into the system as close to real-time as possible. This is what will drive the dashboard displays, generate comparator data, and increase reliability of the data provided.

As a final note, no users in other hospitals will be able to see your hospital performance on the MND. However, BORN Ontario data collected from hospitals, midwifery practices and labs are aggregated and shared with approved data requestors to support health system and public health planning, reporting and research. BORN has met with the Ontario LHIN CEOs to discuss how these indicators could be included in hospital service accountability agreements (H-SAAs) and ultimately improve outcomes for mothers and babies. All data provision is done in accordance with our rigorous privacy and security policies and procedures approved by the Information Privacy Commissioner of Ontario in October 2011. The BORN Coordinator for your region can also see your data and may contact you if they notice there are areas where you are performing particularly well (so others can learn from your success), or if you require assistance on a particular indicator.

We look forward to working with you as we roll-out this audit and feedback tool across the province. Please contact BORN Ontario ([info@BORNOntario.ca](mailto:info@BORNOntario.ca)) or your BORN Coordinator (<http://www.bornontario.ca/about-born/contact-info/born-coordinators>) for additional support or for any questions you may have.