



Southern Ontario Obstetrical Network

Annual Meeting, Fall 2017

Dear Colleagues,

Thank you for attending the 2017 SOON Annual Meeting! This meeting will serve as the **launch of the Alliance for the Prevention of Preterm Birth and Stillbirth (The Alliance)**, and we are eager to share this new initiative with you, as well as some of the Network's upcoming and exciting initiatives. We are looking forward to all that our Network will achieve in the next year.

Wishing you all Happy Holidays and success in the New Year,

Dr. Jon Barrett

Chair, Southern Ontario Obstetrical Network

The Steering Committee

Jon Barrett, Chair, Sunnybrook Health Sciences Centre

Howard Berger, Teaching Hospital Representative, St. Michael's Hospital

Michael Geary, Teaching Hospital Representative, St. Michael's Hospital

Adrian Brown, Community Hospital Representative, North York General Hospital

Colette Rutherford, Community Hospital Representative, The Scarborough and Rouge Hospital, Centenary

Nathan Roth, Community Hospital Representative, The Scarborough and Rouge Hospital, Birchmount & General

Peter Scheufler, Community Hospital Representative, Trillium Health Partners

Gareth Seaward, University of Toronto Representative, University of Toronto

Ronald Heslegrave, Ethics Advisor, Mount Sinai Hospital

Elizabeth Asztalos, Neonatal Representative, Sunnybrook Health Sciences Centre

Prakesh Kumar Shah, Neonatal Representative, Mount Sinai Hospital

Beth Murray-Davis, Midwifery Representative, McMaster University

Sandra Dunn, BORN Liaison, Better Outcome Registry and Network (BORN)

Alliance for the Prevention of Preterm Birth and Stillbirth (*The Alliance*)

We are excited to announce the launch of **The Alliance**, a collaboration between families, hospitals, maternal-child networks and maternal-newborn care providers, that aims to create an important shift in thinking and practice **towards preterm birth and stillbirth being preventable conditions**.

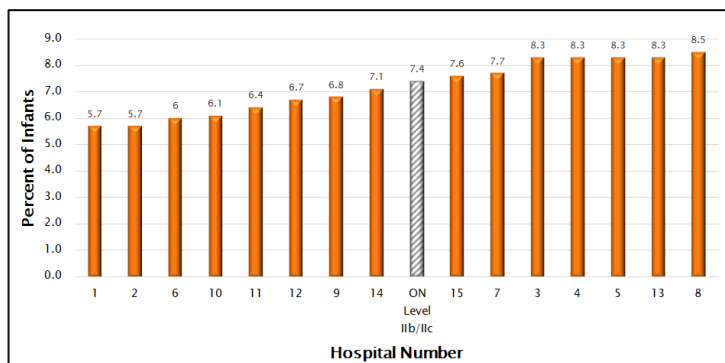
The Canadian rate of preterm birth is only 8% but **preterm birth is responsible for 75% of newborn deaths and 80% of newborn illness in Canada**. In Ontario, there are over 700 stillbirths per year. Rates of preterm birth and stillbirth are especially too high knowing there are screening tests and treatments that can assist families and care providers to lower the incidence.

Provincial roll-out of The Alliance's bundle of screening and treatments across all communities, hospitals, provider groups and populations is expected to result in over 1500 more babies being born at term, half of stillbirths being prevented and fewer infants with health conditions, including cerebral palsy, chronic lung disease, neurological disabilities, hearing problems and/or blindness.

Why Launch The Alliance in the SOON Region?

The Southern Ontario region represents **70% of Ontario's population** and contains a wealth of diverse cultural representation; maternity care provider teams; and academic, research and health service infrastructure. As individual hospitals and community agencies, we're investing our resources in delivery of excellent care which could be even more tailored by coordinating our services across hospitals, catchments and care provider groups. Aligned with trends in health care quality, experience in other Ontario regions, and internationally, the **SOON region is seizing the opportunity to target prematurity and stillbirth, two of our most formidable health challenges**. Our success will depend not on expensive or invasive treatments, but on **collaboration and coordinated implementation of evidence-informed care** through family, community, social media and health provider networks. **We are confident that the SOON region can be an exemplar of network implementation by all members of the region – all communities, all professions.**

Percentage of Preterm Births in SOON Level II Hospitals
(SOON, 2012-2013 to 2016-2017)



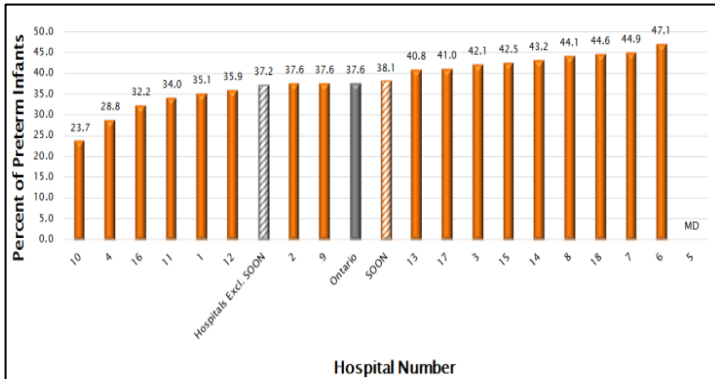
Data Source: BORN Ontario (2012-2017)

Definition of Indicator: Percentage of infants born less than 37 weeks gestation, by SOON level II hospital. Live births and hospital births were included. Expressed as a percentage of total births for each SOON hospital.

Preterm Birth Dashboard

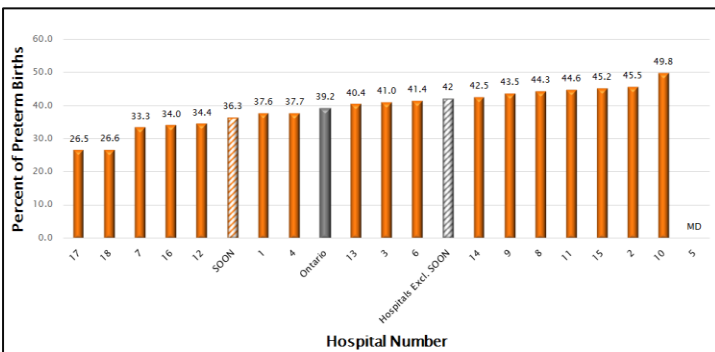
As part of the Alliance initiative, we have developed a Preterm Birth Dashboard. If you would like to know what hospital you are, contact Holly Ockenden at hockenden@bornontario.ca.

Iatrogenic Preterm Birth by SOON Hospital



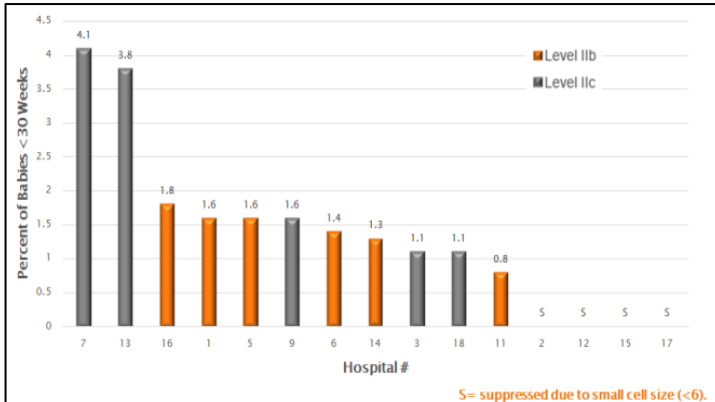
Data Source: BORN Ontario (2012-2017)
Definition of Indicator: Percentage of infants born less than 37 weeks gestation, by SOON level II hospital. Live births and hospital births were included. Expressed as a percentage of total births for each SOON hospital.

Spontaneous Preterm Birth by SOON Hospital



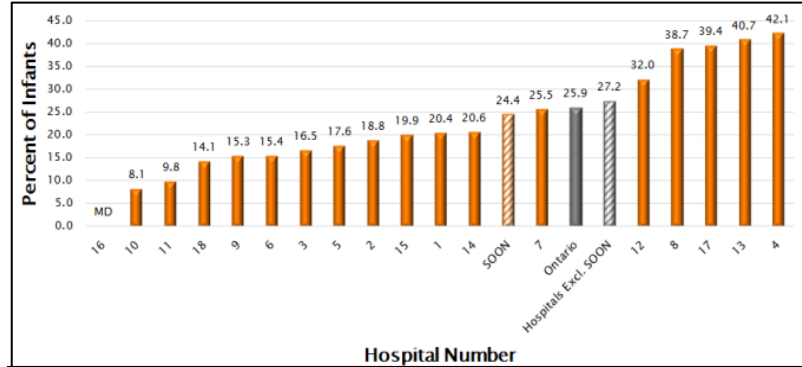
Data Source: BORN Ontario (2012-2017)
Definition of Indicator: Proportion of spontaneous preterm births by SOON hospital. Live births and hospital births were included. Expressed as a percentage of total preterm births for each SOON hospital. Preterm is defined as any infant born less than 37 weeks gestation. Spontaneous preterm birth is defined as any preterm birth with spontaneous labour that is not iatrogenic and no PROM/PPROM.

Percentage of Babies <30 Weeks Gestation Born Out of Scope in SOON Level IIb and IIc Hospitals



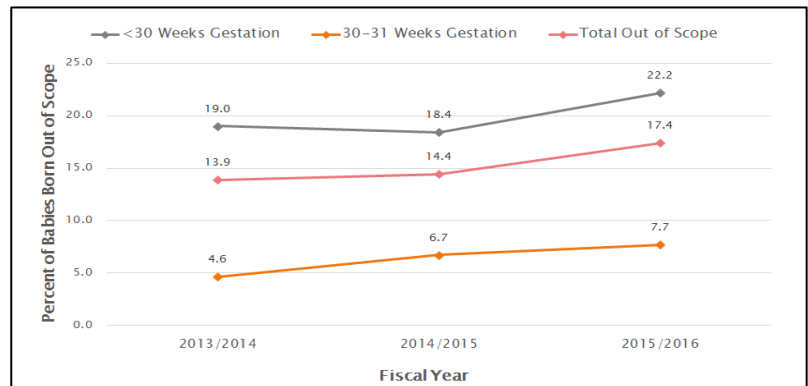
Data Source: BORN Ontario (2015-2016)
Definition of Indicator: Percentage of infants <30 weeks gestation born out of scope, by level IIb and IIc SOON hospitals. Live births and Ontario residents were included. Expressed as a percentage of total births <30 weeks gestation in all SOON hospitals. Out of scope in terms of gestational age was defined using Provincial Council for Maternal and Child Health (PCMCH) level of care definitions. A baby that is less than 30 weeks gestation should be born at a level III hospital. Babies that are 30 to 31 weeks gestation should be born at a level IIc or III hospital.

Proportion of live late preterm infants with a neonatal health condition by SOON hospital



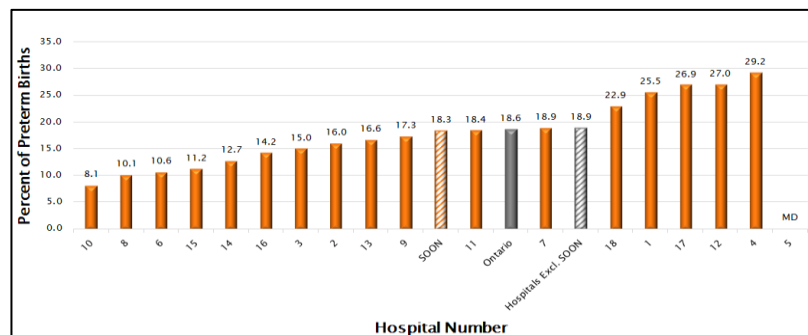
Data Source: BORN Ontario (2012-2017)
Definition of Indicator: Neonatal health conditions (respiratory distress syndrome, transient tachypnea of newborn, hyperglycemia or hyperbilirubinemia) by SOON hospital for live preterm infants. Only live births and hospital births were included. Neonatal health conditions was taken from both the aggregate infant and NICU encounter neonatal health condition variable. BORN is currently only collecting NICU data from 4 of the 8 NICU's and therefore there may be some infants with the specified conditions that we do not have data on.
 Please note that hospital 18 has 16.4% and the total SOON rate has 10.9% missing data.

Percentage of Babies Born Out of Scope in SOON Hospitals by Gestational Age



Data Source: BORN Ontario (2013-2016)
Definition of Indicator: Percentage of infants <32 weeks gestation born out of scope, by fiscal year and gestational age. Live births and Ontario residents were included. Expressed as a percentage of total births for each fiscal year and gestational age in all SOON hospitals. Out of scope in terms of gestational age was defined using Provincial Council for Maternal and Child Health (PCMCH) level of care definitions. A baby that is less than 30 weeks gestation should be born at a level III hospital. Babies that are 30 to 31 weeks gestation should be born at a level IIc or

PROM Preterm Birth by SOON Hospital



Data Source: BORN Ontario (2012-2017)
Definition of Indicator: Proportion of PROM preterm births by SOON hospital. Live births and hospital births were included. Expressed as a percentage of total preterm births for each SOON hospital. Preterm is defined as any infant born less than 37 weeks gestation. PROM preterm birth is defined as any preterm birth with prelabour rupture of membranes (PROM) or preterm prelabour rupture of membranes (PPROM).

QI Initiative: Reducing the Rate of Cesarean Section (C/S) Workshop

December 6th, 2017 at Credit Valley Hospital

Several of the SOON Hospitals (Trillium Health Partners (Credit Valley & Mississauga sites), Sunnybrook Health Sciences Centre, Mount Sinai Hospital, St Michael's Hospital, North York General Hospital, Royal Victoria Regional Health Centre, Michael Garron Hospital, The Scarborough and Rouge Hospital, The Ottawa Hospital) have committed to reducing the rate of C/S in their centres.

Dr. Cipolla will guide us through a workshop on implementing a simple quality assurance project, using hospital and BORN data, to see if we can reduce the rate of C/S at each hospital by focusing on a target indication that each hospital identifies as an opportunity for improvement.

To participate, each site will require a **lead physician** who will:

- Coordinate** simple data collection from BORN and their hospital
- Present** baseline data/performance review to their department
- Present/distribute** prospective data/performance reviews to their department (*hospital C/S rates and each individual OB's C/S rates –can be anonymous*)
- Discuss with their site and develop** an "intervention" to help decrease C/S for that population
- Feedback data to the group and individuals** (1-3 months) to identify, encourage and maintain change

If you would like to participate in this exciting initiative, please contact Dr. Cipolla at amanda.cipolla@gmail.com

PPH Mannequin-based Simulation Training

Are you interested in high fidelity mannequin-based simulation?

Would you like to practice some obstetric scenarios in your own clinical area?

Through an **unrestricted educational grant**, the Sunnybrook Canadian Simulation Centre will come to your hospital and deliver an **educational simulation session** to an inter-professional obstetric team.

When and where would this happen? The simulation team and mannequin would come to your centre for an **evening session**, typically between 5:00-7:30 pm.

Who could attend? A minimum of 7 people are required: 2 anesthesiologists, 2 obstetric physicians of which 1 is an obstetrician, and 3 nurses. Additional personnel are welcome, and the details and scenarios can be customized for each centre.

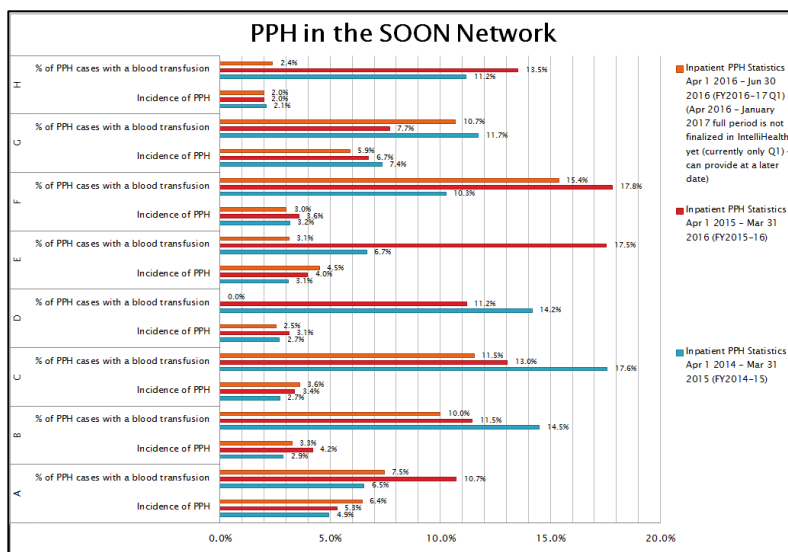
What is the cost? There is no cost to you as a pharmaceutical company has provided an educational grant to support this activity.

What will happen during this session? You will participate in an obstetric scenario, and you are expected to act similar to the way you do with patients every day.

Are there CME credits for this session? Yes, the physicians will receive Royal College Maintenance of Certification Section 3 credits and the nurses will receive a letter of participation to document their participation.

How do we arrange this? A local organizer is needed to be the liaison and help with local arrangements, such as recruiting of personnel and coordinating with labour and delivery unit to avoid interference with clinical care.

If you are interested, please have your organizer contact Susan O'Rinn at susan.orinn@sunnybrook.ca.



Standardizing the Use of Fetal-Growth Standards in the SOON Centres

Fetal growth restriction (FGR) is associated with stillbirth and perinatal mortality and morbidity. FGR is defined as a failure of a fetus to meet its growth potential, and is most commonly suspected when the sonographic fetal weight estimation falls below a fixed threshold such as the 10th, 5th or 3rd percentile for gestational age. **However, one of the challenges in the antenatal diagnosis of FGR relates to the choice of the growth standard used to determine the estimated fetal weight percentile.**

Growth charts can be roughly divided into types: Charts based on neonatal birth weight (e.g., the Kramer population-based reference) and those based on sonographic fetal weight estimation (e.g., Hadlock chart).

Overall, there seems to be a general agreement that assessment of fetal growth (i.e., sonographic fetal weight estimation) should be done using the latter type (i.e. ultrasound-based standards such as Hadlock). Charts that are based on neonatal birth weight tend to under-estimate normal fetal weight prior to 37 weeks, most likely because a considerable proportion of preterm infants are growth restricted, so that their birth weight does not reflect normal fetal growth at the corresponding gestational age.

Another question relates to the choice of the ultrasound-based standard. The Hadlock standard was published in 1991 and is one of the most commonly used standards. However, during the last 2-3 years several new ultrasound-based standards have been published. **There is no data to support which of these ultrasound-based standards fits based on our diverse population in the SOON.**

A recent survey within SOON found that there is a wide variation between centres with regard to the growth standard being used. This leads to serious communication problems when pregnant women with suspected FGR are transferred between centres, as often happens in our network. We have seen many cases where FGR was suspected in one centre, but when seen in another centre which uses another (e.g., birth weight-based) growth chart, the estimated fetal weight percentile was found to be above the 10th percentile for gestational age and the diagnosis of FGR was dismissed. Obviously, this leads to confusion among both patients and care providers. **Our goal is to lead an initiative to standardize the use of fetal-growth standards in the SOON centres.**

We hope to achieve this goal in 2 steps:

1. A **workshop** that will include individuals with interest and experience in fetal growth standards to review the most recent data, evidence on their performance in our population, and establish recommendations
2. A **consensus meeting** that will include representatives from the SOON centres including OBs, MFMs, family physicians, midwives, radiologists and neonatologists to review the recommendations established in the workshop and achieve a consensus with regard to a uniform fetal-growth standard for the SOON centres.

On behalf of Drs. Melamed, Barrett and Okun, if you are interested in attending either the workshop or consensus meeting, please contact nir.melamed@sunnybrook.ca.

Mixed Methods Study: Gestational Weight Gain Counselling by HCP

Invitation to participate in research interview!

Excess weight gain in pregnancy is associated with increased preterm birth, cesarean birth, obesity, low gestation age and other perinatal outcomes. As part of a larger series of research studies on diabetes, gestational weight gain and hypertension in pregnancy, we are currently recruiting participants to discuss counselling techniques regarding gestational weight gain (GWG).

Why is the study being done?

The purpose of this study is to explore **differences and similarities in counselling related to GWG** among family physicians, midwives and obstetricians and to consider the impact of that counselling on women's weight gain within the recommended ranges.

Who is eligible to participate?

All family physicians, midwives, and obstetricians who provide antenatal care to women in Ontario are eligible to participate. You will participate in a **brief interview with a trained researcher either in person or by telephone**. You will be asked questions that relate to the timing, content and impact of the counseling you provide to women about GWG.

How do I participate?

If you are interested in participating in an interview please go to, <https://www.surveymonkey.com/r/ZVBN8XR>, to complete the survey and someone from the research team will contact you to arrange an interview date and time.

On behalf of Drs. Murray-Davis, Berger, and Melamed, please contact Dr. Murray-Davis if you have any questions at: (905) 525-9140 ext. 21596 or bmurray@mcmaster.ca.

Two New RCTs

The TCx Suture Trial:

Cervical Cerclage for Twin Pregnancy with a Short Cervix – A Randomized Clinical Trial

The aim of this trial is to determine whether the insertion of a **cervical cerclage versus conservative expectant management** reduces the incidence of preterm birth, <34 weeks' gestation, in women with twins who presents with a very short cervix (≤ 15 mm) and are already on progesterone.

The trial will be conducted among the SOON centres and **aims to recruit 150 women.**

- All participating SOON sites will perform a **screening CL measurement** in twin pregnancies at the time of the routine ultrasound examination in the 2nd trimester.
 - As part of this screening protocol, **treatment with progesterone is recommended** for women with a finding of **CL ≤ 25 mm**.
 - If a patient with twin pregnancy is found to have CL ≤ 15 mm **and is between 16^o/7 and 23⁶/7 weeks' gestation**, the physician in the ultrasound unit may discuss the trial with her.
 - If the patient is agreeable and is eligible for the study, she will be randomized to either **cerclage versus no cerclage**.
- In both groups, **patients will continue to use vaginal progesterone** 200 mg capsules as recommended when CL ≤ 25 mm.
- In the cerclage group**, the participant will be scheduled to have the cerclage performed within 48 hours of randomization.

The cerclage will be removed at 36-37 weeks in asymptomatic participants. Earlier removal will be performed in the case of preterm labor or if delivery is indicated.

Most aspects of the subject's care will be left to the judgment and discretion of the investigator and the patient's primary obstetrical provider including

- Timing and route of delivery
- Timing of administration of betamethasone (only a single course allowed)
- Timing of ultrasound examinations
- Decisions as to the frequency of follow-up ultrasound examinations of cervical length, if any.

For more info, please contact **Susan O'Rinn** at susan.orinn@sunnybrook.ca

SOON cluster-RCT:

Aspirin for the prevention of preeclampsia

The Diabetes, Obesity and Hypertension in Pregnancy Research Network (DOH-NET) team recently received a **\$1.5M 5-year CIHR grant to investigate DOH in pregnancy.**

Aspirin is one of the most effective interventions for the prevention of preeclampsia and preterm birth. Still, there is an urgent need to address the use of **Aspirin in pregnancy.**

Q1: Optimal Aspirin dose. While most care providers prescribe low-dose Aspirin (e.g., 81mg/d), a recent RCT (ASPREE, NEJM, 2017), well-designed and one of the largest to-date, used a higher dose of 150mg/day. In addition, in the most up-to-date meta-analysis published this month in the AJOG, it was found that Aspirin reduces the risk of preterm preeclampsia only when a high-dose (≥ 100 mg/d) was used.

Q2: Interventions that may increase the use of Aspirin in women at risk of preeclampsia. A study from St. Michael's Hospital (JOGC, 2017), found that only 7.6% of women at risk of preeclampsia who should have received Aspirin were actually prescribed Aspirin. This low proportion is in line with similar reports from other countries around the world.

Our goal is to engage the SOON centres in research and knowledge transfer initiatives to improve the care of SOON patients.

In this study, SOON centres will be randomized into two arms: low-dose (81mg/d) vs. high-dose (162mg/d) Aspirin. Centres in both arms will receive a similar educational bundle focused on both care providers and patients aimed at increasing the use of Aspirin (low- or high-dose) in high-risk women.

The primary outcome is the rate of preterm preeclampsia in each arm, which will address Q1. **The secondary outcomes** are the rate of Aspirin use and rate of preterm preeclampsia in each of the individual centres before and after the interventions; these outcomes will address Q2.

Hypotheses: The educational bundle will be effective in increasing the rate of Aspirin use and in decreasing the rate of preterm preeclampsia; the effect on preterm preeclampsia will be greater for high-dose Aspirin.

We are finalizing the protocol and will distribute it to all SOON centres and we hope your centre will participate.

On behalf of the DOH-NET Investigators,
if you are interested, please contact Dr. Melamed at nir.melamed@sunnybrook.ca.