

FALL/WINTER 2012-13

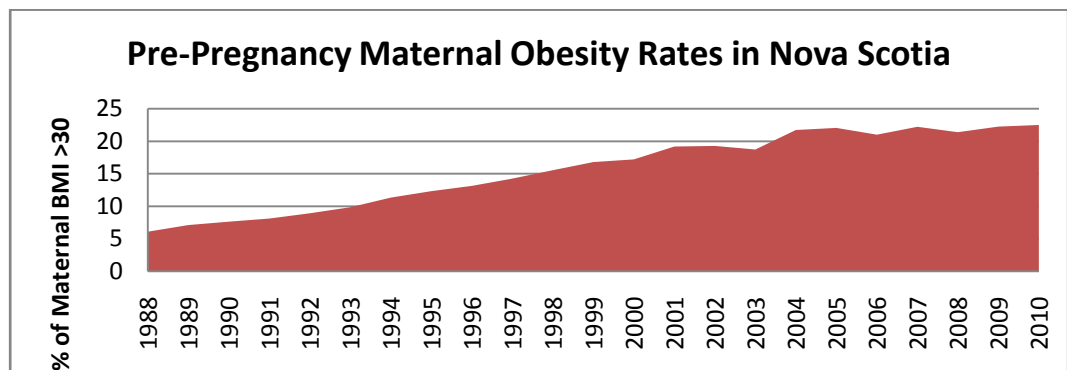
OBSESITY AND PREGNANCY A GROWING PROBLEM



Obesity is a national epidemic that impacts the health and well-being of our population and the health care delivery system overall. According to the Canadian Community Health Survey (2010) more than half of Canadians are overweight (BMI 25-30) or obese (BMI >30). In Nova Scotia rates of obesity are significantly above the National average (38% versus 29%). Rates have doubled over the past two decades and continue to grow. This trend is reflected in the perinatal population where >22% of women in NS in 2010 had a pre-pregnancy BMI >30, which is triple the rate from 1990.

Obesity in pregnancy increases risks of complications for both mother and baby. For the mother, she is at risk of developing cardiac disease, hypertensive disease, pulmonary disease, gestational diabetes, obstructive sleep apnea, and venous thromboembolism. During labour and delivery, she is also at greater risk of having a cesarean section, post-op wound infection, and postpartum hemorrhage. Obesity also necessitates specialized equipment for spinal/epidural placement and operative deliveries. The risks for the baby include spontaneous abortion, stillbirth and neonatal death, congenital abnormalities and prematurity. Obesity has also been found to negatively affect breastfeeding rates.

There are many contributing factors leading to obesity. Pregnancy is an opportunity to address some of the modifiable factors as mothers are often highly motivated to take better care of themselves for their baby's sake. Diet and physical activity are the two most effective and safe interventions for reducing gestational weight gain. It is important to address the issue of obesity with women before, during and after pregnancy. A recent study with participants from Nova Scotia and Saskatchewan provides insight into the experiences of overweight and obese pregnant women and their health care providers (http://www.acewh.dal.ca/pdf/2011-12_weight-expectations-report.pdf). Another resource is the SOGC Clinical Practice Guideline for Obesity in Pregnancy (<http://www.sogc.org>). Breastfeeding should be encouraged as it lowers the risk of obesity in the newborn later in life.



NEWSLETTER

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Diabetes Care Program of Nova Scotia 2013 Pregnancy and Diabetes Management Guidelines

By Peggy Dunbar, Co-ordinator of DCPNS, minor edits have been made to the original.

In April 2013, the DCPNS will officially launch their revised and updated Pregnancy and Diabetes Resource. Aimed at health care providers with an interest and expertise in diabetes and pregnancy, this resource provides added insights into the pregnancy management of both women with preexisting and gestational diabetes. Thirteen chapters address a range of topics from preconception care, screening, medical management, nutrition, insulin, hypoglycemia, breastfeeding, postpartum, newborn care, etc. This resource is totally revised from the earlier 2003 version, with a user-friendly format that provides key messages, summary recommendations/approach, and brief supporting rationale. Complete copies of the resource will be available from the DCPNS. Order information will be located on their website at <http://diabetescare.nshealth.ca>.

Women with preexisting diabetes now make up close to 1% of all pregnancies. Rates of Gestational Diabetes (onset diagnosed in pregnancy) have more than doubled in the past 20 years and are now at 4% of all pregnancies. More than one third of Nova Scotia women with GDM will develop GDM again in subsequent pregnancies ([Diabetes Care, 2001](#)). Women are entering pregnancy at older ages, with heavier weights, and in some cases without the preplanning needed to ensure healthy outcomes for both the mother and baby.

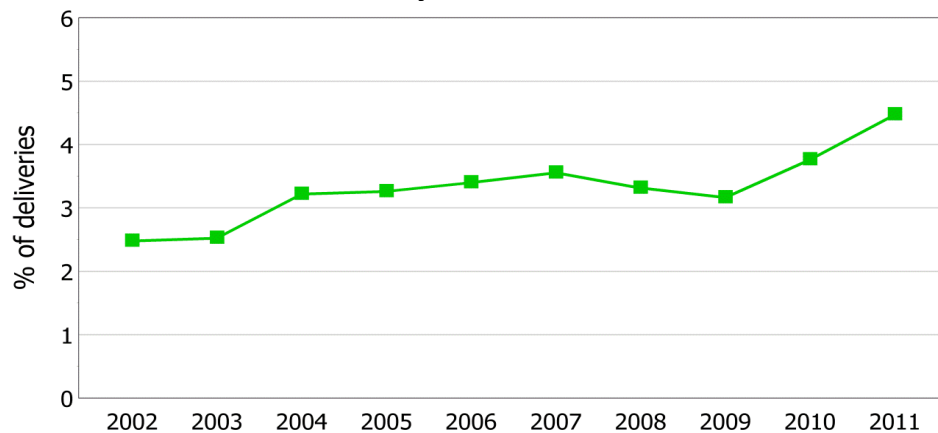
To impact pregnancy outcomes for both mother and child, preconception planning and careful monitoring throughout the pregnancy are important. Rates of major and minor anomalies can be reduced in women with preexisting types 1 and 2 diabetes through proper preparation and optimal management before and in the early weeks of pregnancy. Some cases of gestational diabetes could be prevented if weight management and physical activity were the focus in the planning period before pregnancy. Gestational diabetes not only increases the risks of diabetes in subsequent pregnancies, but also the development of type 2 diabetes in the mother and obesity in the offspring.

The 2013 Canadian Diabetes Association Clinical Practice Guidelines Expect Spring Release



A number of important changes have taken place in the development of the 2013 clinical practice guidelines. See www.diabetes.ca for more information.

Gestational Diabetes by Year, Nova Scotia 2002-2011



Taken from the [NSAPD Report of Indicators 2002-2011](#)



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By Tina Swinamer, Department of Health & Wellness, Reprinted with permission from *doctorsNS* (Nov 2012 issue), minor edits have been made to the original.



Routine and accurate growth monitoring is essential for assessing health and nutritional status of infants and children. Growth charts are an important tool for health care providers to understand patterns of growth and identify potential nutrition concerns and/or growth problems. The World Health Organization (WHO) released growth charts for term infants & children that reflect optimal growth. The new charts differ from the 2000 CDC growth charts in that the WHO charts focus on a multi-ethnic population of children living in optimal conditions for growth and development, are based on a breastfed population, and are adjusted to take into account the emerging childhood obesity epidemic.

Health Canada¹, the Canadian Pediatric Society, the College of Family Physicians of Canada, Community Health Nurses and Dietitians of Canada recommend the use of the WHO Growth Charts for Canada². Providers in Nova Scotia are encouraged to use these charts for monitoring infant and child growth; other growth charts such as the CDC charts are no longer supported.

Differences between CDC charts and WHO Growth Charts for Canada

There are several differences between the CDC charts and the WHO Growth Charts for Canada. One example is that healthy breastfed babies are now less likely to be assessed as growing too rapidly in the first 6 months and less likely to be diagnosed as failing to thrive between 6 and 12 months. Understanding these and other differences between the two charts will ensure measurements are interpreted accurately and appropriate follow-up advice and care is provided.

What resources are available to support implementation of the charts?

Dietitians of Canada have led a process to develop free online training modules to enhance knowledge and skills on the use and interpretation of the new charts. The training modules have been accredited by The College of Family Physicians of Canada for up to 5 Mainpro-M1 credits. The modules may be found at: www.dietitians.ca/growthcharttraining. This site also has additional information and resources for care providers and parents to better help them understand children's growth patterns.

How do I start using the charts?

For providers currently using the Nightingale electronic medical record system, the charts are now embedded in the Nightingale system. For physicians using paper records, copies of the growth charts may be printed from: <http://www.dietitians.ca/Secondary-Pages/Public/Who-Growth-Charts.aspx>

The WHO Growth Charts for Canada are based on children raised according to provincial, national and international nutrition recommendations with breastfeeding being the norm. As such, they are considered the gold standard for growth monitoring. Using these charts will ensure providers are using a tool that supports current evidence in providing care for infants and children that promotes optimal growth and development.

1- Nutrition for Healthy Term Infants: Recommendations for birth to six months. Released Sept 20, 2012.

<http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/index-eng.php>

2- Dietitians of Canada, Canadian Paediatric Society, the College of Family Physicians of Canada,

Community Health Nurses of Canada. Collaborative Statement. Promoting optimal monitoring of child

growth in Canada: using the new WHO growth charts. 2010. Available at:

<http://www.dietitians.ca/Downloadable-Content/Public/tcg-position-paper.aspx>



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Rubella

On January 4, 2013 a memo from the CDHA Immunology/Virology Lab about rubella serology in pregnancy was sent to clinicians to remind them that women with confirmed immunity to rubella do not need serological testing as part of their prenatal screening. There has been confusion for some about what constitutes documented immunity. The following women are considered rubella-immune:



- Women who have ever had positive rubella serology.
- Women who definitely received a rubella-containing vaccine (e.g. MMR). In most cases verifying vaccination requires documentation such as a completed immunization record, since personal recall regarding the specifics of immunization is generally poor.

Note: Pregnant women who are rubella non-immune require postpartum vaccination, ideally before hospital discharge. Serology should not be performed to document immunity post-vaccination, unless the woman is Rh negative and received WinRho postpartum. Since WinRho can interfere with vaccine response, rubella immunity should be checked at the 6-week postpartum visit and the MMR repeated if the woman remains non-immune.

Varicella

Nova Scotia recommends a second varicella booster in the childhood immunization schedule: MMRV is now offered as a combination vaccine at 12 months and 4-6 years. There will be no catch-up doses for children older than 6 years.

Pertussis

Infants and young children are at particular risk of contracting pertussis but can be protected from exposure by ensuring that family members and health care workers are up to date with their immunizations. For pregnant women, the Nova Scotia Department of Health & Wellness recommends delaying vaccination until after birth due to concerns about the baby's response to infant immunizations if the mother was immunized during pregnancy. As of December 2012, US recommendations include pertussis vaccination during pregnancy (<http://www.cdc.gov/vaccines/pubs/ACIP-list.htm#tdappreg>). This change has prompted questions from care providers in Nova Scotia. Please note that the recommendations for Nova Scotia and across Canada have not changed as yet (see RCP Clinical Practice Guidelines web page <http://rcp.nshealth.ca/clinical-practice-guidelines>).

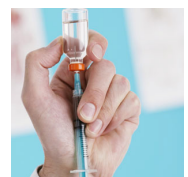
The changes to the CDC guideline were driven by increasing outbreak situations in California and Washington States, and in consideration of available evidence including preliminary findings from research that is currently in progress at the IWK. The study at the IWK is being directed by Infectious Disease Specialists Dr. Scott Halperin, Dr. Joanne Langley and Dr. Shelly McNeil, and Dr. Victoria Allen, Maternal Fetal Medicine Specialist. The research seeks to answer two questions that examine the impact of maternal vaccination in the third trimester on infant passive and active immunity. 1) Are maternal antibodies transferred sufficiently to the baby through the placenta and breast milk to provide protection to the newborn? 2) Is the infant's active immune response to the infant vaccination series affected? Early results from the first phase of this study showed that the infants' active immune response is minimally impacted by maternal vaccination during pregnancy, and there appears to be no long-term detrimental effects. The second phase of the study involves seven sites across Canada (Halifax, Montreal, Ottawa, Toronto, Calgary, Edmonton, and Vancouver) and is currently recruiting participants.

If you know of providers or patients interested in participating in this study, please contact the Research Co-ordinators for more information:

Darlene @ 470-8931 or Darlene.Baxendale@iwk.nshealth.ca

Pam @ 470-8948 or Pamela.MacIntyre@iwk.nshealth.ca

Due to required postnatal follow-up, recruitment is localized to Capital district.



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Family Integrated Care Study at the IWK

By Marlene Furlong & Cheryl Hiscock, Research Co-ordinators, NICU, IWK

The NICU at the IWK will be participating in the Family Integrated Care Study, which is a multi-center cluster randomized controlled trial to be conducted at sixteen Canadian Hospitals. Family Integrated Care is a care model in which parents provide much of the care for their infants (except for administration of IV fluid and medications) while nurses and other health care professionals provide teaching and guidance to parents. A pilot study conducted at Mount Sinai Hospital in 2011 to evaluate the feasibility and safety of this model showed increased weight gain, decreased nosocomial infections, decreased Critical Incident Reports, and overall increased parent and staff satisfaction.

The inclusion criteria for this study:

- Less than 33 weeks gestational age at birth.
- On no respiratory support or low level respiratory support (i.e., oxygen by cannula or mask, or CPAP).
- A parent who is willing and able to commit to spending at least eight hours per day in the NICU with her/his infant between the hours of 0700-2000.
- Parents are expected to attend and participate in daily rounds.
- Parents are expected to attend three informal education sessions per week.

The study will cover a three week period in which the parents will become more involved with their infant's care and will be supported to better understand their baby's condition, in hopes that they will feel less anxious and gain expertise in the care of their baby. The babies will receive more personal and consistent caregiver involvement, which should result in improved outcomes. Parents will be better prepared to care for their infants after discharge, with potential for decreased post-discharge morbidity, health care utilization and re-hospitalization. Although the study is for a period of 3 weeks, we will be supporting the family with this model of care until their discharge home. **Start date is mid-March, 2013.** There will be a letter accompanying any baby enrolled in the study that is transferred to home hospital.

NSAPD Data used in Research

In a recent doctoral dissertation completed by Holly D'Angelo-Scott, Senior Epidemiologist with Public Health Services, Capital District Health Authority, data from the Nova Scotia Atlee Perinatal Database (NSAPD) was linked with the Cape Breton District Health Authority Healthy Beginnings database to explore the impact of one multidisciplinary, collaborative maternity care model established in Nova Scotia. The research focused on four outcomes: gestational weight gain, smoking cessation, breastfeeding initiation, and duration. The study linked the two secondary databases to capture information on the outcomes and the type of maternity care model as well as confounders and effect modifiers. Publication of this research is expected in March 2013.

In a recent study by Catherine Brown, Dr. Linda Dodds and colleagues, data from the NSAPD was linked with the Public Health Healthy Beginnings database from two Nova Scotia District Health Authorities to examine and identify predictors of early cessation of exclusive breastfeeding. It was found that the largest drop in exclusive breastfeeding occurred within the first 6 weeks after birth. Most predictors of early cessation of breastfeeding were intertwined with social determinants of health. However, potentially modifiable risk factors were identified including opportunities for early breast contact by the infant and continued efforts in smoking cessation and obesity reduction. The article is available at <http://www.cmajopen.ca/content/1/1/E9.full.pdf+html>.

See the newsletter insert highlighting recent research. For a complete listing go to:

<http://rcp.nshealth.ca/atlee-database/nsapd-publications-listing>

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Surveillance of Congenital Anomalies in Nova Scotia

By Cora Cole, SCA-NS Project Manager, RCP

As you may recall, the Department of Health and Wellness has committed to enhancing the Surveillance of Congenital Anomalies in Nova Scotia (SCA-NS) and across Canada. With RCP taking the lead, progress towards an integrated surveillance system continues to be made, including recent submissions of a Privacy Impact Assessment, and a Data Sharing Agreement. The SCA-NS team continues to seek advice and input from key stakeholders and decision makers that will allow data to flow from multiple sources into a single provincial surveillance system. Team members have built the framework for the SCA-NS database and are ready to test it. Work to upgrade the Fetal Anomaly Database in preparation for migration into SCA-NS is nearly complete. The next steps for the team include: developing a communication and education plan; building a SCA-NS website; and working with PHAC to secure additional funding and plan preliminary national reports.

Maternal Newborn Orientation Learning Modules

Three new modules have been added to the series of Maternal Newborn Orientation Learning online from RCP (<https://rcp.nshealth.ca/education/learning-modules>):

- [Introduction to the Care of Breastfeeding Mothers and Babies](#)
- [Fetal Health Surveillance, Parts 2 and 3](#)



We encourage participants to submit an evaluation form after completion of a module, and welcome suggestions for future topics as module developments are ongoing.

Staff Presentations

John Fahey (Research Analyst) and Barry Campbell (Programmer) presented their paper on “Publishing SAS® Metadata Using Macros, PROC SQL and Dictionary Tables” at the NorthEast SAS Users Group 2012 conference. People who request data from the Nova Scotia Atlee Perinatal Database (or other groups that use SAS) may not have the skills or access to obtain the metadata they require. Their paper provides a method to extract and publish a catalogue containing variable names and types, descriptions, availability, and proportion missing. The macro is most useful when dealing with wide data; the motivating example has more than 10,000 variables. It iterates through a provided list, and uses PROC SQL to pull the relevant details from built-in dictionary tables. A summary dataset is produced and used as the basis for delivery to the end user via Excel, web applications, or portable documents. One unique feature of this macro is that, for datasets with an observation date, it determines the start and end of availability for each variable.

Several RCP nurses participated in the 2nd annual Canadian Association of Perinatal and Women’s Health Nurses (CAPWHN) conference held in the fall of 2012. Leeanne Lauzon (Perinatal Nurse Consultant) presented “Charting the future for perinatal nursing practice through the development of provincial collaborative care guidelines – the Model of Care Initiative in Nova Scotia.” Becky Attenborough (RCP Co-ordinator) along with Leeanne presented “Navigating the clinical audit process through charted and uncharted waters: A review of cesarean section in Nova Scotia.” Annette Elliott Rose (Perinatal Nurse Consultant) submitted a poster presentation on her PhD work entitled “Interprofessional collaboration in primary maternity care: Highlighting perinatal nurses’ unique contributions to the care of women, newborns and families.” Along with colleagues Dr. Glenda Carson and Kathy MacPherson, Annette also presented “Exploring Nova Scotia women’s experiences of alcohol use, counseling and support in pregnancy.”



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Life begins at 40

By Becky Attenborough, RCP Co-ordinator

Forty is a significant number for many reasons. Forty is the number of weeks for an average pregnancy, a meaning for 40 that is particularly relevant for RCP. 'Forty winks' is a short sleep, which is all many perinatal care providers and new parents ever get. There are 40 spaces in a standard Monopoly board. For those who prefer math and science to games, 40 is a semi-perfect number and minus 40 is the unique temperature at which the Fahrenheit and Celsius scales correspond. Fortunately, we rarely experience -40 in Nova Scotia!

On April 1, 2013, RCP will mark 40 years as a provincial program. The program was established to address concerns about maternal and newborn mortality and morbidity in Nova Scotia, and variations in outcomes and care practices across the province. With this mandate it was clear that improvements would require partnerships with care providers, health care leaders, and decision-makers across the province. While RCP's current mission and values describe a broader vision, partnerships, networks, and shared responsibilities continue to be the foundation of our work. <http://rcp.nshealth.ca/>

Over the next 12 months, RCP will mark this significant milestone in a number of ways. Watch the RCP website for regular updates. To get things started, the first installment of 'Forty Fun Facts about RCP' is below:

1. When RCP opened its doors, there were 41 hospitals in the province with active maternity and/or newborn services. There were 33 community hospitals, 6 regional hospitals and 2 tertiary hospitals.
2. RCP's first office was located in the Grace Maternity Hospital on University Avenue, in a wing constructed in 1922. The floor was, at one time, a nurses' residence. Among the joys of working in 're-purposed' space were an antique cage-style elevator that would mysteriously operate on its own and a bathtub that served as the storage bin for chart forms waiting to be shipped to hospitals across the province.
3. Quality review has been a fundamental activity for RCP since 1973. For the first six years of the Program's existence, review activities focused exclusively on medical care. Beginning in 1979, activities were expanded to include an interprofessional perspective that has continued.
4. The current RCP staff members have 153 years of experience between them. These years signify a major commitment to supporting maternal and newborn health and health care in Nova Scotia.
5. The Rh Program, associated with RCP, began as a program of the Nova Scotia Medical Society (now Doctors Nova Scotia). The Rh Program is celebrating **50 years** of service this year!



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WE'RE GOING GREEN!

IN AN EFFORT TO BE MORE ENVIRONMENTALLY FRIENDLY, LIMITED QUANTITIES OF THE RCP NEWSLETTER WILL BE PRINTED. PLEASE SIGN-UP FOR AN ELECTRONIC COPY...



<http://rcp.nshealth.ca/newsletter-signup>

Personal Health Information Act (PHIA)

Taken from <https://www.gov.ns.ca/dhw/phia/>.

The *Personal Health Information Act (PHIA)* governs the collection, use, disclosure, retention, disposal and destruction of personal health information. *PHIA* was proclaimed on December 4, 2012 and will come into force on June 1, 2013. The *Act* recognizes both the right of individuals to protect their personal health information and the need of custodians to collect, use and disclose personal health information to provide, support and manage health care.

Main Changes under PHIA

The *Personal Health Information Act* brings many of the current privacy protections that exist under law, policy or practice together under one piece of legislation; however, it also brings some important new changes:

- Consent to collect, use and share personal health information may be implied, express (verbal or written), or require no consent - knowledgeable implied consent is the consent model for health care; it recognizes and supports the “circle of care”.
- Consent to share information may be revoked or limited.
- Every custodian must have a complaints policy.
- Custodians must provide a record of user activity at the request of an individual who wishes to see who accessed his/her personal health information held on an electronic information system.
- The Review Officer has independent oversight for access and privacy matters and has recommendation-making authority.
- Unrecorded information, such as transmission of medical appointments on the Telehealth network, and discussions about an individual's personal health information between a custodian and another person, is included in the definition of personal health information.
- The offences in the legislation may be enforced by an individual in court, and penalties may apply.

CME on FASD

The new and improved continuing medical education 3-part module on FASD is now available with courses in prevention, diagnosis and support at www.mdcme.ca.

CME on MgSO₄ for Fetal Neuroprotection

This e-learning module can be accessed from the CME link on SOGC website or directly at www.AdvancingIn.com under ‘Women’s Health’. To earn the available MAINPRO or MOCOMP CME credits (1.0) and/or obtain a *Certificate of Completion*, you must complete the pre-course survey and pre-test, post-test, and questions in the Discussion Forum.

National Day of Remembrance

December 6th – National Day of Remembrance and Awareness for Violence against women.



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UPCOMING EVENT

ADVANCED LIFE SUPPORT IN OBSTETRICS

SYDNEY APRIL 20-21, 2013

Contact RCP for Registration and Course Information.

Register soon as space is limited.



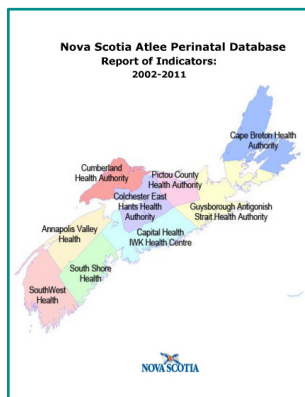
Did you know...

The Nova Scotia Atlee Perinatal Database

- Contains over 10,000 variables, consisting of demographics, procedures, interventions, maternal and newborn diagnoses, and mortality and morbidity information for pregnancies and births occurring in Nova Scotia hospitals since 1988.
- Has been the source of data for hundreds of reports, publications and presentations.
- Contributes to the overall growth of knowledge and evidence in perinatal sciences.
- Supports planning and management of the health system through quality review activities, standards monitoring, and surveillance initiatives.
- Is administered and maintained by the Reproductive Care Program of Nova Scotia.

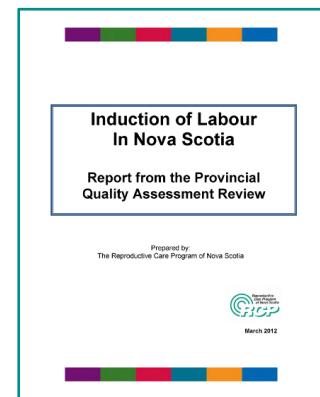
Sample Reports • Publications • Presentations

Reports



Perinatal Epidemiology Research Unit, Dalhousie University. Nova Scotia Atlee Perinatal Database Report of Indicators: 2002-2011, January 2013.
<http://rcp.nshealth.ca/publications/nsapd-indicator-report-2002-2011>

Induction of Labour in Nova Scotia: Report from the Provincial Quality Assessment Review, March 2012.
<http://rcp.nshealth.ca/publications/induction-labour-nova-scotia>



Publications

- Allen VM, Dodds L, Spencer A, Cummings EA, MacDonald N, Kephart G. Application of a national administrative case definition for the identification of pre-existing diabetes mellitus in pregnancy. *Chronic Dis Can* 2012;32:113-20.
- Allen VM, Stewart A, O'Connell CM, Baskett TF, Vincer M, Allen AC. The Influence of Changing Post-Term Induction of Labour Patterns on Severe Neonatal Morbidity. *J Obstet Gynaecol Can* 2012;34(4):330-340.
- Brown, CRL, Dodds L, Attenborough R, Bryanton J, Elliott Rose A, Flowerdew G, Langille D, Lauzon L, Semenic S. Rates and determinants of exclusive breastfeeding to six months in Nova Scotia women: A population-based cohort study. *CMAJ Open* 2013; January 16, vol. 1 no. 1 E9-E17.
- Dodds L, MacDonald N, Scott J, Spencer A, Allen VM, McNeil S. The association between influenza vaccine in pregnancy and adverse neonatal outcomes. *J Obstet Gynaecol Can.* 2012 Aug;34(8):714-20.
- Dummer TJ, Kirk SF, Penney TL, Dodds L, Parker L. Targeting obesity prevention: identifying the critical age for weight gain in women. *J Obesity.* 2012;2012:934895. Epub 2012 Feb 2.

More on next page...

Sample Reports • Publications • Presentations

Publications continued

- Edgar DC, Baskett TF, Young DC, O'Connell CM, Fanning CA. Neonatal Outcome Following Failed Kiwi OmniCup Vacuum Extraction. *J Obstet Gynaecol Can* 2012;34(7):620-625.
- Feldman K, Woolcott C, O'Connell C, Jangaard K. Neonatal Outcomes in Spontaneous Versus Obstetrically Indicated Late Preterm Births in a Nova Scotian Population. *J Obstet Gynaecol Can* 2012;34 (12):1158-1166.
- Rattray DD, O'Connell CM, Baskett TF. Acute Disseminated Intravascular Coagulation in Obstetrics: A Tertiary Centre Population Review (1980 to 2009). *J Obstet Gynaecol Can* 2012;34(4):331-347.

Presentations

- Akinloye OW, El-Naggar W, O'Connell C, Allen AC. The need for post resuscitation care in infants \geq 35 weeks gestation who receive positive pressure ventilation (PPV) at birth. Dalhousie University Department of Pediatrics Research Day, Halifax NS, April 26, 2012. Pediatric Academic Societies Annual Meeting, Boston MA, May 1 2012.
- Armson BA, Joseph KS, Asztalos E, O'Connell C, Barrett JF. Nulliparous Women with Unfavorable Cervix: Induction or C-Section? Society for Maternal-Fetal Medicine (SMFM) 33rd Annual Meeting, San Francisco CA, February 2013.
- Armson BA, Joseph KS, Asztalos E, O'Connell C, Barrett J. Nulliparous Women with Unfavorable Cervix: Induction versus Cesarean. The Society of Obstetricians and Gynecologists of Canada Annual General Meeting, Ottawa ON, June 20 2012. *J Obstet Gynaecol Can* 2012; 34 (6): S10.
- Smithies M, Dodds L, O'Connell C. The prevalence of smoking among pregnant women in Nova Scotia from 1997 to 2010. Dalhousie University Department of Obstetrics and Gynaecology Resident Research Day, Halifax NS, April 27, 2012.
- Zee RA, O'Connell C, Armson BA. Once a Caesarean, always a Caesarean? VBAC trends in Nova Scotia. Dalhousie University Department of Obstetrics and Gynaecology Resident Research Day, Halifax NS, April 27, 2012. The Society of Obstetricians and Gynecologists of Canada Annual General Meeting, Ottawa ON, June 23 2012. *J Obstet Gynaecol Can* 2012; 34 (6):S42.

For more details on the NSAPD, including FAQs about privacy, a complete listing of publications, and how to access data for research and health care planning, please visit the RCP website:

<http://rcp.nshealth.ca/atlee-database>



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