# Maternal and Perinatal Death Review Committee

## 2013-2014 Annual Report

Office of the Chief Coroner for Ontario

July 2015

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This report was prepared by Dr. Rick Mann,

Chairperson of the Maternal and Perinatal Death Review Committee,

Ms. Victoria Snowdon – Project & Research Analyst, Ms. Kathy Kerr – Executive Lead – Committee Management 2013 and Ms. Tara McCord, Executive Lead – Committee Management, 2014.

# Message from the Chair

The Maternal and Perinatal Death Review Committee (MPDRC), together with its predecessor, the Obstetrical Care Review Committee, has been providing expert advice to coroners' investigations in Ontario since 1994.

Through an agreement with Health Canada to assist in the identification and prevention of maternal deaths in Canada, the Office of the Chief Coroner for Ontario has established a policy to investigate and review all maternal deaths that occur during pregnancy, during delivery or immediately following delivery, and up to 42 days postpartum. Any deaths after 42 days and up to 365 days post-delivery are reviewed if the cause of death is directly related to the pregnancy or a complication of the pregnancy.

Each year, a small percentage of stillbirths and perinatal deaths investigated by the Office of the Chief Coroner (OCC), have issues identified by Regional Supervising Coroners that bring them to the attention of the MPDRC. In many cases, the initial concerns about the care received by the mother and/or child are raised by investigating coroners and families.

The MPDRC is comprised of well-respected and experienced experts representing the fields of obstetrics, maternal-fetal medicine, midwifery, perinatal nursing, obstetrical anaesthesiology, pathology, paediatrics and family medicine. In December 2013, the Committee was pleased to add Dr. Sharon Dore as a representative of the Society of Obstetricians and Gynecologists of Canada (SOGC) to provide her expertise and to act as liaison between the Committee and the SOGC.

Since its inception, the committee has reviewed a total of 327 cases and generated 601 recommendations towards the prevention of stillbirths and deaths involving mothers and neonates. In 2013, 26 cases were reviewed and 31 recommendations were made. In 2014, 10 cases were reviewed and 28 recommendations were made.

The top areas of concern identified in recommendations made from 2004-2014 relate to: medical and nursing issues; policy and procedures; communications/documentation; and diagnosis and testing involving electronic fetal monitoring. As we strive towards reducing similar deaths and improving the quality of care provided to mothers and infants, the identification of these trends will help guide the direction of future recommendations and initiatives of the MPDRC and increase awareness and prompt action by stakeholders within the obstetrical care community.

It is an honour to participate in the work of the MPDRC and I am grateful for the commitment of its members to the people of Ontario. I would also like to acknowledge Ms. Kathy Kerr and Ms. Tara McCord, Executive Leads. Without their efforts, the work of the committee and the production of this report would not be possible.

It is my privilege to present to you the 2013 - 2014 Annual Report of the MPDRC.

Rick Mann, MD, CCFP, FCFP
Chair, Maternal and Perinatal Death Review Committee

# Committee Membership (2013-2014)

| | |
|---|---|
| Dr. Sharon Dore | Society of Obstetricians and Gynecologists of Canada Representative |
| Dr. Michael Dunn | Neonatologist (Level 3) |
| Dr. Karen Fleming | Family Physician (Level 3) |
| Dr. Robert Gratton | Maternal Fetal Medicine |
| Dr. Steven Halmo | Obstetrician (Level 2) |
| Ms. Susan Heideman | Perinatal Nurse |
| Dr. Robert Hutchison | Obstetrician (Level 3) |
| Dr. Sandra Katsiris | Anesthesiologist |
| Ms. Kathy Kerr | Executive Lead |
| Ms. Michelle Kryzanauskas | Midwife (Rural) |
| Ms. Tara McCord | Executive Lead |
| Dr. Dilipkumar Mehta | Paediatrician (Level 2) |
| Ms. Linda Moscovitch | Midwife (Urban) |
| Dr. Toby Rose | Forensic Pathologist |
| Dr. Gillian Yeates | Obstetrician (Level 1) |
| Dr. Rick Mann | Chairperson<br>Regional Supervising Coroner |

# Executive Summary

- In 1994, the Office of the Chief Coroner established the Obstetrical Care Review Committee. In 2004, the name of the committee was changed to the Maternal and Perinatal Death Review Committee.
- The purpose of the MPDRC is to assist the Office of the Chief Coroner in the investigation, review and development of recommendations directed towards the prevention of future similar deaths relating to all maternal deaths (irrespective of cause) and stillbirths and neonatal deaths where the family, coroner or Regional Supervising Coroner have concerns about the care that the mother or child received.
- Since 2004, the MPDRC has reviewed 327 cases and generated 601 recommendations aimed towards the prevention of future similar deaths.
- Each year, an average of 30 cases are reviewed and 55 recommendations are made.
- The top areas of concern identified in recommendations made from 2004-2014 relate to: medical and nursing issues; policy and procedures; communications/documentation; and diagnosis and testing involving electronic fetal monitoring.
- In 2013, 26 cases were reviewed and 31 recommendations were made. In 2014, 10 cases were reviewed and 28 recommendations were made.
- Of the 26 cases reviewed in 2013, eleven were maternal, ten were neonatal and five were stillborn. Of the 10 cases that were reviewed in 2014, three were maternal, five were neonatal and two were stillborn.

# Introduction

## Purpose

In 1994, the Office of the Chief Coroner established the Obstetrical Care Review Committee. In 2004, the name of the committee was changed to the Maternal and Perinatal Death Review Committee.

The purpose of the MPDRC is to assist the Office of the Chief Coroner in the investigation, review and development of recommendations directed towards the prevention of future similar deaths relating to all maternal deaths irrespective of cause. This includes all deaths during pregnancy and the post-natal period (which is considered to be up to 42 days after delivery). Any deaths after 42 days and up to 365 days post delivery are reviewed if the cause of death is directly related to the pregnancy or a complication of the pregnancy.

The committee reviews stillbirths and neonatal deaths where the family, coroner or Regional Supervising Coroner have concerns about the care that the mother or child received.

Findings of legal responsibility or conclusions of law are not permitted under the *Coroners Act*.

## Definition of Maternal Deaths, Stillbirths, Perinatal and Neonatal Deaths

The MPDRC reviews the deaths of all women who died "during pregnancy and following pregnancy in circumstances that could reasonably be attributed to pregnancy." Deaths involving women who are pregnant, but where the death was not attributed to pregnancy are noted for statistical purposes only and no formal review is conducted.

**Maternal deaths** are classified by the following criteria:

- Antepartum – during pregnancy at >20 weeks gestation
- Intrapartum - during delivery or immediately following delivery
- Postpartum - < 42 days after delivery

This committee does *not* review late maternal deaths occurring >42 days unless the cause of death is directly related to the pregnancy or a complication of the pregnancy.

**Stillbirth** is defined as the complete expulsion or extraction from the mother of a product of conception either after the 20$^{th}$ week of pregnancy or after the product of conception has attained the weight of 500 grams or more, and where after such expulsion or extraction there is no breathing, beating of the heart, pulsation of the umbilical cord or movement of voluntary muscle. (*Vital Statistics Act* of Ontario)

**Perinatal** deaths are defined as deaths during, at the time of, or shortly after birth, including home births.

**Neonatal** deaths are defined as deaths within the first seven days after birth.

## Aims and Objectives

1. To assist coroners in the Province of Ontario to investigate maternal and perinatal deaths and to make recommendations that may prevent similar deaths.
2. To provide expert review of the care provided to women during pregnancy, labour and delivery, and the care provided to women and newborns in the immediate postpartum period.
3. To provide expert review of the circumstances surrounding all maternal deaths in Ontario, in compliance with the recommendations of the Special Report on Maternal Mortality and Severe Morbidity in Canada. [1]
4. To inform doctors, midwives, nurses, institutions providing care to pregnant and postpartum women and newborns, and relevant agencies and ministries of government about hazardous practices and products identified during case reviews.
5. To produce an annual report that can be made available to doctors, nurses and midwives providing care to mothers and infants, and hospital departments of obstetrics, midwifery, radiology/ultrasound, anaesthesia and emergency for the purpose of preventing future deaths.
6. To help identify the presence or absence of systemic issues, problems, gaps, or shortcomings of each case to facilitate appropriate recommendations for prevention.
7. To help identify trends, risk factors, and patterns from the cases reviewed to make recommendations for effective intervention and prevention strategies.
8. To conduct and promote research where appropriate.
9. To stimulate educational activities through the recognition of systemic issues or problems and/or referral to appropriate agencies for action.
10. Where appropriate, to assist in the development of protocols with a view to prevention.
11. Where appropriate, to disseminate educational information.

*Note: All of the above described objectives and attendant committee activities are subject to the limitations imposed by the Coroners Act of Ontario and the Freedom of Information and Protection of Privacy Act.*

## Structure and Size

The committee membership consists of respected practitioners in the fields of specialty including: obstetrics, family practice, specialty neonatology, community pediatrics, pediatric and maternal pathology, anesthesiology, midwifery and obstetrical nursing. The membership is balanced to reflect wide and practicable geographical representation as well as representation from all levels of institutions providing obstetrical care including teaching centers to the extent possible. The chairperson will be a Deputy Chief Coroner or Regional Supervising Coroner or other person designated by the Chief Coroner.

Other individuals are invited to the committee meetings as necessary on a case by case basis (e.g. investigating coroner, Regional Supervising Coroner, other specialty practitioner relevant to the facts of the case, etc.).

## Methodology

Investigating coroners and Regional Supervising Coroners refer cases to the committee for review. At least one member of the committee reviews the information submitted by the coroner and then presents the case to the other members. After discussion by the committee, a final case report is written consisting of a summary of events, discussion and recommendations (if any), intended to prevent deaths in similar circumstances. The report is then sent to the referring Regional Supervising Coroner who may conduct further investigation (if necessary). Recommendations are distributed to agencies and organizations which may be in a position to effect the implementation of such recommendations. Organizations are asked to respond back within one year with the status of implementation of recommendations.

[1] Special Report on Maternal Mortality and Severe Morbidity in Canada, Health Canada, 2004.

Where a case presents a potential or real conflict of interest for a committee member, a temporary member is named from another centre. Alternatively, the committee reviews that case in the absence of the member with the conflict of interest.

When a case requires expertise from another discipline, an external expert reviews the case, attends the meeting and participates in the discussion and drafting of recommendations, if necessary.

## Limitations

This committee is advisory to the coroner system and will make recommendations to the Chief Coroner through the chairperson.

The consensus report of the committee is limited by the data provided. Efforts are made to obtain all relevant data.

The MPDRC case reports are prepared for the Office of the Chief Coroner and are therefore governed by the provisions of the *Coroners Act*, the *Vital Statistics Act*, the *Freedom of Information and Protection of Privacy Act and the Personal Health Information and Protection of Privacy Ac*t. The summary of recommendations made to the Regional Supervising Coroner and relevant organizations and agencies are included in at the end of this report. Note that the redacted case summaries have not been included but are available on request, containing no identifying details.

It is important to acknowledge that these reports rely upon a review of the written records. The Coroner/Regional Supervising Coroner conducting the investigation may have received additional information that rendered one or more of the committee's conclusions invalid. Where a fact was made known to the chair of the committee prior to the production of the annual report, the case review was revised to reflect these findings.

Recommendations are made following a careful review of the circumstances of each death; they are not intended to be policy directives and should not be interpreted as such.

This report of the activities and recommendations of the MPDRC is intended to provoke thought and stimulate discussion about obstetrical care and maternal and perinatal deaths in general in the province of Ontario.

# Statistical Overview (2004-2014)

The MPDRC (and previously the Obstetrical Care Review Committee) has generated recommendations since being established in 1994. Over time, not only has the committee evolved, but so too have medical technologies, policies, procedures and public and professional attitudes towards maternal and perinatal care in the province. In order to provide an analysis that is reflective
of more current values and attitudes, the statistical analysis contained within this annual report will focus on cases reviewed and recommendations made since 2004.

From 2004-2014, the MPDRC has reviewed a total of 327 cases. Of these cases, 101 (31%) were maternal, 144 (44%) were neonatal and 82 (25%) were stillbirths. These numbers reflect the policy of the Office of the Chief Coroner to review all maternal deaths. Deaths involving women who are pregnant, but where the pregnancy did not cause or contribute to the death, are noted, but do not undergo formal review (and thus are not reflected in these statistics). Neonatal and stillbirth reviews are conducted only when the family, investigating coroner or Regional Supervising Coroner have concerns about the care that the mother or child received.

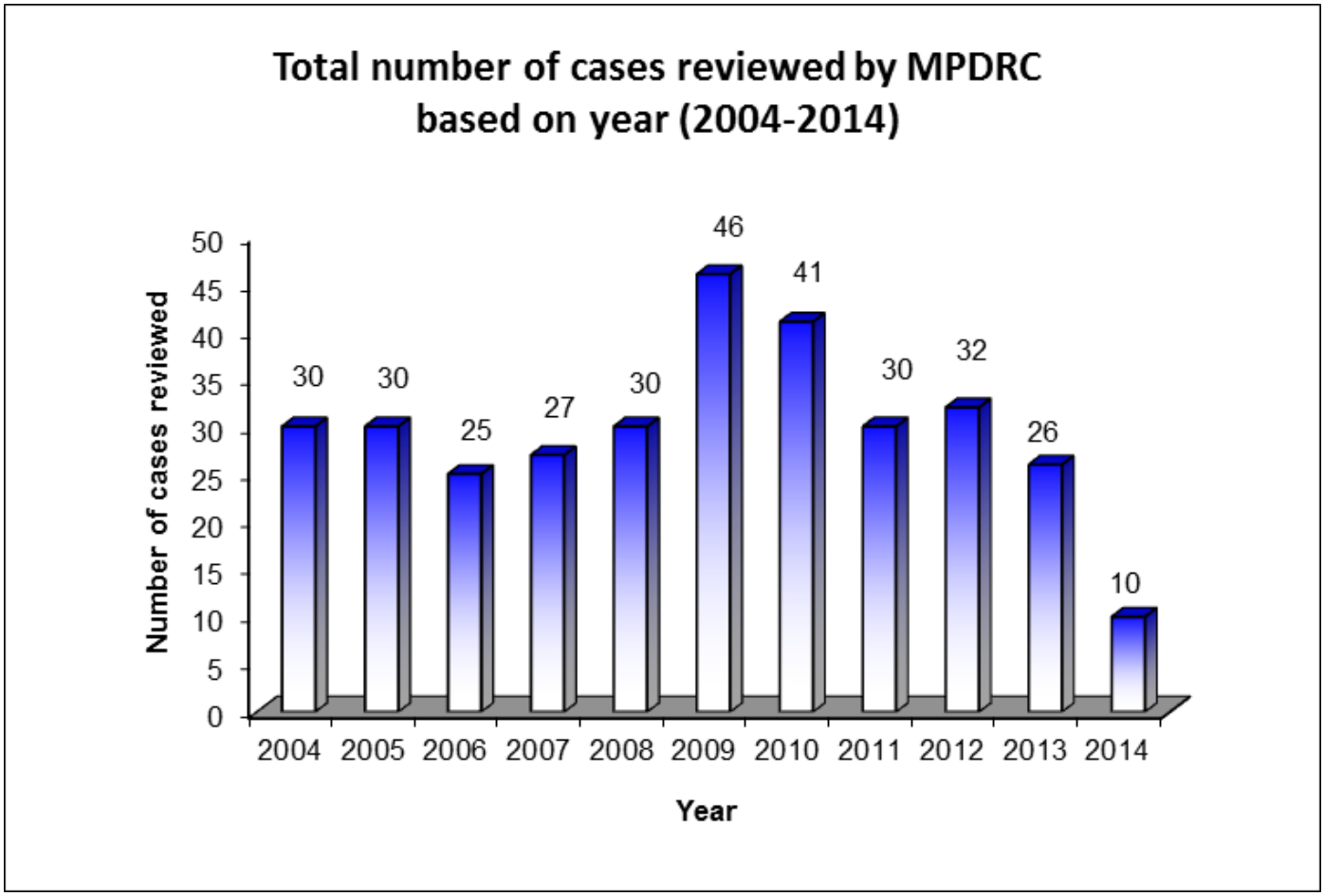
The number of cases noted in **Chart One** is based on the year the case was reviewed, which, in many cases, is not the same year in which the death actually occurred.

## Chart One: MPDRC - # of Cases Reviewed (2004-2014)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total # of cases reviewed** | **30** | **30** | **25** | **27** | **30** | **46** | **41** | **30** | **32** | **26** | **10** | **327** |
| **Maternal** | 10 | 12 | 4 | 15 | 8 | 21 | 11 | 3 | 3 | 11 | 3 | **101** |
| **Neonatal** | 12 | 11 | 13 | 12 | 12 | 16 | 19 | 14 | 20 | 10 | 5 | **144** |
| **Stillbirth** | 8 | 7 | 8 | 0 | 10 | 9 | 11 | 13 | 9 | 5 | 2 | **82** |

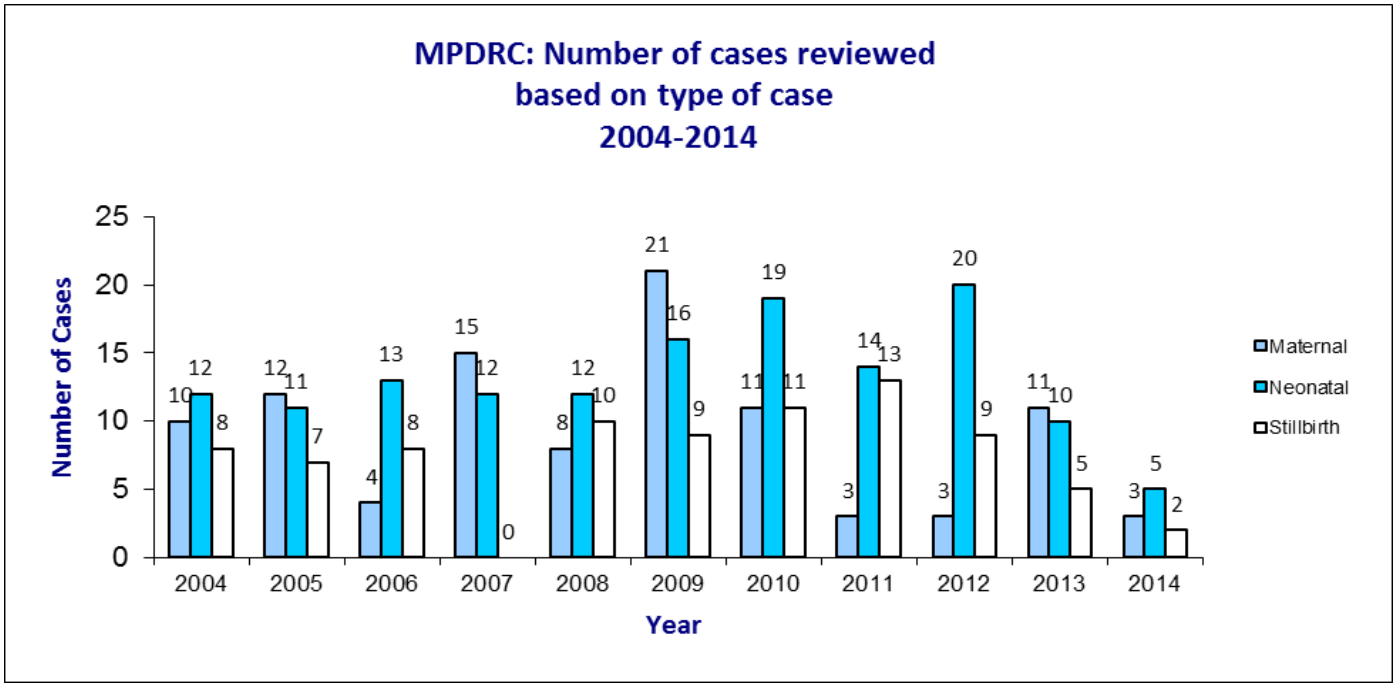
**Chart One** indicates that the number of total cases reviewed from 2004-2014 has varied from a low of 10 cases in 2014, to a high of 46 cases in 2009. This variance is likely reflective of committee administrative practices (e.g. time required for processing of review materials and compilation of final reports).

## Graph One: Total number of cases reviewed by the MPDRC based on year (2004-2014)




**Graph One** demonstrates how the number of cases reviewed from 2004-2014 has remained relatively consistent with a trending decline in the past two years due to committee-related issues. Some cases that would otherwise have been reviewed in 2014 have been deferred to the 2015 review period. On average, the MPDRC reviews 30 cases per year.

## Graph Two: Number of cases reviewed based on type of case (2004-2014)




**Graph Two** demonstrates that, overall, from 2004-2014, the majority of cases reviewed each year are neonatal deaths, followed by maternal deaths.

## Chart Two: MPDRC - # of Recommendations (2004-2014)

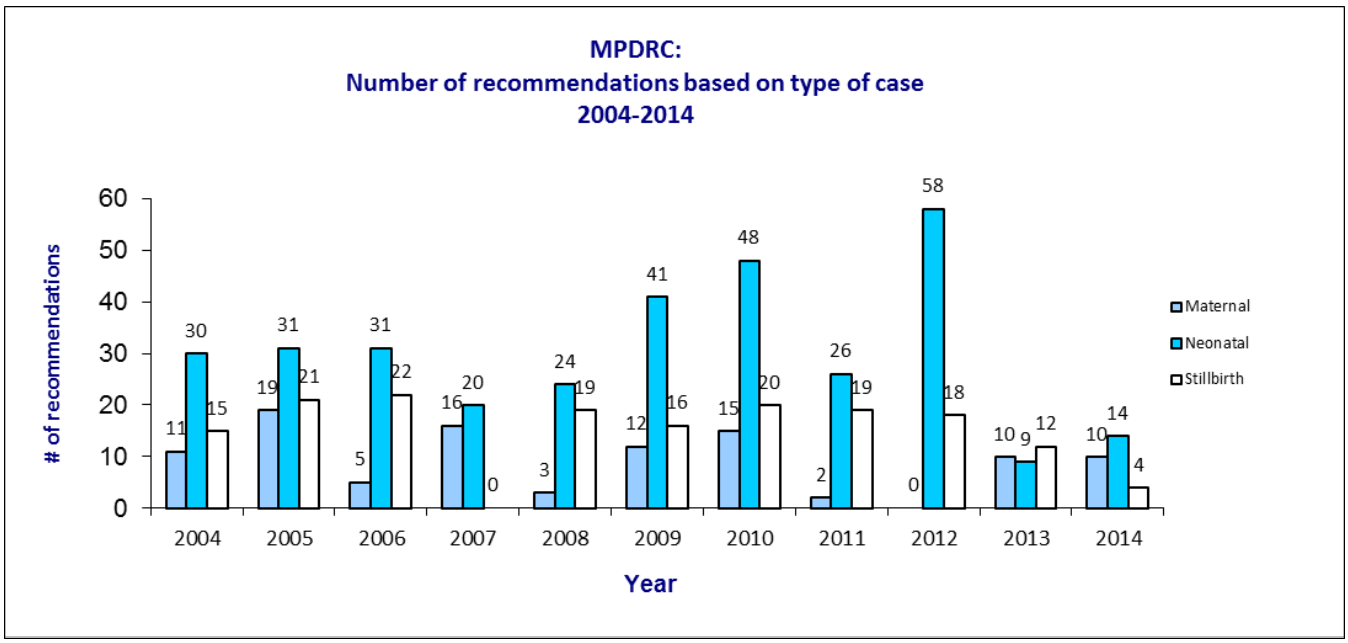
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total # of Recommendations made** | **56** | **71** | **58** | **36** | **46** | **69** | **83** | **47** | **76** | **31** | **28** | **601** |
| **Maternal** | 11 | 19 | 5 | 16 | 3 | 12 | 15 | 2 | 0 | 10 | 10 | **103** |
| **Neonatal** | 30 | 31 | 31 | 20 | 24 | 41 | 48 | 26 | 58 | 9 | 14 | **332** |
| **Stillbirth** | 15 | 21 | 22 | 0 | 19 | 16 | 20 | 19 | 18 | 12 | 4 | **166** |

**Chart Two** indicates that the MPDRC has generated a total of 601 recommendations from 2004-2014. From this total, 103 (17%) were related to maternal cases, 332 (55%) from neonatal cases and 166 (28%) from stillbirth cases. Consistently over the years, the majority of cases and recommendations relate to reviews of neonatal deaths. On average, 55 recommendations are made per year.

Upon reviewing the recommendations that have been made, certain areas of concern have consistently emerged over time. The following general areas of concern have been identified:

- medical (e.g. medical or nursing decisions)
- policy and procedure (e.g. adherence or development of policy and procedures)
- communication/documentation (e.g. sharing and documenting information)
- quality (e.g. quality of care reviews)
- diagnosis and testing (e.g. interpretation of laboratory results)
- diagnosis and testing – specifically electronic fetal monitoring (EFM) (e.g. interpretation of results)
- education/training (e.g. continuing education)
- resources (e.g. access and allocation of resources)
- transfer (e.g. movement of patients)
- other (e.g. referral to another committee for review)

## Graph Three: Number of recommendations based on type of case 2004-2014




**Graph Three** demonstrates that from 2004-2014, the majority of recommendations generated each year pertain to neonatal cases.

## Chart Three: MPDRC – Number and percentage of recommendations based on area of concern/theme and type of case (2004-2014)

| | Maternal | Neonatal | Stillborn | Total | % of Total |
|---|---|---|---|---|---|
| **Medical** | 43<br>7% | 64<br>10% | 37<br>6% | **144** | **24%** |
| **Policy and procedure** | 23<br>4% | 64<br>10% | 33<br>5% | **120** | **20%** |
| **Communications/documentation** | 10<br>2% | 54<br>9% | 30<br>5% | **94** | **15%** |
| **Quality** | 12<br>2% | 31<br>5% | 10<br>2% | **53** | **9%** |
| **Diagnosis and testing** | 1<br>0% | 46<br>8% | 19<br>3% | **66** | **11%** |
| **Diagnosis and testing - EFM** | 1<br>0% | 46<br>8% | 24<br>4% | **71** | **12%** |
| **Education/Training** | 2<br>0% | 17<br>3% | 7<br>1% | **26** | **4%** |
| **Resources** | 3<br>0% | 12<br>2% | 3<br>0% | **18** | **3%** |
| **Transfer** | 5<br>1% | 6<br>1% | 4<br>1% | **15** | **2%** |
| **Other** | 2<br>0% | 2<br>0% | 1<br>0% | **5** | **1%** |

**Chart Three** demonstrates that 24% of all recommendations made by the MPDRC from 2004-2014 relate to improving or addressing medical/nursing issues. An additional 20% of the recommendations pertain to the development of, or adherence to, policies and procedures and 15% to communication and/or documentation and in particular, the timely and accurate sharing of information between healthcare providers and with the patient.

Chart three also demonstrates the following key areas (based on type of case and theme):

- 11% of all recommendations were from neonatal cases and had a medical/nursing theme
- 10% of all recommendations were from neonatal cases and had a policy and procedure theme
- 9% of all recommendations were from neonatal cases and had a communication/documentation theme

One area of specific concern that has been identified over the past few years relates to the use of EFM technology, how EFM results are interpreted by obstetrical care providers and what follow-up actions are taken in response to the findings. From 2004-2014, there have been 71 recommendations made specifically pertaining to EFM.

## Summary of Cases Reviewed in 2013

This annual report includes summaries of reviews conducted by the MPDRC in 2013. Cases reviewed may involve deaths that occurred in previous years.

| | |
|---|---|
| **Total number of cases reviewed:** | **26** |
| **Total number of recommendations:** | **31** |
| Number of maternal cases reviewed: | 11 |
| Number of recommendations from the maternal deaths reviewed: | 10 |
| Number of neonatal cases reviewed: | 10 |
| Number of recommendations from the neonatal deaths: | 9 |
| Number of stillborn cases reviewed: | 5 |
| Number of recommendations from the stillborn cases: | 12 |

## Summary of Cases Reviewed in 2014

This annual report includes summaries of reviews conducted by the MPDRC in 2014. Cases reviewed may involve deaths that occurred in previous years.

| | |
|---|---|
| **Total number of cases reviewed:** | **11** |
| **Total number of recommendations:** | **28** |
| Number of maternal cases reviewed: | 3 |
| Number of recommendations from the maternal deaths reviewed: | 10 |
| Number of neonatal cases reviewed: | 6 |
| Number of recommendations from the neonatal deaths: | 14 |
| Number of stillborn cases reviewed: | 2 |
| Number of recommendations from the stillborn cases: | 4 |

## Lessons Learned from MPDRC Reviews

Labour and delivery is a unique area of medicine. Obstetrical care providers are actually providing care to two patients simultaneously– the mother and the fetus. When there is a change in a measured parameter, such as heart rate, it is important to determine with which patient the change is associated – the mother or the fetus. Identifying and documenting changes based on which patient is being assessed is sometimes challenging, but is essential to providing effective and thorough obstetrical care to both the mother and the fetus.

To address this challenge, the MPDRC recommends that consideration be given to establishing a standard location on EFM strips or partogram documents to clearly and visibly differentiate between maternal and fetal vital signs. By doing so, a change in either value can be easily identified and assessed.

# Summary of 2013 and 2014 Recommendations - with Identified Themes

## 2013 MPDRC Cases

### Maternal case reviews - 2013

| Case# | Rec# | Theme | Recommendations |
|---|---|---|---|
| 1 | | | No recommendations |
| 2 | | | No recommendations |
| 3 | | | No recommendations |
| 4 | 1 | Medical | Health care providers are reminded that radiation exposure to the fetus in the performance of a CT of the head with abdominal shielding is minimal and indications are therefore the same as in the non-pregnant population. |
| 5 | 1 | Communication/ documentation | Obstetrical care providers are reminded of the importance of full, accurate and timely documentation. |
| 5 | 2 | Policy and Procedures | Obstetrical care providers are reminded of the ACOG Committee Opinion on Obesity (available at: http://www.acog.org/Resources%20And%20Publications/Committee%20OpinionsCommittee%20on%20Obstetric%20Practice/Obesity%20in%20Pregnancy.aspx),the SOGC guideline "Obesity in Pregnancy" (#239 published in February 2010 and available at: http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Obesity-in-Pregnancy) and the Association of Ontario Midwives Clinical Practice Guidelines "High or Low BMI" (available at: www.aom.on.ca). |
| 5 | 3 | Resources | Hospitals are reminded of the importance of having access to, and utilization of, appropriate equipment to monitor patients (e.g. blood pressure cuffs of varying sizes for different ages and body habiti). |
| 5 | 4 | Diagnosis and testing - EFM | Obstetrical care providers are reminded of differentiating between maternal and fetal heart rates during fetal monitoring. |
| 5 | 5 | Communication/ documentation | Obstetrical care providers are reminded of the importance of adequate and thorough assessment and documentation of maternal and fetal status at triage |
| 6 | | | No recommendations |
| 7 | 1 | Transfer | The EMS involved should review their instructions and algorithm for dispatchers to determine when an ambulance is needed. |
| 7 | 2 | Medical | All health care providers are reminded to be highly suspicious of ectopic pregnancy even in a patient without risk factors |
| 7 | 3 | Medical | EMS & Tele-Health should review instructions and algorithm for abdominal pain in women in the reproductive age range |
| 8 | | | No recommendations |
| 9 | | | No recommendations |
| 10 | | | No recommendations |
| 11 | 1 | other | The Ontario Forensic Pathology Service should perform molecular studies on the stored DNA of the decedent to look for channelopathies. Results of these findings should be communicated to the family |

## Neonatal case reviews 2013

| Case# | Rec# | Theme | Recommendation |
|---|---|---|---|
| 1 | | | No recommendation |
| 2 | | | No recommendations |
| 3 | 1 | Policy and procedures<br>Diagnosis and Testing -EFM | Obstetrical care providers are reminded of the SOGC guidelines on intrapartum fetal surveillance and response to the atypical – abnormal fetal heart rate tracing (see:http://sogc.org/guidelines/fetal-health-surveillance-antepartum-and-intrapartum -consensus-guideline/). |
| 4 | | | No recommendations |
| 5 | 1 | Diagnosis and testing | Obstetrical care providers are reminded of the potential significance of a decrease in perceived fetal movement and the need to consider testing for fetal well-being by non-stress test (NST) or biophysical profile (BPP). |
| 6 | 1 | Policy and procedures | The hospital involved with this case should review their policies and procedures relating to intrapartum care, including documentation and fetal health surveillance, to ensure consistency with the SOGC Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline, September 2007. |
| 7 | 1 | Communications/documentation | Women planning a home birth should be informed of the risk of cord prolapse and the impact that a delay in delivery can have on neonatal outcome. This discussion should be documented in the prenatal record |
| 8 | 1 | Communications/documentation | Obstetrical care providers are reminded that clear documentation of the most responsible provider should be clearly noted in medical records. |
| 8 | 2 | Diagnosis and testing-EFM | Obstetrical care providers are reminded of the criteria for an abnormal fetal heart rate tracing and the action required as defined by SOGC Intrapartum Fetal Surveillance Guidelines published in September 2007 |
| 9 | 1 | Education/training | The hospital involved should ensure that all obstetrical care providers (including nurses), are adequately educated in intrapartum fetal health surveillance. |
| 9 | 2 | Resources | The hospital involved should review the timing of response by all those involved in providing Emergency Obstetrical Services so that the time from discovery to intervention proceeds as fast as possible. If there are delays, the reason(s) should be documented |
| 10 | 1 | Policy and procedures | Obstetrical care providers at Hospital A should review the 2007 guidelines for intrapartum fetal health surveillance. (JOGC, Volume 29, Number 9, September 2007). |

## Stillbirth case reviews 2013

| Case # | Rec # | Theme | Recommendation |
|---|---|---|---|
| 1 | 1 | Policy and procedures | Hospitals should ensure that they have a policy regarding "Pregnant Patients Greater than 20 Weeks Presenting to the Emergency Department" in place to expedite their appropriate care, and routinely review these procedures with the emergency department staff |
| 2 | 1 | Policy and procedures | The obstetrician involved with this case should review the SOGC Clinical Practice Guideline, "Diagnosis, Evaluation, and Management of the Hypertensive Disorders of Pregnancy" (March 2008, No. 206) and SOGC Clinical Practice Guideline, "Fetal health Surveillance: antepartum and intrapartum Consensus Guideline" (June 2000, No. 90) |
| 2 | 2 | Education and training | The hospital should ensure that all obstetrical care providers have an understanding of antenatal fetal health surveillance and hypertensive disorders in pregnancy so that they can better assess and treat such patients |
| 2 | 3 | Policy and procedures | The hospital should establish a policy and procedure for investigations, monitoring and treatment of the hypertensive pregnant woman in the antenatal, labour and postpartum periods. |
| 2 | 4 | Education and training | The hospital should provide all obstetrical care providers education in interdisciplinary team work and communication |
| 2 | 5 | Communication/documentation | All obstetrical care providers are reminded of the importance of accurate and timely documentation |
| 2 | 6 | Other | The Maternal and Perinatal Death Review Committee (MPDRC) recommends that the Regional Supervising Coroner (RSC) follow up with the hospital regarding the issues identified. If, in the opinion of the RSC, systemic issues persist, the RSC should consider conducting a Regional Coroner's Review with appropriate representatives of the hospital. |
| 3 | 1 | Medical | Obstetrical care providers are reminded that high risk pregnancies warrant increased fetal surveillance testing. |
| 3 | 2 | Medical | Obstetrical care providers are reminded that maternal reporting of decreased fetal movement warrants testing of fetal wellbeing either by NST or BPP. |
| 4 | 1 | Diagnosis and testing | Obstetrical care providers (OCP) are reminded of the need for admission electronic fetal heart rate tracing when being assessed for labour at term in women with risk factors of adverse perinatal outcome. |
| 4 | 2 | Communication/documentation | OCPs are reminded of documentation of fetal heart rate monitoring |
| 4 | 3 | Education and training | Encourage the Provincial Council for Maternal and Child Health to pursue an initiative to reduce the incidence of obesity in pregnancy and associated adverse pregnancy outcomes |
| 5 | | | No recommendations. |

## 2014 MPDRC Cases

### Maternal case reviews - 2014

| Case # | Rec # | Theme | Recommendation |
|---|---|---|---|
| 1 | 1 | Policy and Procedures | Obstetrical care providers and obstetrical anaethestic providers are reminded that vital signs on patients who receive spinal or epidural long acting opioids for obstetrical procedures should be monitored as per the ASA protocols |
| 1 | 2 | Medical | Obstetrical care providers should order an anaesthesia consultation for all mothers who are Obese Class 2 (pre-pregnancy BMI > 35) antenatally |
| 1 | 3 | Education | Hospital A should review appropriate monitoring and documentation following administration of neuraxial opioids with nursing staff |
| 2 | 1 | Communication/documentation | Anaesthesia care providers are reminded to thoroughly document all aspects of intra-operative care of the patient |
| 2 | 2 | Medical | Obstetrical and anaesthesia care providers are reminded that intra-abdominal hemorrhage can be well compensated by the otherwise healthy patient |
| 2 | 3 | Medical | Obstetrical and anaesthesia care providers are reminded that the most appropriate treatment for an obstetrical patient with hemorrhagic shock is blood component therapy. |
| 2 | 4 | Quality | The Chief of Staff at this hospital should review this case with the attending staff. |
| 2 | 5 | Policy and Procedures | Obstetrical, anaesthesia and intensive care providers should review the massive transfusion protocol at their hospital. |
| 2 | 6 | Medical | Obstetrical, anaesthesia and intensive care providers are reminded of the importance of maintaining normothermia in the management of hemorrhage |
| 2 | 7 | Other | The Committee recommends that the Regional Supervising Coroner (RSC) follow up with the hospital regarding the issues identified. If, in the opinion of the RSC, systemic issues persist, the RSC should consider conducting a Regional Coroner's Review with the appropriate representatives from the hospital |
| 3 | 0 | | No recommendations |

## Neonatal case reviews – 2014

| Case # | Rec # | Theme | Recommendation |
|---|---|---|---|
| 1 | 1 | Diagnosis and Testing | Obstetrical care providers are reminded that a high index of suspicion is required for the diagnosis of acute fatty liver of pregnancy and should be considered in the differential diagnosis of liver disease in the third trimester of pregnancy |
| 1 | 2 | Diagnosis and Testing | Obstetrical care providers are reminded to consider ordering liver function tests in patients presenting with nausea, vomiting and epigastric discomfort. |
| 1 | 3 | Policy and Procedures | The triage of ill obstetrical patients at Hospital A should be reviewed. |
| 1 | 4 | Diagnosis and Testing (EFM) | Obstetrical care providers are reminded of the SOGC guidelines for the management of abnormal fetal heart rate tracings in labour. |
| 1 | 5 | Diagnosis and Testing | Obstetrical and newborn care providers are advised to screen mothers with AFLP and their children for fatty acid oxidation deficiencies. |
| 2 | 1 | Diagnosis and Testing (EFM) | Obstetrical care providers are reminded of the Society of Obstetricians and Gynaecologists of Canada (SOGC) Guidelines for the classification and management of intrapartum fetal heart rate patterns. (SOGC September 2007) |
| 2 | 2 | Communication/documentation | Obstetrical care providers are reminded that the anaesthetist and paediatrician need to be notified in a timely manner if it is anticipated that their attendance will be required at delivery |
| 3 | 1 | Diagnosis and Testing | Obstetrical Care Providers are encouraged to consider a Kleihauer testing when newborn/stillbirth anemia is diagnosed. |
| 4 | 1 | Diagnosis and Testing | Obstetrical care providers are reminded of the importance of close foetal surveillance in cases of excessive weight gain and polyhydramnios. |
| 4 | 2 | Medical and/or Diagnosis and Testing | In cases of foetal tachydysrhythmia, including those with hydrops, referral to a high-risk perinatal service with consultation from paediatric cardiology should be undertaken to aid with decisions about in utero treatment and timing of delivery. In most cases, in utero pharmacologic therapy should be attempted to improve cardiovascular status before delivery is considered. |
| 6 | 1 | Diagnosis and Testing (EFM) | Obstetrical Care Providers (OCP) are reminded that continuous electronic fetal monitoring should be maintained if at all possible during induction of a high risk pregnancy. |
| 6 | 2 | Medical and/or Diagnosis and Testing | Obstetrical Care Providers (OCP) are reminded that oxytocin used for augmentation or induction of labour should be stopped when a “tetanic” contraction is experienced during a high risk induction. |
| 6 | 3 | Medical and/or Diagnosis and Testing (EFM) | Obstetrical Care Providers (OCP) are reminded that fetal monitoring of a twin induction should include the application of an internal scalp clip on twin A to help differentiate between two fetuses. |
| 6 | 4 | Policy and procedures and Communication/documentation | Obstetrical Care Providers (OCP) are reminded that obstetrical Care Facilities should consider developing and utilizing a standardized process to facilitate team communication to discuss the planned management and evolving care of high risk cases. |

**Stillborn case reviews - 2014**

| Case # | Rec # | Theme | Recommendation |
|---|---|---|---|
| 1 | | | No recommendations. |
| 2 | 1 | Transfer and Policy and procedure | Midwives are reminded of the College of Midwives Standard on Ambulance Transport and the need to call for additional help (EMS) sooner in an out of hospital setting to accommodate the physical time required to transfer a client from home to hospital. |
| 2 | 2 | Transfer | Midwives are reminded that cumulative risks are to be considered in decision making regarding when to transfer from out of hospital setting. |
| 2 | 3 | Policy and procedures | Midwives, paramedics and emergency health attendants are reminded of the policies and processes in the Ministry of Health and Long-Term Care's Basic Life Support (BLS) Patient Care Standards (January 2007, Version 2.0)., Section 5 – Obstetric Conditions, Midwife at the Scene. |
| 2 | 4 | Communication/documentation | Midwives are reminded that informed choice discussions and subsequent client decisions must be fully documented in clinical decision making situations with evolving risk factors. |

## Questions and comments regarding this report may be directed to:

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