The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) welcomes the opportunity to provide this submission to the Senate’s Select Committee on Stillbirth Research and Education who are established to inquire and report on the future of stillbirth research and education in Australia.

RANZCOG is the lead standards body in women’s health in Australia and New Zealand, with responsibility for postgraduate education, accreditation, recertification and the continuing professional development of practitioners in women’s health, including both specialist obstetricians and gynaecologists, and GP obstetricians. The College is committed to improving the health and wellbeing of all women. RANZCOG supports research into women’s health and acts as an advocate for women’s healthcare by forging productive relationships with individuals, the community and professional organisations, both locally and internationally.

1. Background

The purpose of this inquiry is to examine and report on the future of stillbirth research and education in Australia. The terms of reference for the enquiry are:

a. consistency and timeliness of data available to researchers across states, territories and federal jurisdictions;
b. coordination between Australian and international researchers;
c. partnerships with the corporate sector, including use of innovative new technology;
d. sustainability and propriety of current research funding into stillbirth, and future funding options, including government, philanthropic and corporate support;
e. research and education priorities and coordination, including the role that innovation and the private sector can play in stillbirth research and education;
f. communication of stillbirth research for Australian families, including culturally and linguistically appropriate advice for Indigenous and multicultural families, before and during a pregnancy;
g. quantifying the impact of stillbirths on the Australian economy; and
h. any related matters.

This submission is structured according to the above terms of reference.
2. Background

In Australia in 2015, almost 3000 perinatal deaths were recorded: of those losses, 2191 were stillbirths. Thus, 73% of all perinatal deaths are stillbirths. Perinatal deaths outnumber adult deaths from breast cancer each year, and represent twice the number of deaths to road trauma. Yet substantial public health and awareness campaigns surround breast cancer and road accidents. RANZCOG strongly supports a substantial effort to deal with these tragic losses.

Over the last decade, the rate of stillbirth in Australia has fallen from 7.3 per 1000 births in 2005, to 7.0 per 1000 in 2015, a reduction in the rate of approximately 4%. The most recent data from the AIHW show that the commonest causes of perinatal death are severe congenital anomalies in the baby (28.7%), and extremely preterm birth (16.3%). In Australia, 13.5% of stillbirths remain unexplained. Almost one third of all perinatal deaths are due to maternal and fetal conditions, many specific to pregnancy, such as diabetes, hypertension, trauma, and immune conditions. These conditions also include complications of twin pregnancy, haemorrhage and placental complications, and rhesus incompatibility. The areas in which there are substantial opportunities for improvement in outcome are with the detection and management of fetal growth restriction (FGR) and avoidance of intrapartum hypoxic death, together contributing about 8% of all stillbirths.

Fetal growth restriction is a strong risk factor for stillbirth.(Bukowski et al, 2014) To protect against stillbirth, it is thus important that FGR is screened for and that suspected diagnoses of FGR undergo formal diagnosis – usually by ultrasound – and that a diagnosis of FGR prompts action. For pregnancies either at risk of FGR, or identified as being complicated by FGR, current evidence from meta-analysis suggests that the use of Doppler ultrasound on the umbilical artery reduces the risk of perinatal deaths and may result in fewer obstetric interventions.(Alfirevic et al, 2017)

However, changes in the velocity of fetal growth are also important to consider. While FGR is a major risk factor for stillbirth, half of stillborn babies are appropriate for the gestational age. However, ultrasound evidence of reduced growth velocity in the third trimester are an important but under-recognised cohort at risk of stillbirth, and requiring intensive surveillance and early delivery.(MacDonald et al, 2017) A study of 2232 pregnancies with known or suspected FGR found that planned induction of labour at 37 weeks had a protective effect against stillbirth.(Rabinovich et al, 2018)

The key issue is identification of pregnancy in which FRG is suspected or likely. Data from Australian studies shows that the model of antenatal care strongly influences the probability that FGR will be identified before labour.(Diksha et al, 2018) These data are supported by studies showing that, in Australia, model of care directly influences the risk of perinatal death. Adams and colleagues (2018) studied over 130000 births in Australia and found that, after adjustment for maternal and pregnancy factors (including the presence of major congenital anomalies, birth method, and gestational age), the rate of stillbirth was more than 20% higher when pregnancy and birth were not directly managed by a specialist obstetrician (adjusted OR 1.56, 95% CI 1.26 – 1.94). A similar study from Melbourne involving over 44000 normal term singleton pregnancies also revealed that the rate of perinatal death was almost doubled (1.3/1000 vs 2.4/1000, p < 0.05) without direct obstetrician involvement.

At a population level, there is evidence that elective induction of labour at 39 weeks – compared to continued pregnancy with surveillance – will result in fewer stillbirths and other adverse perinatal outcomes.(Sinkey et al, 2018; Little, 2017) A study of over 100000 births in Denmark between 2008 and 2014 revealed that ‘aggressive’ policies of fetal surveillance and induction of labour halved the rate of stillbirth for Danish women (from 0.9% to 0.5%, adjusted OR 0.50, 95% CI 0.29 – 0.89). There was no effect of this ‘aggressive’ policy on caesarean section or instrumental birth rates nationally.(Zizzo et al, 2017) Similar policies in North America have confirmed that
induction at 39 weeks or beyond to protect against stillbirth does not increase rates of caesarean section or, indeed, rates of other adverse outcomes for women or their babies. (Walker et al, 2016) The Cochrane review of induction of labour again showed that, in pooled data, policies of induction of labour were associated with a significant reduction in rates of stillbirth (RR 0.33, 95% CI 0.11 – 0.96). (Middleton et al, 2018)

One of the concerns expressed in the community has been that caesarean section is associated with an increased risk of stillbirth in subsequent pregnancies. However, population data show that such conclusions are confounded by ‘underlying medical conditions... and by indication for the primary caesarean section delivery.’ (O’Neill et al, 2014) Population data in Australia certainly do not support this: as the rate of caesarean birth in Australia has increased from 17% to 32% over the last 25 years, there has been a decrease in the overall rate of stillbirth from 7.6/1000 to 7.0/1000 over the same time period. Studies have concluded that rates of adverse outcomes for babies continue to fall significantly as “the use of cardiotocography and caesarean section rates have risen”. (Smith et al, 2000)

3. **Consistency and timeliness of data available to researchers across states, territories and federal jurisdictions**

   No specific comment

4. **Coordination between Australian and international researchers**

   No specific comment

5. **Partnerships with the corporate sector, including use of innovative new technology**

   No specific comment

6. **Sustainability and propriety of current research funding into stillbirth, and future funding options, including government, philanthropic and corporate support**

   No specific comment

7. **Research and education priorities and coordination, including the role that innovation and the private sector can play in stillbirth research and education**

   There are a number of research priorities, and these should concentrate on potentially avoidable stillbirths. The evidence (detailed in the background section above) is that models of care for ‘low risk’ women need to be evaluated carefully, and with study populations large enough to provide the power to detect difference in the rate of stillbirth between the study groups. This requirement would mean that multi-centre trials are necessary. To study the effect of obstetrician-led models of care, RANZCOG recommends that private maternity services are participants in such trials. At present, little or no perinatal research is undertaken in this setting. However, to provide adequate trial numbers that situation must be overcome.

   Retrospective studies are inadequate and prospective data collections will be required that provide enough data to allow for risk stratifications and statistical adjustments. For example, virtually all antenatal visits undertaken by specialist obstetricians in private hospitals include ultrasound. It is plausible that the ability to assess liquor volumes, placental characteristics, cord velocimetry, growth parameters such as abdominal circumference, and objective patterns of fetal movement at each and every visit are the reason for the reduced rate of stillbirth in obstetrician-led models of care. However, this remains untested and should be another research priority.
The thresholds for induction of labour – including prospective information about decision-making – should also be tested in Australia in a prospective manner.

8. Communication of stillbirth research for Australian families, including culturally and linguistically appropriate advice for Indigenous and multicultural families, before and during a pregnancy

It is important the women, their families, and referring practitioners are familiar with stillbirth and the risks for potentially preventable stillbirth. Women should be empowered to seek the best possible care, and be given relevant and in-date information to assist with decision-making about surveillance and induction of labour.

9. Quantifying the impact of stillbirths on the Australian economy


<table>
<thead>
<tr>
<th>Cost category</th>
<th>Value ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct costs</strong></td>
<td></td>
</tr>
<tr>
<td>Costs associated at the time of stillbirth</td>
<td></td>
</tr>
<tr>
<td>Cost of stillbirth investigations</td>
<td>33.3</td>
</tr>
<tr>
<td>Hospital fees</td>
<td>74.5</td>
</tr>
<tr>
<td>Cost of counselling</td>
<td>53.2</td>
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<tr>
<td>Cost of investigations 8-12 weeks postpartum</td>
<td>0.8</td>
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<tr>
<td>Cost of a subsequent pregnancy</td>
<td></td>
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<tr>
<td>Cost of tests</td>
<td>5.0</td>
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<tr>
<td>Cost of counselling</td>
<td>4.9</td>
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<tr>
<td><strong>Sub-total direct costs</strong></td>
<td>172.1</td>
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<tr>
<td><strong>Indirect costs</strong></td>
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</tr>
<tr>
<td>Funeral costs</td>
<td>67.1</td>
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<tr>
<td>Absenteeism</td>
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<td>Presenteeism</td>
<td>140.0</td>
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<tr>
<td>Lost productivity from exiting the labour force</td>
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<td>Cost of divorce</td>
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<tr>
<td>Government subsidy</td>
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<tr>
<td>Absenteeism (family)</td>
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<tr>
<td><strong>Sub-total indirect costs</strong></td>
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<tr>
<td><strong>Total cost</strong></td>
<td>681.4</td>
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</tbody>
</table>
10. References


