necrotizing enterocolitis (NEC) since 2011. We have previously reported a 3-fold decline in the rate of definite (Stage 2 or more) NEC in preterm infants (compared with an historic cohort). The aim of the present report was to compare the clinical findings in cases of NEC with those seen prior to commencing probiotics.

**Method:** The case definition for definite NEC (modified Bell stage 2 or more) was in keeping with ANZNN guidelines. We also audited cases of suspected NEC (Bell Stage 1B) with bloody stools. The prophylaxis group was infants <32 weeks or <1500 g birth weight admitted from 2011 to mid-2016 (Group 1) compared to a historic cohort (2000–2008; Group 2).

**Results:** Consistent with our previous audit, the overall NEC rate was significantly reduced following prophylaxis (from 3% to 1%). There were a total of 8 cases of Stage 2 or more in the probiotic era (not all were <32 weeks at birth) and 21 historically. The rates of surgery and mortality were not different. However, a significantly higher proportion of those who developed NEC were >36 weeks corrected gestation at the time of becoming unwell in Group 1 (p < 0.02). These more mature infants were either post surgical (for conditions other than NEC), had congenital heart disease or had completed prophylaxis and were awaiting discharge.

**Conclusions:** There has been a reduction in preterm infants with NEC. Attention now needs to focus on older post surgical or cardiac infants and continuing prophylaxis until discharge.

**PERINATAL AUTOPSY RATES IN THE ACT BETWEEN 2011 AND 2015**

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**Background:** There are four hospitals in the ACT providing maternity services. CHWC is the principal referral centre for high risk pregnancies and the only unit to offer care for women undergoing late terminations of pregnancy (TOP). Following a perinatal death, the gold standard of care is for all families to be offered an autopsy (PSANZ guideline).

**Method:** Retrospective clinical audit of all perinatal deaths in the ACT from 2011–2015. Data obtained from the ACT Perinatal Mortality Committee were analysed.

**Results:** During 2011–2015 there were 349 perinatal deaths within the ACT, of which 285 delivered at CHWC. 86% of all perinatal deaths (n = 300) occurred prior to delivery or on the labour ward; 27% (n = 93) were TOPs. Within the ACT, 337 families (97%) were offered an autopsy. This offer was unrelated to the type of loss and was accepted by 207 (59%). The majority consented to a full post-mortem (78.7%, n = 163) rather than a limited study. Amongst those offered an autopsy, there was a difference in uptake between the types of perinatal deaths. Parents who had a FDIU or TOP were most likely to consent (72% and 67% respectively). If the death occurred between 29-35/40 families were most likely to consent to an autopsy (74% vs 58-60% for all other gatations). When data from CHWC was analysed in isolation the findings were similar to the statewide findings.

**Conclusions:** There has been an increase in the uptake of a perinatal autopsy in the ACT from 53.5% (2006–2010) to 59%.

**MOTHER AND BABY BUNDLES: IMPROVING ABORIGINAL WOMEN’S AND INFANTS’ NUTRITION**

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**Background:** Excessive gestational weight gain and retention of weight after giving birth can have profound consequences for a woman’s health in pregnancy and later life, including diabetes, hypertension, caesarean section, macrosomia and stillbirth. This is particularly important to address for young Aboriginal women.

**Methods:** Mixed methods consisting of three Plan-Do-Study-Act cycles; with program implementation and evaluation. Women will be offered a novel package of culturally appropriate and intensive nutrition strategies, embedded in the SA Aboriginal Family Birthing Program.

**Results:** This five year study has been funded through a NHMRC targeted call. We will consult with community members to develop individual, group and phone-based health literacy activities and mother and baby bundles (including healthy foods (such as fruit and vegetables); and personal care, baby care and breastfeeding support items). These will be offered to 300 urban and regional women (birthing in Adelaide) at key times during their pregnancy and postnatally by Aboriginal Maternal and Infant Care Workers and Aboriginal Community Consultants who work in partnership with midwives and other clinicians. We will evaluate whether through Aboriginal women caring for Aboriginal women, young women will become engaged and stay connected during the important life stages of pregnancy and caring for their baby, as well as assessing lifestyle and health outcomes, such as gestational weight gain.

**Conclusions:** This study will identify effective and sustainable ways to engage young women (and their partners and children) in making healthy food choices, in managing weight, and in reducing obesity and associated short, long-term and intergenerational issues.

**OMEGA-3 SUPPLEMENTATION DURING PREGNANCY: AN UPDATED COCHRANE REVIEW**

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**Background:** In observational studies, omega-3 long chain polyunsaturated fatty acids, particularly docosahexaenoic acid (DHA) have been associated with increased gestational length. Our aim was to assess the effects of omega-3 supplements (usually in the form of fish oil) on outcomes such as preterm birth, maternal and neonatal/infant/child outcomes.

**Methods:** We used the standard methods of the Cochrane Collaboration/Cochrane Pregnancy and Childbirth, with searches current to July 2016.

**Results:** We included 54 randomised trials, with a total of >15,000 participants. Trials were of mixed quality, with
OPIOID ANALGESIC USE IN AUSTRALIAN WOMEN OF REPRODUCTIVE AGE

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Background: The use of opioid analgesics for the treatment of chronic pain has increased substantially over the last decade. Internationally, the use of opioid analgesic medications in women of reproductive age has led to a significant escalation in adverse maternal and infant outcomes. This study aims to provide national estimates of chronic pain, pain severity and analgesia use in Australian women of reproductive age.

Method: Data were obtained from the Australian Bureau of Statistics 2011–12 National Health Survey which collected data from n = 20,426 persons across all states and territories of Australia. Weighting was applied to sample data to infer estimates for the Australian population (N = 22,105,281). Data were analysed for pregnant (n = 192,617) and non-pregnant women (n = 5,256,154) of reproductive age (15 to 49 years).

Results: Population estimates indicate that of all women aged 15 to 49 years who reported chronic pain (9.9%), 13.0% had recently taken opioid analgesics and 18.5% non-opioid analgesics. Of all pregnant and non-pregnant women, 5.1% and 9.7% reported chronic pain, with a respective 0.7% and 2.6% reporting recent opioid analgesia use. Moderate-to-very severe pain was more common in pregnant than non-pregnant women taking opioid analgesics (p <0.001), while no pain and very mild-to-mild pain were more common in non-pregnant women taking opioid analgesics (p = 0.005 and p <0.001 respectively).

Conclusion: Approximately 1 in 20 pregnant Australian women have chronic pain. Opioid analgesia is used by around 1% of pregnant women at any time, with use associated with moderate-to-very severe pain. Prevalence of opioid analgesic use in pregnancy was lower in Australia than international estimates.

DOES AMNIOINFUSION IMPROVE PERINATAL OUTCOME IN MIDTRIMESTER RUPTURE OF MEMBRANES?: A RANDOMIZED CONTROLLED TRIAL (PPROMEXIL-III)

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Objective: Midtrimester preterm premature rupture of membranes (PPROM) is associated with poor perinatal outcome due to early pregnancy loss, infection and pulmonary hypoplasia. Fetal lung development requires adequate amniotic fluid volume. Transabdominal amnioinfusion might alleviate oligohydramnios and could reduce pulmonary hypoplasia. We assessed the effectiveness of serial amnioinfusion in women with midtrimester PPROM.

Study design: We performed a multicenter RCT in women with a singleton pregnancy, PPROM at 16–24 weeks gestation with oligohydramnios. Participants were allocated to transabdominal amnioinfusion or no intervention. If the single deepest pocket was < 2 cm on follow-up visits, amnioinfusion was repeated weekly. Primary outcome was perinatal mortality. Secondary outcomes included gestational age at birth, PPROM to birth interval, indication for delivery, risks associated with amnioinfusion (placental abruption, cord prolapse, chorioamnionitis and fetal trauma), pulmonary hypoplasia, neonatal mortality and severe neonatal morbidity. We needed 56 women to show a reduction in perinatal mortality from 70% to 35% (beta-error 0.20, alpha-error 0.05).

Results: Between June 2012 and January 2016 we randomized 56 women, 28 to each group. Perinatal mortality rates were 64% in the intervention group compared to 75% in the control group (RR 0.86; 95% CI 0.60-1.22). Among children born alive beyond 24 weeks, pulmonary hypoplasia rates were 20% (3/15) and 31% (4/13), respectively (RR 0.65, 95% CI 0.18-2.38). Other secondary outcomes did not differ between the groups.

Conclusion: In women with midtrimester PPROM and oligohydramnios, we could not demonstrate a benefit from serial amnioinfusion. This work will be presented at the Society for Maternal Fetal Medicine, Las Vegas January 2017.

LONGCHAIN POLYUNSATURATED FATTY ACID SUPPLEMENTATION IN PRETERM INFANTS: UPDATED COCHRANE REVIEW

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Background: The aim of this study was to update the Cochrane Review assessing whether supplementation of formula...