

Issue 5

December 2019

Welcome to the December 2019 edition of our Diabetes in Pregnancy Partnership newsletter for Far North Queensland (FNQ).

This newsletter provides an update about the FNQ Diabetes in Pregnancy Partnership and broader Diabetes across the Lifecourse: Northern Australia Partnership. We will also be highlighting the importance of preconception care and pregnancy planning for women with or at risk of diabetes in pregnancy, which is one of the key five focus areas of the project.



Members of the Diabetes across the Lifecourse: Northern Australia Partnership in Darwin, September 2019

FNQ Diabetes in Pregnancy Partnership: Project update

The NT & FNQ Diabetes in Pregnancy Partnership is currently funded through an NHMRC Global Alliance for Chronic Disease Grant until mid-2020.

We are currently exploring options to secure funding for further implementation and to support the sustainability of the project and Clinical Register. At this stage we will continue to collect data for the Clinical Register up until the end of March 2020.

It is greatly appreciated if you are able to assist with referring women from your service with diabetes in pregnancy to the Clinical Register. A copy of the referral form and information brochure for women are available through our website (<http://dipp.org.au/>) or contact DiPPiNQ@menzies.edu.au.

We are currently completing a coverage review for the FNQ Clinical Register. A higher coverage on the Clinical Register helps us to better understand diabetes in pregnancy across the region. Please contact us if you would like to increase the coverage of women with diabetes in pregnancy on the Clinical Register from your service.

Annual Educational Symposium: Darwin, Sept 2019

The Diabetes across the Lifecourse: Northern Australia Partnership held its annual Educational Symposium in Darwin on 27th September 2019.

The theme of the symposium was '**Diabetes in Young People and Across the Generations – Rethinking our Approach**'. More than 180 staff attended the day in person with 35 staff/sites from across Northern Australia dialed in via WebEx.

The symposium showcased emerging research as well research from the Partnership including Dr Renae Kirkham's work exploring the lived experience of young people with Type 2 Diabetes. Presenters discussed topics from across the health care continuum, including Professor Jerry Greenfield providing insight into precision diabetes management, Professor Alex Brown discussing genomics and chronic disease and Melinda Hammond from Apunipima Cape York Health Council sharing learnings from a project aimed at creating 'healthy places' through local councils and community led action.

Key priorities identified at the symposium included the importance of preconception care and postpartum follow-up for women with diabetes in pregnancy, and focusing efforts on the prevention and management of type 2 diabetes in young people.



Gina Tabuai and Margie Kiwat (pictured above) were successful Hot North grant recipients from Far North Queensland and travelled to Darwin to attend the symposium in person.

The WebEx recording from the symposium will be available soon. Please contact DiPPiNQ@menzies.edu.au if you would like to access a copy of the WebEx recording.

FNQ DIP Clinical Register Update

- As of November 2019, we have received over 1250 referrals to the FNQ DIP Clinical Register.

For women on the FNQ DIP Clinical Register who birthed between October 2016 and December 2018 (n=795):

- 88% had gestational diabetes, 10% had type 2 diabetes and 2% had type 1 diabetes
- Approximately 1/3 of women identified as Aboriginal and/or Torres Strait Islander, 1/3 of women identified as Caucasian with the remainder of women identifying from a range of ethnicities including Indian, Pacific Islander and Filipino
- One quarter (25%) of Aboriginal and/or Torres Strait Islander women with diabetes in pregnancy experienced pre-existing type 2 diabetes compared with 3% of non-Indigenous women
- The average 1st trimester HbA1c was 8.4% for Aboriginal and/or Torres Strait Islander women with pre-existing type 2 diabetes and 7.8% for non-Indigenous women with pre-existing type 2 diabetes. These results are higher than the recommended HbA1c for women with pre-existing type 2 diabetes planning a pregnancy
- Women with pre-existing type 2 diabetes had higher rates of caesarean section and were birthing on average a week earlier (37.3 weeks gestation) compared with women who had gestational diabetes. Women with pre-existing type 2 diabetes also gave birth to babies with higher average birth weight, large for gestational age and higher rate of malformations
- Women with pre-existing type 2 diabetes carry a greater risk of pregnancy complications and adverse birth outcomes. These findings highlight the importance of opportunistic preconception health checks and support for women to achieve a healthy lifestyle and optimal blood glucose levels prior to pregnancy to help reduce risk.

We have commenced Clinical Register data cleaning for 2019 and aim to have an updated FNQ Clinical Register Key Findings report available in early 2020.

Contraception and Pregnancy Planning

Modern contraceptives are important in preventing, planning and spacing pregnancies. There are many reliable options for contraception¹. The main consideration when discussing contraception is the woman's preference as any method of contraception will not be effective if the woman does not wish to use it.

From a reproductive perspective, high glycaemic levels at the time of conception and during pregnancy increase the likelihood of adverse pregnancy outcomes. For women with pre-existing diabetes, a higher HbA1c at the time of conception is associated with a higher risk of stillbirth, congenital anomalies, and perinatal mortality².

There is also good evidence that these risks can be reduced by preconception planning³. When women request to have contraception removed, this is a good opportunity to discuss HbA1c levels, good antenatal care and the Key 5 (as per picture below: glucose checks, breastfeeding, healthy weight, and being smoke free). Other topics to discuss include immunisations (particularly rubella), management of chronic conditions and any supplements that are recommended (i.e. higher doses of folic acid of 5mg/day are recommended for women who have a BMI that is greater than 30 or who have diabetes⁴).



Recent events

Dr Diana MacKay, PhD Candidate with Menzies, travelled to the bustling city of Bangkok to represent the Partnership at the Annual Scientific Meeting of the Global Alliance for Chronic Disease in November 2019. This was a great opportunity to share our learnings to date from the Partnership's work to improve systems of care for women with hyperglycaemia in pregnancy. Diana will be leading the final evaluation of the FNQ Diabetes in Pregnancy Partnership project which will happen early next year, with key findings to be circulated mid-late 2020.



Publications

The first article from the FNQ Diabetes in Pregnancy Partnership was published in July 2019:

McLean A, et al. Improving models of care for diabetes in pregnancy: experience of current practice in Far North Queensland, Australia. *Frontiers in Public Health*, 2019.

<https://www.frontiersin.org/articles/10.3389/fpubh.2019.00192/full>

Summary: This mixed methods study described knowledge of the management of diabetes in pregnancy in Far North Queensland, and mapped the practice and experiences of over 160 health practitioners who provided clinical care for women with diabetes in pregnancy. We found that although health practitioners were generally confident to manage diabetes in pregnancy, there was a large variation in screening practices in early pregnancy and structured post-partum follow up was felt to be lacking. Improving communication between services, information technology systems, coordination of care and continuing education for health professionals were identified as key areas that will be addressed by a complex health systems intervention being undertaken by the Diabetes in Pregnancy Partnership.

Other **recent publications** from the Diabetes across the Lifecourse: Northern Australia Partnership include:

Cheng E, et al. Birth outcomes in women with gestational diabetes managed by lifestyle modification alone: The PANDORA study. *Diabetes Research and Clinical Practice*, 2019. <https://authors.elsevier.com/a/1ZxACcOiQDkQn>

Kirkham R, et al. Improving postpartum screening after diabetes in pregnancy: results of a pilot study in remote Australia. *The Australian and New Zealand Journal of Obstetrics and Gynaecology*, 2019. 59: 430-435.

<https://obgyn.onlinelibrary.wiley.com/doi/10.1111/ajo.12894>

Hjort L, Novakovic B, Grunnet LJ, Maple-Brown L, Damm P, Desoye G, Saffery R. Diabetes in pregnancy and epigenetic mechanisms – how the first 9 months from conception might affect the child's epigenome and later risk of disease. *Lancet Diabetes Endocrinol*, 2019 May 22.

[https://doi.org/10.1016/S2213-8587\(19\)30078-6](https://doi.org/10.1016/S2213-8587(19)30078-6)

Kirkham R, et al. Diabetes care in remote Australia: the antenatal, postpartum and inter-pregnancy period. *BMC Pregnancy and Childbirth*. 2019 Oct 28; 19(1): 389.

<https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-019-2562-6>

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2. Australian Institute of Health and Welfare (AIHW), Australia's mother and babies 2015 in brief <https://www.aihw.gov.au/getmedia/728e7dc2-ced6-47b7>.
3. Schwarz et al, (2012) Provision of contraceptive services to women with diabetes mellitus, *J Gen Intern Med*. 27(2):196-201.
4. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists, Management of Obesity in Pregnancy, March 2017, [https://ranzocg.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Management-of-obesity-\(C-Ob-49\)-Review-March-2017.pdf?ext=.pdf](https://ranzocg.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Management-of-obesity-(C-Ob-49)-Review-March-2017.pdf?ext=.pdf)

We would like to acknowledge and thank the Cairns and Hinterland Hospital and Health Service, Torres and Cape Hospital and Health Service and Aboriginal Community Controlled Health Organisations in Far North Queensland for continued support and involvement with the FNQ Diabetes in Pregnancy Partnership. For further information visit <http://dipp.org.au/>



Youth Diabetes Update

The first part of the youth diabetes project aims to assess the prevalence and understand the lived experience of young Indigenous people with type 2 diabetes.

We have now secured three years of funding for this project (from Commonwealth Department of Health) which will officially commence on the 1st of January 2020. The Youth Diabetes Management Program aims to develop, pilot and evaluate culturally appropriate diabetes management programs for Aboriginal and Torres Strait Islander children and youth with type 2 diabetes across Northern Australia (Northern Territory, Kimberley and Far North Queensland). The first stage of this project involves formative data collection, with staggered progress across the regions:

- Northern Territory - this has been completed in four sites (two in the Top End, two in Central Australia). Analysis and plans for dissemination of findings are underway.
- Far North Queensland – sites have been confirmed with data collection yet to commence.
- Kimberley (WA) – consultations with key stakeholders and communities are progressing.

Working groups have been established in the Top End and Central Australia, with others to be formed in the FNQ and Kimberley by early 2020. Community consultation is ongoing and we look forward to co-designing implementation activities for this project with those involved. Thanks to all of the communities and stakeholders who have contributed so far.

If you would like to get in touch about the NT & FNQ DIP Partnership Project, please email DiPPiNQ@menzies.edu.au or call (07) 4226 4639. If you do not wish to receive our newsletter, please let us know via email.

Our FNQ Project team are:

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Chenoa Wapau - Research Project Officer (Diabetes in Pregnancy), Apunipima Cape York Health Council

Dr Anna McLean – Endocrinologist, Cairns Hospital