June 6, 2017

The Executive Officer
Family and Community Development Committee
Parliament House, Spring Street
EAST MELBOURNE VIC 3002

Via email fcdc@parliament.vic.gov.au

Dear Executive Officer,

Re: Submission to the Parliamentary Inquiry into Perinatal Services

The Centre of Perinatal Excellence welcomes the Victorian Inquiry Into Perinatal Services, particularly in light of the Commonwealth’s withdrawal of funding under the National Perinatal Depression Initiative and the urgent need for an integrated, innovative and sustainable approach to perinatal mental health in Australia.

In response to the need for national leadership and momentum, the Centre of Perinatal Excellence (COPE) is a national not-for-profit organisation established in Victoria in July 2013 which is recognised as Australia’s peak body in perinatal mental health.

Over the past four years, COPE has worked with our Company membership including peak bodies in maternity, postnatal and mental health to develop an holistic and integrated solution to support the efficient implementation of perinatal mental health best practice.

This has led to the establishment of an innovative, inclusive and sustainable solution which includes:

1. **New Perinatal Mental Health Guidelines:** As the peak body, COPE has been funded by the Commonwealth to review Australia’s National Clinical Practice Guidelines for Perinatal Mental Health. This will serve, inform and guide best practice in the detection, management and treatment of perinatal mental health in Australia. This Guideline is currently out for public consultation and underpins all areas of COPE’s work to ensure compliance with best practice.

2. **New Digital Screening Technology:** The development of an innovative digital screening platform (iCOPE) facilitates screening across a broad range of health settings (maternity, postnatal, primary and specialist care settings). This technology includes the integration of instant clinical and patient reports to guide consumers and health professionals to best practice information and treatments.

The automated collection of data in real time informs screening rates and outcomes. Its successful pilot application in Victorian antenatal (Monash Health Refugee clinic) and postnatal settings (Brimbank and Melton Maternal and Child Health Centres) demonstrates iCOPE’s ability to increase screening rates and accuracy and make screening and reporting available for clients in 13 languages, whilst enabling the evaluation of client and service needs within and across services and jurisdictions (See Attachment 1: Evaluation of Victorian Government MCH Innovation Project).
3. **Innovative and sustainable approaches to health education and promotion:** The NPDI had previously funded the production and dissemination of hard copy booklets (currently only available in English) to inform and educate consumers about emotional and mental health. Such an approach is expensive and unsustainable. In response to the need to develop a more targeted, engaging and cost-effective solution, COPE has developed the *Ready to COPE* Guide.

*Ready to COPE* is an easy-to-read, cost-effective e-newsletter that engages with women to provide ongoing information to expectant and new mothers across the 21-month period from conception to the end of the first year in early parenthood. This approach provides targeted, relevant information about emotional and mental health at each stage across the perinatal period, with direction to factsheets and further information and guidance via the COPE website. This can also be translated into other languages.

4. **E-Mapping of perinatal mental health services** – One of the greatest challenges is the identification of timely, relevant referral pathways for those at risk of or experiencing perinatal mental health problems. In response to this clear and unmet need, the *e-COPE Directory* has been established to facilitate the identification of referral pathways for health professionals and consumer by postcode to support access to evidence-based treatments in the community.

The development and integration of each of these solutions directly increases the efficiency, effectiveness and sustainability of the delivery of best practice solutions (see Attachment 2). With an ever-expanding multicultural population across the State, these new approaches are inclusive of those from CALD backgrounds, and can also be tailored to meet the needs of those in rural and remote Victoria.

Together, these elements provide Victoria with the potential for an integrated, innovative and holistic system that identifies, supports and provides evidence-based treatments for women in the perinatal period.

We would greatly appreciate the opportunity to discuss this further with the Committee, and look forward to hearing from you.

Yours sincerely,

Dr Nicole Highet

*Founder & Executive Director, COPE*
Digital Perinatal Screening and Referral

A pilot across Brimbank and Melton Maternal and Child Health Settings

Funded by the Victorian Government MCH Innovation Grant

May 2017
1. Executive Summary

Through the provision of funding through the Victorian Governments Maternal and Child health Innovation Fund, this Project sought to trial the implementation of an innovative digital screening platform across the Brimbank and Melton municipalities.

Over the course of the project, screening tools and patient reports were translated into eleven languages. Staff across 18 locations were trained to implement a digital screening platform (iCOPE) between the months of December 2016 and April 2017.

Over the five-month period a total of 1,127 screens were undertaken. When eliminating those secondary screens and those where consent was not given to evaluate data, the final sample of data used in the analysis of this report was 750 respondents (476 from Brimbank, and 274 from Melton municipalities).

The outcomes of this Project have provided valuable data to inform the viability of this digital screening platform as an innovative approach implementing best practice, specifically with respect to screening, assessment, data collection and reporting.

Demonstrated outcomes:

The feasibility of the iCOPE Platform to undertake screening across MCH settings

The ability to screen a large volume of clients across the Brimbank and Melton municipalities has been demonstrated. After the five months of implementation, the iCOPE Platform is now embedded within all Brimbank locations, expanding across Melton locations (with the provision of iPads) and has become the standard approach to perinatal mental health screening.

The ability of the iCOPE Platform to support for the implementation of best practice

The programming of clinical tools that reflect the Australian national Guidelines now ensures that perinatal mental health screening is consistent across settings and importantly in line with best practice.

The capability of the iCOPE Platform to undertake screening in multiple languages

This Project has enabled the translation, programming and testing of screening in eleven languages. Screening time did not take any longer for non-English speaking clients when using the iCOPE platform. Hence the iCOPE Platform can serve to increase the accuracy of screening (as all questions provided are now uniformly presented, and not subject to the accuracy of an individual interpreter’s translation) and save time (by not requiring lengthy processes when trying to undertake screening using interpreters).

The capability of the iCOPE Platform to provide instant, tailored client reports

The capability of the Platform to generate instant tailored reports to clients in their own language, for the first time serves to provide consumers with timely, relevant, personalised information at the point of screening. The demand for such personal reports was high, with 72% of clients requesting their own personal report.

Provision of automated data to inform screening rates and outcomes

The automated collection of screening data in real times provides critical information about clinical profiles and client needs. The Platforms collection of this data can and has provided
the co-ordinators with important information with respect to screening rates across locations, and screening outcomes (such as rates of anxiety, depression and other risk factors).

In turn this data can be used to provide jurisdictions, service providers and policy makers with critical information to inform services needs as well as monitor screening and clinical outcomes across the State of Victoria, across large jurisdictions or down to a single location.

High ratings of satisfaction for the iCOPE tool amongst staff

This Project focused upon the implementation of digital technology amongst staff – many of whom had low levels of confidence and experience with digital technology at the outset of the project. Despite this context, overall staff ratings of the iCOPE Platform were strongly positive. iCOPE was rated as being a successful tool to use for perinatal screening, with almost all staff surveyed indicated that they would recommend to others.

Strong support for continued use and expansion of the iCOPE Platform by MCH staff

Almost all staff supported the on-going use of the iCOPE digital application beyond the life of the project. There was also strong support for the digital platform to be expanded to other maternal and child health settings across the State of Victoria.

Recommendations:

In response to the outcomes of this Innovation Project, it is recommended that:

1. Digital screening is extended across the remainder of the Melton municipality:
   Through the provision of iPads for all staff across all locations, this will serve to increase screening rates and ensure the delivery of best practice across this municipality. In turn, like Brimbank, this will enable digital screening to become standardised practice.

2. The further extension of the screening tools and patient reports into other languages
   This will serve to make screening even more efficient and inclusive across language groups.

3. The iCOPE Platform be adapted to enable audio screening:
   This will assist to further increase screening rates – particularly amongst clients with low literacy and across language groups.

4. Screening outcomes are integrated with e-referral pathways:
   Using postcode data it is possible to take screening one step further, and link screening outcomes with services. This can be achieved through the mapping of services and use of postcode data to identify timely and appropriate services at the point of screening.

5. Digital screening is rolled out across the State of Victoria:
   This will serve to increase efficiencies in screening practice, support health professionals in the provision of best practice, ensure screening processes are more inclusive of those across the population (including different language groups and literacy levels) whilst enabling the monitoring and evaluation of screening outcomes at a local, regional and statewide level.
2. Background

Having a baby places a mother at risk of mental health problems – more so than at any other time in her life. Depression affects one in ten women in pregnancy and following birth postnatal depression affects one in seven new mums. Clinical anxiety is even more common. The impact of these conditions can be devastating – not only for the mother, but also the significant and long lasting impacts upon children.

The impact on the fetus, infants and children

- **Maternal mental health in Pregnancy:**

  **Impacts upon the developing fetus**

  - Maternal mental health problems in pregnancy increases cortisol (stress hormone) levels which cross the placenta and impair the developing brain of the fetus.

  - This leads to:
    - Poor birth outcomes
    - Distress in the infant and difficulties in infant temperament
    - Increased cortisol levels (stress) in the infant
    - The development of childhood behavioural difficulties

- **The first year of an infant’s life**

  Postnatal depression and anxiety also has long-lasting impacts on the child’s life through infancy and childhood through to adolescence and adulthood.

  **Impacts upon the infant**

  Mental health problems following birth are known to:

  - Compromise breastfeeding, infant nutrition, health and growth rates and delay physical development.
  - Impair bonding and attachment
  - May delay the child’s cognitive, emotional and behavioural development

- **Impacts on the child’s life…and future**

  The impacts are long-lasting and have been associated with:

  - The development of physical mental and social problems in childhood, adolescence and later life
  - Higher rates of conduct disorder in adolescence

  The relative impact of perinatal mental health conditions on the child and other children is reflected in the PrincewaterhouseCoopers’ economic analysis of the cost of perinatal mental health on individuals and families (see Figure 1 below).
How do we prevent the impact on children?

In order to prevent and/or minimise these significant impacts on children, it is vital that maternal mental health problems are **promptly identified** and **effectively treated**.

This can be achieved through effective screening of women to detect the presence of mental health conditions early, and ensure she has access to timely, high-quality information and access to effective treatments. This needs to be in line with Australia’s Best Practice Clinical Guidelines\textsuperscript{11}.  

**Fig 2.1:** Cost incurred by individuals affected by perinatal depression & anxiety over time
Current Screening Practice in Australia

The problem

Australia’s Clinical Practice Guidelines\(^{11}\) recommend universal, routine screening for all pregnant and new mothers. Despite the recognised importance of screening to identify the presence of antenatal and postnatal depression and anxiety and identify those women at increased risk, screening remains sporadic. After over six years, the actual \textit{extent of screening is unknown} due to a lack of national consistency in data collection and monitoring or evaluation and screening practices are \textit{inefficient} and \textit{not sustainable}\(^{12}\).

Current screening practices:

- Use pen and paper to complete questionnaires
- Are time-consuming
- Are prone to scorer error – up to 13% potentially leading to inaccurate screening and referral for treatment
- Rely on trained health professionals to provide timely information relevant to the individual’s score and risk assessment
- Do not cater for the needs of non-English speaking patients
- Do not enable the automated collection and collation of data preventing the evaluation of screening outcomes or ability to inform policy and service provision

There is an urgent need for systems to effectively and efficiently monitor and report on screening in real time.

The solution

In response to this, COPE in partnership with the Parent Infant Research Institute (PIRI) and Prevention Xpress has developed a digital platform (iCOPE) to facilitate effective and efficient screening, data collection and reporting at national, state and local levels. iCOPE is a digital platform that has been designed to enable the seamless translation of Australia’s Clinical Practice Guidelines into primary and maternity care.

Through the application of recommended screening and risk assessment tools onto the digital platform this facilitates:

- The ability to undertake screening efficiently and effectively prior to consultations (thus saving time)
- The provision of screening and information in multiple languages
- The automated, accurate scoring and interpretation of clinical information
- The provision of tailored reports for the patient (in relevant language for the consumer)
- The provision of tailored reports and clinical directives for the health professional for upload into clinical record systems
- The automated collection of data to inform patient and service needs

All information about a patient’s specific risk factors and/or symptoms of depression and anxiety is underpinned by the COPE website. The website \url{cope.org.au} links patients directly to more information on a specific topic (relative to their responses), as well as guiding them to support services.
3. The Brimbank and Melton Innovation Program

Initial funding provided by a philanthropic organisation (Chain Reaction) enabled an initial feasibility trial to be undertaken by the Centre of Perinatal Excellence (August 2015-present) in the Sydenham MCH centre.

Following the success of this trial, funding was sought through the Victorian Government’s MCH Innovation Grant to expand its implementation across the regions of Brimbank and Melton. In line with the Grant focus, this population represents high population growth and amongst the most disadvantaged communities in Victoria – and where perinatal mental health risks are most prevalent and services are scarce.¹³

As part of the Victorian Government’s commitment in increasing access to high-quality early years services across Maternal and Child Health Services (MCH), funding was granted to Brimbank City Council to pilot this innovative and sustainable solution to identifying and referring parents most at risk, and those experiencing postnatal mental health issues.

This funding has enabled the deployment of the iCOPE Screening Platform across MCH settings in the Melton and Brimbank regions. Funding also facilitated the translation of the screening tools and information for consumers. In addition, pathways to care will be identified and integrated to enable knowledge and access of service pathways to all women and health professionals at the point of screening.

Project Consortia

Key Project Partners formed the Program consortium, with each partner organisation involved in the design, implementation and referral processes central to the success of this Program.

- **Brimbank and Melton City Councils** – who collectively comprise of 26 MCH centres across which the screening was be implemented.

- **Department of Education and Training** – the Department’s Early Childhood Performance and Planning Advisor provided continued advice with respect to the application of the Project across MCH settings and the State of Victoria.

- **Centre of Perinatal Excellence (COPE)** – provided the technology, program management and evaluation of the Program.

- **Melbourne West Primary Health Network** – assisted in the mapping of services within the Primary Health Network to inform pathways to care.

- **Health Direct** – the Commonwealth’s National Health Services Directory provided the technological infrastructure to enable integration of e-referral pathways relative to an individual’s identified risk factors and/or mental health status.

- **Perinatal Anxiety and Depression Australia (PANDA)** – provided vital access to telephone counselling for women identified at risk and contribute to the development of e-referral pathways.
Project Objectives

The key objectives of this program were:

1) **Adapt and pilot an innovative screening Platform** as informed by the feasibility trial to detect psychosocial risk factors and risk of mental health conditions for all parents at Brimbank and Melton MCH services.

2) Expand the current screening tool to **facilitate screening in multiple languages** (N=11) as scoped and represented across the two municipalities.

3) Provide **individual tailored reports for parents** detailing risk factors, and likelihood of depression and anxiety in their respective languages.

4) **Generate tailored clinical reports for maternal and child health nurses** to summarise screening outcomes and guide best practice based on individual screening outcomes.

5) **Derive screening data across sites** to inform service needs of individuals and the population of the regions.

6) **Scope (map) referral clinical and support services** across the regions to inform referral pathways across the regions and integrate these pathways into the digital platform to provide individualised referral to local appropriate services.

7) **Evaluate the overall effectiveness of the program** to inform its expansion across Victoria.
4. Program Outcomes: Baseline Audit of Screening Practice

Prior to implementing the digital screening Platform, the advisory committee agreed on the need to undertake a **baseline audit** of current screening practices across the Brimbank and Melton municipalities.

In response, an online survey was developed and distributed to all nurses, with a 3-week completion time. The survey did not ask for any personal information (to encourage open and honest responses), only the **location of the setting** in which they predominantly worked. Links to the survey were disseminated to staff via the Maternal and Child health co-ordinators.

A total of thirty (N=30) completed responses were received, with five (n=5) partial completions (not included in final analysis). In line with staffing across settings, more responses were received from Melton locations (57%) with a smaller proportion (43%) completed by Brimbank staff.

**Perceived importance of Screening**
Most respondents indicated that screening for perinatal mental health issues was *very important* (80%) or *important* (17%) whilst only 3% were *neutral*.

**Implementation of screening practice**
Despite overall high ratings of importance, this was not reflected in practice across the sample.

There were wide variations in the perceived rates of screening being undertaken at the four-week *Ages and Stages* check. Some staff indicated over the past six months the **overall proportion of clients screened** ranged from not at all (0% of the time) to routinely (100% of the time). This observed variation in these estimations of screening behaviour was found across both Melton (range 0-100%) and Brimbank (range 5%-100%) municipalities.


**English-speaking client screening rates**
Responses varied with respect to *English-speaking clients* across the two municipalities.

**Figure 4.1:** How often is screening of the clients you personally see currently performed at this 4-week check for English-speaking clients (as recommended)?
As indicated in Figure 4.1, overall estimated screening frequency was higher across the Brimbank municipality, with a greater proportion indicating that screening occurred ‘Always’ and no reports of screening occurring ‘rarely’.

**Approach to screening English-speaking clients**

In almost all instances, screening with English speaking clients was undertaken **within the consultation** with the health professional present, with the patient given the questionnaire to completed and handed back to the nurse for scoring and interpretation.

**Anticipated screening time for English-speaking clients**

Estimated time taken to undertake screening with English-speaking clients ranged from **three to fifteen minutes** across the two municipalities (see Figure 4.2).

**Figure 4.2: For English-speaking clients specifically, on average how long does screening, scoring and recording take? (record in minutes).**

![Bar chart showing screening time estimates for English-speaking clients](chart)

Just over a third of those at Melton locations (35%) indicated that it was likely to take fifteen minutes or five minutes (29%), whereas most staff at Brimbank sites estimated ten minutes (38%) or five minutes (31%).

Based on the data, there was a greater range of estimated screening times across Melton staff. Here, average screening times estimated by staff across Melton ranged from **three to thirty minutes**, with an average screening time estimate of **10.4 minutes (SD = 6.3)**.

The smaller range of screening time estimates across Brimbank, ranged from **four to fifteen minutes** with an average screening time estimate of **8.5 minutes (SD=3.6)**.
**Non-English-speaking client screening rates**

Perceived rates of screening with Non-English speaking clients were lower overall (when compared with screening amongst English-speaking clients).

Over half (53%) of respondents indicating that this was likely to occur only sometimes 30% or rarely (23%). The overall frequency of screening for Non-English-speaking clients was lower for those across the Melton municipality.

**Figure 4.3**: How often is screening currently performed for Non English-speaking clients (as recommended) that you see?

![Graph showing screening rates by municipality](image)

**Approach to screening Non-English-speaking clients**

There was far greater variability in how screening was undertaken with Non-English speaking clients across the sample and municipalities.

Within the Brimbank municipality, there appeared to be higher access to interpreted versions of screening tools in other languages, as a result 69% of those across Brimbank indicated this as the approach to screening non-English speaking clients. Other approaches commonly implemented (as multiple options could be provided) across this municipality included the Nurse reading out question to interpreter (from paper questionnaire), who translates question for client, interprets client response for nurse. Following, (using this approach) in 46% of cases the nurse then completes the questionnaire (46%) or alternatively the interpreter completes the questionnaire (31%). These processes are detailed in Figure 4.4.

Alternatively within the Melton municipality, the interpreter was more likely to read the questions (in English) from a paper questionnaire and translate these for the client, and in 41% of cases the interpreter then completes questionnaire or alternatively the client completes the questionnaire (35%).
Figure 4.4: How are the questions delivered to Non-English speaking clients (tick all that apply)?

It is not surprising therefore, that these processes resulted in the higher observed screening time estimates being reported for Non-English clients particularly.

**Anticipated screening time**

It was anticipated that screening time of Non-English speaking clients ranged from **five to thirty minutes**, with the majority of staff perceiving that screening for Non-English speaking women to take **ten minutes** (37%) or **twenty minutes** (20%).

Figure 4.5: For Non-English speaking clients specifically, on average how long does screening, scoring and recording take? (Record in minutes).
This estimation was similar across the two municipalities. Within Brimbank, screening times ranged from five to 30 minutes, with most estimating 10 minutes (39%) or 15 minutes (23%). Similarly staff at Melton commonly estimated screening to take ten minutes (35%) or twenty minutes (29%).

Summary and next steps

The data highlighted the potential need to increase screening rates to ensure alignment with best practice and the specifically address the potential barriers around screening – particularly for women of Non-English speaking backgrounds.

In line with the Project objectives, scoping of the most common languages was undertaken to identify which languages were most common across the two municipalities. Through analysis of interpreter service data (Jobs completed) the outcome of this review is detailed in Table 4.1 below.

**Table 4.1: Interpreter service used across language groups for Brimbank and Melton municipalities**

<table>
<thead>
<tr>
<th>Language</th>
<th>Brimbank Jobs completed</th>
<th>Language</th>
<th>Melton Jobs completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnamese</td>
<td>1250</td>
<td>Vietnamese</td>
<td>224</td>
</tr>
<tr>
<td>Chin (Hakka)</td>
<td>213</td>
<td>Burmese</td>
<td>76</td>
</tr>
<tr>
<td>Persian</td>
<td>168</td>
<td>Dinka</td>
<td>76</td>
</tr>
<tr>
<td>Mandarin</td>
<td>103</td>
<td>Mandarin</td>
<td>62</td>
</tr>
<tr>
<td>Burmese</td>
<td>78</td>
<td>Arabic</td>
<td>33</td>
</tr>
<tr>
<td>Arabic</td>
<td>73</td>
<td>Chin (Hakka)</td>
<td>22</td>
</tr>
<tr>
<td>Tamil</td>
<td>72</td>
<td>Albanian</td>
<td>21</td>
</tr>
<tr>
<td>Cantonese</td>
<td>55</td>
<td>Cantonese</td>
<td>21</td>
</tr>
<tr>
<td>Dinka</td>
<td>42</td>
<td>Punjabi</td>
<td>18</td>
</tr>
<tr>
<td>Swahili</td>
<td>21</td>
<td>Indonesian</td>
<td>15</td>
</tr>
<tr>
<td>Dari</td>
<td>19</td>
<td>Persian</td>
<td>15</td>
</tr>
<tr>
<td>Punjabi</td>
<td>17</td>
<td>Turkish</td>
<td>12</td>
</tr>
</tbody>
</table>

Using this information, the screening tools and patient information to be generated by the iCOPE digital platform was translated into eleven languages (excluding English). Following the translation, all information was uploaded and beta-tested.

Training of staff was conducted across with healthcare nurses across the two jurisdictions in the months of October (Melton) and November (Brimbank) 2016. After a trial period, screening and data collection formally commenced in December 2016. As required, additional training sessions were (and continue to be) provided to new staff across the duration of the Project.
5. Program Outcomes: Digital Screening Rates and times

Final sample of screened respondents

Over the project **five-month period** of the project (December 2016-April 2017) a **total of 1,127 screens** were undertaken across the two municipalities.

Of these, twenty three (N=23) screens were re-screens, that is the person was screened on more than one occasion over different days in order to monitor clinical status at subsequent maternal and child healthcare visits (for clinical monitoring purposes). As these were not **initial screens**, these were removed from the final analysis.

All clients were asked if they consented for their de-identified data to be used for research purposes as part of the digital screening process. Here 890 respondents gave permission to use data for analysis, whilst 140 did not consent to their data being used and a further twenty-one did not respond to the question. Both of the respondents in these latter groups were removed from the final sample.

Thus the final sample of data used in the analysis was **750 respondents**. Of these 476 respondents were from Brimbank, and 274 were from Melton municipalities.

**Figure 5.1:** Sampling of respondents across the Project Period.

**Screening Completion Rate**

Of the 909 consenting respondents, ALL completed the digital screen in its entirety. Hence the **overall screening completion rate was 100%** (for those accepting for their de-identified data to be analysed).
Distribution of Screening across locations

Screening was undertaken across a total of eight (N=8) locations. Due to budget constraints it was not possible to purchase iPads for each of the nineteen Melton MCH locations (plus enhanced clients). As a result the busiest locations were selected across the Melton municipality to participate in the Project (Refer to Table 5.1).

Details of the number of screens conducted across all of the Brimbank and the selected Melton locations during the Project period are detailed in Table 5.1.

Table 5.1: Distribution of screening rates across locations

<table>
<thead>
<tr>
<th>Brimbank Locations</th>
<th>Number of Screens</th>
<th>Melton Locations</th>
<th>Number of Screens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delahey</td>
<td>86</td>
<td>Arnolds Creek</td>
<td>38</td>
</tr>
<tr>
<td>Derrimut</td>
<td>57</td>
<td>Botanica Springs</td>
<td>14</td>
</tr>
<tr>
<td>Keilor Downs</td>
<td>123</td>
<td>Bridge Road</td>
<td>58</td>
</tr>
<tr>
<td>St Albans – Epalock Crescent</td>
<td>116</td>
<td>Creekside</td>
<td>32</td>
</tr>
<tr>
<td>St Albans – Southwold Street</td>
<td>75</td>
<td>Kingsway</td>
<td>4</td>
</tr>
<tr>
<td>Sunshine</td>
<td>54</td>
<td>Kororoit Creek</td>
<td>27</td>
</tr>
<tr>
<td>Sunshine West</td>
<td>39</td>
<td>Melton Library &amp; Learning Hub MCH</td>
<td>39</td>
</tr>
<tr>
<td>Sydenham</td>
<td>40</td>
<td>Parkwood Green</td>
<td>13</td>
</tr>
<tr>
<td>Brimbank Council*</td>
<td>16</td>
<td>Springside</td>
<td>78</td>
</tr>
<tr>
<td>Total</td>
<td>606</td>
<td>Total</td>
<td>303</td>
</tr>
</tbody>
</table>

*Represents enhanced clients

When reviewing the screening numbers across each municipality it is important to note that whilst those sites in the Melton Municipality did commence screening earlier (of the two municipalities), there was less access to iPads within the Melton sites. Specifically, there was only one iPad device per site as compared with one iPad per staff member at the Brimbank locations. This is therefore likely to have affected screening numbers across these Melton locations.

Average length of actual time to screen

The iCOPE Platform automatically records screening time from the initiation of the screen to the final completion of the screen. Analysis of screening commencement and completion times ranged from 2 mins to 34 minutes.

The average screening time across the eighteen locations was 7.0 minutes (SD= 3.7).
Almost two-thirds of respondents (63%) took less than seven minutes to complete the screen, with most taking, with half of respondents (50%) taking less than six minutes. Almost three-quarters of clients (72%) had completed their screen in less than 8 minutes.

These ‘actual’ screening times were lower than the estimated screening times calculated from the baseline survey.

Of the minority of clients who took a greater length of time to complete the screen, reasons for this could be attributed to low literacy levels amongst some clients. Specifically if clients were unable to read, this would still require the nurse or translator to read the text on the screen to the client. Another observed explanation for longer screening times amongst the minority of clients was the client being distracted from the screening process if the baby started crying whilst the MCH nurse was weighing the baby whilst the mother was completing her screen.

When comparing average screening times across the two municipalities, on average the length of screening time was slightly higher across the Brimbank locations (Average 7.53 minutes) as compared with Melton locations (Average 6.00 minutes) (t=5.8, df=907 p<001).
Languages for screening

For most (n=817, 90%), screening was undertaken in English, with the next most popular language being in Vietnamese (n=80, 9%). Other languages in which screening was conducted over the Project period were Arabic, Chin Hakka, Persian/Farsi, Cantonese and Mandarin – although these were minimal (less than two per cent in total).

The uptake of screening in other languages, particularly Vietnamese, was greater across the Brimbank municipality. This is reflective of the higher proportion of non-English speaking clients in this region (as identified in the language scoping, see Chapter 4), together with the greater access to iPads across these sites.

Request for results

As part of the screening process, clients were asked at the outset if they would like to receive a free copy of their results.

In response to this, most clients (72%) did request their results during the screening process. As a result tailored personal reports were sent to 655 clients via email or SMS (as requested). These were provided in the respective languages – as per the language selected to undertake the screening.
6. Program Outcomes: Screening Outcomes

The information below provides an analysis of screening outcomes derived from the automated data collected by the iCOPE system.

Demographics

Age and Gender of Respondents

Most of the respondents who undertook the screening were female (97%), with 19 screens being undertaken by males/fathers (2%). The age of the clients ranged from 18 to 47 years.

Risk Profile of Respondents

In addition to demographic factors, it was also possible to assess the profile of the respondents in relation to psychosocial risk factors as identified in the screening questionnaire.

Mental health history

More than one in ten (12%) clients reported having times when they had ‘felt sad or down’ and/or ‘worried to the point that interfered with daily life’ (13%). Over one in five respondents (21%) indicated that ‘a member of their immediate family had experienced mental health problems’.

Almost one in ten women (9%) had personally experienced a mental health issue in the past. Of the 79 clients who had accessed treatment for a mental health condition, this was most commonly for depression (7%), anxiety (7%) and a smaller proportion for panic attacks (3%). Four clients had received treatment for bipolar disorder, one for psychosis and one for ‘Other’ specifying Borderline Personality Disorder. No one indicated that they had received treatment for schizophrenia.

Fig 6.1: Types of disorders that clients had received treatment for in the past (n=67)
Family violence (past and present)

Three questions pertained to family violence specifically. Interestingly there was a high response rate to all three questions, with only one client not answering one of the questions with respect to being afraid of their partner.

**Fig 6.2: Personal abuse and family violence**

![Bar Chart]

Sixteen per cent of clients did not always feel *cared for and protected* when growing up. Eighteen clients (2.0%) indicated that they *did not currently feel safe with their current partner* and 69 (8%) reported that they were *concerned about the safety of their baby*.

When considering these results in the context of the jurisdiction, which has known high rates of family violence, these reports were lower than anticipated. One explanation for this low level of reporting was that as most screening was undertaken at the four-week visit (in line with State Policy) many partners may have been present when the screening occurred, and hence affected disclosure of family violence.

**Drug and alcohol misuse**

Eight clients (less than one per cent) indicated that they or their partner had a problem with drugs and/or alcohol. In five cases this was the individual undertaking the screening themselves, and four respondents also indicated that it their partner had a problem with drugs or alcohol. Types of substances used by themselves or their partners included alcohol, amphetamines, LSD, cocaine, methamphetamines, cannabis and/or benzodiazepines.

**Current life stress and access to Support (past & present)**

Most clients (86%) reported that they had a *supportive maternal relationship* when growing up. Reports of stress were higher amongst the sample, with over one third (36%) indicating that they had *experienced stress, change or loss in the past twelve months*.

Overall perceived access to support (protective factor) was also high across the sample, with 92% reporting that they had access to *practical support* and 93% had access to *emotional support*. 
7. Program Outcomes: Clinical Symptoms

In line with best practice, the Edinburgh Postnatal Depression Scale (EPDS) was used to assess the likelihood that those screened were experiencing depression.

Likelihood of Experiencing Depression

For most clients (77%) there was low probability of depression whilst almost one-quarter of clients (23%) had a moderate to very high probability of experiencing depression at the time of screening.

When comparing these rates with the outcomes of a national screening program, it was estimated that 16% of new mothers are likely to experience postnatal depression – hence these results would be higher than the national average.

Fig 7.1: Probability of depression at the time of screening (EPDS Total Score) (n=909)

A review of the depression probability across the two municipalities indicated slightly higher proportions of clients in the Brimbank sites particularly. Here 82% of clients across the Melton municipality were likely to have had ‘low probability of depression’, as compared with 74% for Brimbank.

Over one quarter (26%) of Brimbank clients had a moderate risk to elevated risk of postnatal depression and eighteen per cent of Melton clients indicated a moderate to elevated risk. This higher proportion of clients with clinical symptoms may reflect the fact that the Brimbank clients included enhanced clients (whereas the Melton sites did not) who may be at greater risk of mental health conditions.

Self-harm

Most women (94%) had ‘never’ had thoughts of harming themselves. Fifty-nine (7% of the sample) did indicate report thoughts of harming themselves, with four percent (n=39) reporting that that such thoughts occurred ‘Hardly ever’ and two percent (n=18) indicated that thoughts of self-harm occurred ‘Sometimes’ and two people (.2%) had thoughts of harming themselves ‘Often’.
Likelihood of Anxiety Symptoms

Analysis of anxiety items indicated a significant proportion of clients were likely to have been experiencing symptoms of postnatal anxiety.

One third of clients sometimes (33%) or very often (4%) had been anxious or worried for no good reason. Furthermore, more than one in five also indicated that they had felt scared or panicky for no good reason either sometimes (19%) or quite a lot (2%) over the past seven days.

Request for help

Respondents were also asked if they would like any help for issues raised. This provided an opportunity for clients to reflect upon their desire to access help, whilst informing the health professional of their willingness and/or readiness to seek help.

Four options were presented with respect to requesting help for either symptoms or risk factors that may have been identified through the screening process:

- Help
- No Help
- I’m unsure about wanting help
- I don’t’ want help just now, but maybe in the future

Fig 7.2: Would you like help for any of the issues raised in this questionnaire? (n=909)

In line with screening outcomes, most (58%) indicated ‘no help’ was required. Five per cent of clients stated that they did want help (now).

Over one quarter of clients (28%) indicated that whilst they did not perceive that they needed or wanted help right now, they might want to or perceive that they may need help in the future. Nine per cent of women were unsure about wanting help.
8. Feedback from staff about the iCOPE Platform

The final component of the evaluation involved obtaining feedback from staff about their experience with using the iCOPE platform during the pilot project.

This was achieved by undertaking an online, anonymous survey at the conclusion of the project. A total of 24 staff completed the survey, with an equal proportion from Melton and Brimbank municipalities.

Perceived impact on screening rates

Overall, of the respondents who indicated that they were using the platform all or most of the time (N=20), over one third of staff (35%) perceived that screening rates had ‘increased’ since the introduction of the iCOPE Platform, and just under two thirds perceived that screening rates had ‘stayed the same’ when undertaking screening with English-Speaking clients. No one perceived that screening rates had decreased.

Fig 8.1: When comparing the iCOPE (electronic) screening with traditional pen-and-paper approaches for, overall would you say that the frequency of screening has increased, decreased or stayed the same?

![Screening rates comparison chart]

When considering screening rates for Non-English speaking clients, the same proportion of staff perceived that screening rates had ‘increased’ with the introduction of the iCOPE Platform (35%) and 60% perceived they had ‘stayed the same’. One person (5%) perceived screening rates had decreased. This is likely to result in part, from the platform not being available in one or two required languages.

Perceived impact on screening times

Whilst the time taken to screen (as recorded by the iCOPE system) averaged seven minutes, many staff reported that screening using the digital platform as perceived to take more time than when doing manually (pen and paper). Here whilst 15% perceived that ‘screening was faster’ using the digital platform and one in four (25%) perceived that it ‘was the same’, 60% perceived that ‘screening took longer’ using the digital platform. This was in spite of the average actual screening time (recorded by the digital platform) being lower than the estimated screening time as
obtained in the baseline survey of current practice (Chapter 4). These perceptions that screening took longer were specifically across some of the Brimbank locations.

**Reasons why screening was perceived to take longer using the digital screening approach.**

Further exploration of why screening was perceived to take longer was in the main attributed to the fact that more questions were being asked now (when using digital screening than previously (when doing pen-and-paper screening)). Specifically, staff at Brimbank previously only used the EPDS and there was psychosocial assessment was not routinely undertaken. Hence, this accounted for the increased screening time, whilst also bringing screening in line with best practice.

“We are not comparing apples with apples here. It is taking longer to screen now because we are asking more questions. It (the iCOPE digital platform) is providing a much more detailed assessment which is great – but that is why it is now taking longer than before – when we were only asking the Edinburgh questions (not the psychosocial assessment as well).”

Whilst this is likely to account much of the perceived increase in screening times, other possible explanations may include:

- Time taken to log in and out of the iCOPE system by staff when looking to view the results
- Time taken to change view from one screen to another to read results and view other reporting form on the nurses desktop computer
- In the instance when a client made an error, they would redo the screen.

Note; In light of these findings some recommendations have been made in the concluding sections to improve screening times.
Ratings of success on iCOPE Platform Attributes

Staff were asked to rate the Platform on a number of attributes, and asked to provide ratings of perceived success on each of these. This information is summarised in Table 8.1. As indicated, the vast majority of staff (approximately 80%) rated the tool as being successful – particularly in its scoring and interpretation of the EPDS, guiding the health profession in relation to clinical scores, and providing the women with individual tailored reports.

Observed lower ratings around the Platforms ability to save time, are likely to be attributed to the fact that more questions were being asked when using the digital platform than were previously (as detailed above).

Table 8.1: How successful would you rate the iCOPE Platform in the following areas?

<table>
<thead>
<tr>
<th>Area</th>
<th>Successful</th>
<th>Neutral</th>
<th>Unsuccessful</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saving time to undertake screening*</td>
<td>15%</td>
<td>47%</td>
<td>37%</td>
<td>0%</td>
</tr>
<tr>
<td>Making screening more accessible to Non-English speaking clients</td>
<td>60%</td>
<td>20%</td>
<td>15%</td>
<td>0%</td>
</tr>
<tr>
<td>Accurately calculating the score on the EPDS</td>
<td>80%</td>
<td>10%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Accurately interpreting the score on the EPDS</td>
<td>80%</td>
<td>10%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Knowing the client has access to information in relation to her screening outcomes</td>
<td>85%</td>
<td>10%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Alerting the health professional to issues around self-harm</td>
<td>79%</td>
<td>21%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Supporting the management of the situation when indications of self-harm are present</td>
<td>75%</td>
<td>25%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

* Higher screening times was largely attributed to the increased number of questions asked since using the digital platform.
Overall ratings of success of the iCOPE Platform

To provide some indication of the overall success and utility of the iCOPE Platform, staff were asked to indicate whether they agreed or disagreed with a number of statements about the Platform’s use and whether investment should be made to improve aspects of it’s functionality.

Overall, the majority of staff (84%) indicated that they would recommend the iCOPE Platform to others (Figure 8.2).

**Fig 8.2: I would recommend the iCOPE Platform to others**

Similarly, the same proportion of staff indicated that they believed that the council should continue to use the iCOPE Platform for mental health screening (Figure 8.3).

**Fig 8.3: The council should continue to use the iCOPE Platform for mental health screening.**
The same proportion of staff also indicated that the Platform should be expanded across other maternal and child health settings (Figure 8.4).

Fig 8.4: The iCOPE Platform should be expanded across other MCH settings.

No-one disagreed with the need to include other languages into the iCOPE Platform to cater for other languages, and almost all staff (89%) agreed that audio versions should be built in for clients with low-literacy to enable questions to be read out.
9. Summary and Conclusions

The outcomes of this Project have provided valuable data in the application of a digital platform to undertake screening for perinatal mental health risk factors and symptoms across maternal and child health settings.

The key project outcomes are:

1. Feasibility of the iCOPE digital platform to perform routine perinatal mental health screening
   
   The ability to screen a large volume of clients across the Brimbank and Melton Municipalities has been demonstrated. After five months of implementation of digital screening, 1,127 clients were screened. Permission was given for a sub-sample of 909 screens to be analysed for evaluation purposes, however it is important to note that screening assessments and reporting was conducted for the larger (N=1,127) sample, and these outcomes of screening were still made available to the client and health professional in the form of tailored reports and data collection for client records.

   After the five months of implementation, the iCOPE Platform is now embedded within all Brimbank locations, and has become the standard approach to perinatal mental health screening. Uptake is also occurring across the Melton locations, however has been hindered somewhat by the unavailability of iPads for all staff, resulting in the observed lower screening rates and limited proportion of locations that the study was able to be implemented in.

2. The capability of the iCOPE Platform to undertake screening in multiple languages
   
   This Project has enabled the translation, programming and testing of screening in eleven languages. This greater capacity serves to increase the accuracy of screening (as all questions provided are uniformly presented and not subject to the interpreter’s translation of a question). The multiple language formats also serve to save time by not requiring lengthy processes when trying to undertake screening using interpreters (as revealed in the baseline survey of screening practices). Further the capability of the Platform to generate instant tailored reports to clients in their own language, ensures that for the first time, consumers have access to timely, relevant information at the point of screening. The demand for such personal reports is indicated to be high, with 72% of clients requesting their own personal report.

   Importantly, the results from this Project demonstrate that when using the screening platform, screening does not take any longer for non-English speaking clients, rather screening times are comparable to those for English-speaking clients. Further, the time taken to screen women of non-English background is likely to be considerably lower (and more accurate) than when using interpreters. Again this is substantiated when considering the processes involved with screening using interpreters and the projected time taken (up to 30 minutes) as highlighted in the baseline survey of current practice.

3. The ability of the Platform to accurately measure time taken to screen
   
   As the platform automatically enables us to record the actual time taken to undertake screening, we are able to obtain accurate estimates of screening times for the first time.

   The results reveal that for most screening took 4-7 minutes to complete, with the three-quarters of clients completing the screen in less than eight minutes. When considering the ability of the Platform to automatically calculate screening scores, this is likely to significantly reduce screening time and score calculation/interpretation whilst ensuring scoring accuracy (to 100%). Further, the provision of clinical guidance in the clinical report
generated for the health professional supports nurses in the delivery of best practice.

4. **Learnings and opportunities to further improve screening times**

   Analysis of results reveals that any observed longer screening times across the sample are unlikely to be attributed to languages, but rather were likely to be attributable to the digital platform asking more questions in order to undertake a psychosocial assessment in addition to assessing the presence of anxiety and depression symptoms.

   Other possible contributors may be attributable to other factors in the screening process (such as attending to the baby during the screening process) or likely low literacy levels within sectors of the population (hence difficulty reading questions whether digital or pen-and-paper). It is important to recognise that this information around screening times is generally not able to be recorded using pen and paper approaches to screening, so valid comparisons are difficult to make. This potentially highlights *need for audio versions* of the screening tools, which is currently under development in an alternative pilot location. This solution was welcomed by the majority of staff (post evaluation survey).

   Further discussion with staff highlighted that some aspects of administration with the iCOPE platform that could be reviewed in order to increase administration efficiencies and reduce the overall time taken to undertake screening. In particular, reviewing the log-in and need to re-enter passwords to access the back end of the screening (in line with patient privacy) was considered time-consuming and could be reviewed to increase efficiencies given that there are already measures in place to protect patient privacy (eg. screen locks).

5. **Provision of automated data to inform screening rates and outcomes**

   The automated *collection of screening data in real times* provides critical information about clinical profiles and client needs. The platform collects demographic information, enables assessment of a client's psychosocial risk profile, as well as assessing the likelihood of clients experiencing postnatal anxiety and depression within and across municipalities (and as needed locations).

   In this context of this Project, screening data revealed that almost a quarter of women had moderate to very high probability of depression (higher rates across Brimbank), six per cent of women had thoughts of self-harm and over one-third of clients indicated symptoms of anxiety. One third of women wanted/were open to accessing help either now or in the future.

   The ability of the Platform to collect this data can provide jurisdictions, service providers and policy makers with critical information to inform services needs as well as monitor screening and clinical outcomes across the State of Victoria, across large jurisdictions or down to a single location.

6. **Overall high ratings of satisfaction and support for continued use and expansion of the iCOPE Platform by MCH staff**

   Overall, staff rated the iCOPE Platform as being successful tool, which almost of indicated that they would recommend to others. Staff supported the tools continued use beyond the life of the project, as well at its expansion to other maternal and child health settings.

   Whilst attention has been drawn to the need to address possible administrative functionality to further improve ease of use and screening times, in spite of this feedback, overall support for the Platform was strongly supported.
Next steps:

In response to the outcomes of this Innovation Project, it is recommended that:

1. Digital screening is continued across the Brimbank municipality and extended across the remainder of the Melton municipality: through the provision of iPads for all staff across all locations, this will serve to increase screening rates and ensure the delivery of best practice across this municipality. Like Brimbank, this will enable digital screening to become standardised practice.

2. A review of processes surrounding back-end administration to make access of clinical and client reports more efficient.

3. The further extension of the screening tools and patient reports into other languages: This will serve to make screening even more efficient and inclusive across language groups.

4. The iCOPE Platform be adapted to enable audio screening: This will assist to further increase screening rates – particularly amongst clients with low literacy.

5. Screening outcomes are integrated with e-referral pathways: using postcode data it is possible to take screening one step further, and link screening outcomes with services. This can be achieved through the mapping of services and use of postcode data to identify timely and appropriate services at the point of screening.

6. Digital screening is considered to be rolled out across the State of Victoria: This will serve to increase efficiencies in screening practice, support health professionals in the provision of best practice, ensure screening processes are more inclusive of those across the population (including different language groups and literacy levels) whilst enabling the monitoring and evaluation of screening outcomes at a local, regional and statewide level.
References

13. Highet NJ (2104) The Perinatal Emotional Health Program at Western Health: Outcomes to date and recommendations for Sustainability.
Appendix 1: Integrated approach to a perinatal mental health framework for Victoria

Clinical Practice Guidelines (COPE)

- Health Professional Resources (COPE)
- Online Training (COPE)
- Consumer/Carer Resources (RTC – COPE)

Digital Screening and Psychosocial Assessment
(jCOPE Digital Screening via healthcare settings)

Integrated digital Pathways to care (geo-mapping)
E-COPE Directory (COPE)

Data collection and Evaluation to inform policy and service provision

Community Awareness (COPE & others)

Phone & Web Counselling (PANDA & PIRI)