

iCOPE Digital Screening:

Feasibility Study

A national solution to identifying and reducing the devastating impacts of perinatal mental health conditions on mothers, infants and children.



A new, innovative and sustainable approach to perinatal screening across healthcare settings

This feasibility study sought to test the implementation of a new, digital screening platform: iCOPE, within a maternal and child health setting in Melbourne's West.

Following screening of 80 participants over a seven-month period, the Platform has proven to be *efficient* (in terms of screening time) and *highly acceptable* to consumers and health professionals. The automated production of tailored clinical and consumer reports enables screening outcomes to be instantly communicated to clients and health professionals (100% accuracy). Further, the collection of screening data in *real time* facilitates the monitoring of screening rates and evaluation of outcomes.

This report details the key outcomes of the feasibility study and identifies the next steps for future application of the iCOPE Platform across healthcare settings.

This study was generously funded by Chain Reaction.



Background

Given the profound immediate and long-term impacts of perinatal mental health, Australia had made great reforms in the introduction of universal routine screening under Australia's National Perinatal Depression Initiative (NPDI). A key element of this reform is implementing universal, routine screening for **all** pregnant and new mothers.

To date screening has involved pen-and paper approaches to identify the *presence of known risk factors* and *common mental* symptoms of depression and anxiety using the Edinburgh Postnatal Depression Scale (EPDS). Despite significant investment and activity, manual approaches to screening are inefficient (time, cost), prone to scorer error (up to 29%), and rarely available in other languages. Together with the lack outcome data to inform the uptake and outcomes of screening, current approaches remain unmeasurable and unsustainable.

To address these inefficiencies and ultimately build a reliable and sustainable screening and evaluation framework, a digital screening platform has been developed. The Platform; iCOPE, enables screening to be efficiently and reliably implemented across healthcare settings. This report details the outcomes of Australia's *first* feasibility trial of the iCOPE Platform, to test it's application in a real-life setting, identify and refine any elements and inform next steps for implementation across other settings.

The iCOPE Feasibility Trial

This study was undertaken in a Maternal and Child Health Setting (Sydneyham) in Melbourne's Western Suburbs. This site was selected specifically as there is a lower proportion of non-English speaking clients (as compared with other sites within the Brimbank region).

Screening administration

The iCOPE Platform is designed to *replicate current practice* and increase efficiencies and accuracy surrounding screening. Prior to the introduction of the iCOPE Platform, all screening was undertaken using pen-and-paper approaches within the consultation. Scores were manually calculated, entered into the data record system and discussed with the client.

The introduction of iCOPE saw a change to practice initiated by the nurses. The trial saw clients provided with the digital screen (on an iPad) usually completed in the waiting room.

On completion of the screen, results were automatically calculated and reports instantly generated via two separate reports:

- i) **Individually tailored client reports** - instantly sent to their nominated SMS or email (if and as requested by the client)
- ii) **Clinical reports for health professionals** - instantly available for the nurses to view via their password-protected access to the iCOPE system (on their desktop computer).

Screening tools

In line with Best Practice all patients were asked the series of **psychosocial questions** to detect the presence of psychosocial risk factors together with the **Edinburgh Postnatal Depression Scale (EPDS)**.

The digital platform also provided an opportunity to seek additional information for those who indicated some of the above risk factors to be present. Through the creation of algorithms, further questions enquired about:

- **Personal history of mental health problems** – if present, additional questions determined the *type* of condition, whether *treatment* was sought, and if so *what type of treatment, by whom* (professional) and *how long ago*;
- **Drug and alcohol problems** – if present in themselves or their partner, additional questions were asked to determine the *type(s)* of drugs used, and *whether they wanted help* specifically for drug and alcohol issues.

Demographic information

Other demographic information obtained in the screening process included *age, gender* and whether the client was of *Aboriginal or Torres Strait Islander* backgrounds.

Service access

Further, factors that may impact upon referral and service access and uptake were asked, namely;

- *If they wanted help* for issues raised in the screening process (as impacts upon help-seeking)
- *If they had private health insurance or were a healthcare cardholder* (as this may affect service access and referral pathways provided).

Key Outcomes

Number of Screens – response rates

The overall screening completion rate was 100%. This means that all clients who commenced screening on the platform completed the screening in its entirety.

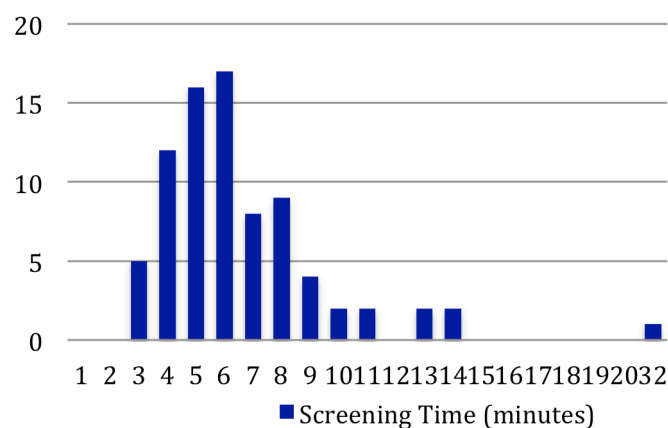
Over the course of the seven-month period a total of **86 screens** were performed, of which 84 (93%) were included in the final sample for reporting and analysis.

Of those screens excluded, two were re-screens (to monitor changes over time) and four clients did not complete/consent to data being included in the analysis (hence excluded).

Average length of time to screen

Analysis of screening commencement and completion times shows the **average screening time** was 6.7 minutes (SD= 3.78). Most (56%) women took between **4-6 minutes** and 84% screened in **less than 8 minutes**.

Fig 1: Distribution of time taken to undertake the Screening (n=80)



Request for results

When asked if they would like to receive a free copy of their results over **80% of women did request their results** sent via email or SMS (as requested).

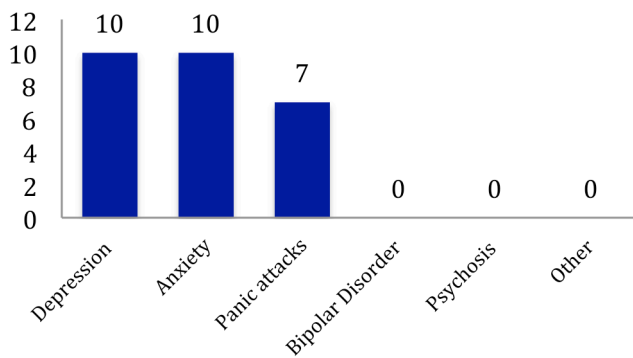
Presence of Psychosocial Risk Factors

Mental health history

Approximately one in five (18%) clients reported having times when they *had felt sad or down and worried to the point that interfered with daily life* (19%). Similarly 20% indicated that *a member of their immediate family had experienced mental health problems*.

Of the 20 clients who had accessed treatment for a mental health condition, half had sought treatment for *depression* (n=10), half for *anxiety* (n=10) and just over one third (n=7) for *panic attacks*. No one had received treatment for bipolar disorder, psychosis or any other mental health condition.

Fig 2: Types of disorders that clients had received treatment for in the past (n=20)

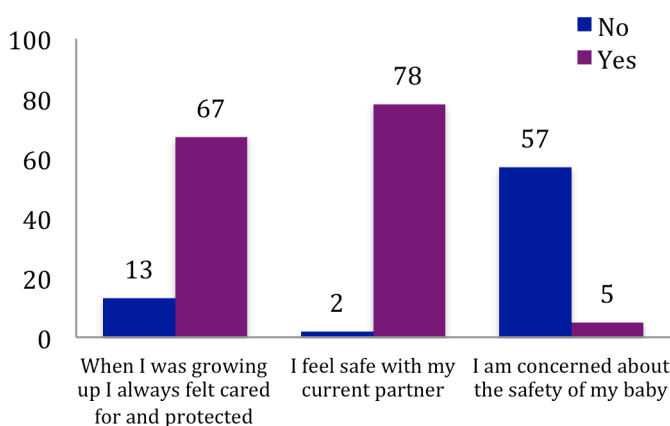


Half of the clients (50%) had accessed *counselling/talking therapy* and forty per cent had used *medication*. Four clients indicated that they were *receiving treatment currently*, whilst for most this was *over 12 months ago*.

Family violence (past and present)

Three questions pertained to family violence specifically and all three were answered by all of those screened.

Fig 3: Personal abuse and family violence (n=80)



Sixteen per cent of clients did not always feel *cared for and protected* when growing up. Two women (2.5%) indicated that they *did not currently feel safe with their current partner* and 5 (6%) reported that they were *concerned about the safety of their baby*.

Drug and alcohol misuse

No clients indicated that they or their partner had a problem with drugs and/or alcohol. Hence no further questioning was required or performed.

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 however, with over one third (35%) indicating that they had *experienced stress, change or loss in the past twelve months*.

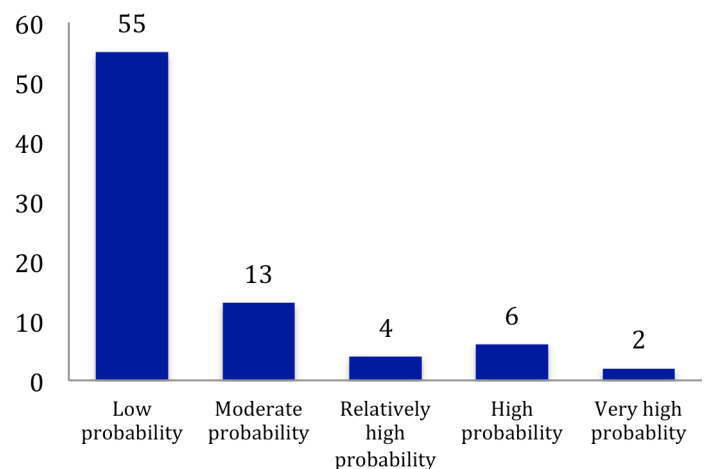
Overall perceived access to support was also high (protective factor) across the sample, with 96% reporting that they had access to both *practical support* and *emotional support* if needed.

Likelihood of experiencing mental health symptoms

Likelihood of Depression

The EPDS was used to assess the likelihood that those screened were experiencing depression. For 69% of clients there was low probability of depression whilst almost *one third of clients had a moderate to very high probability of experiencing depression* at the time of screening.

Fig 4: Probability of depression at the time of screening (EPDS Total Score) (n=80)



Self-harm

Most women (91%) had 'Never' had thoughts of harming themselves; whilst a small proportion said they 'Hardly ever' (6%) or 'Sometimes' (3%) had such thoughts.

Likelihood of Anxiety

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

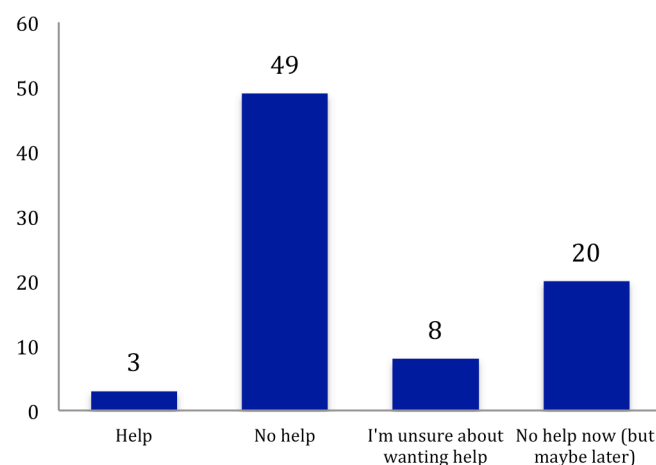
Forty per cent (40%) *sometimes blamed themselves unnecessarily when things went wrong*; around one third of clients *sometimes* (35%) or *very often* (8%) *had been anxious or worried for no good reason*. Over one third also indicated that they had *felt scared or panicky for no good reason* either *sometimes* (30%) or *quite a lot* (4%) 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.

Fig 5: Would you like help for any of the issues raised in this questionnaire? (n=80)



In line with screening outcomes, most (63%) indicated 'No Help' was required, whilst one quarter (25%) 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*. Ten per cent of women were *unsure about wanting help*. Four per cent of clients stated that they *did* want help (now).

Further analysis of those more likely to request help were likely to be experiencing symptoms of depression and/or anxiety. Those who were *'unsure about wanting help just now'* or who indicated that they *'may want help in the future'* were likely to be *afraid of their partners* and/or were *concerned about the safety of their children*.

Key conclusions:

Feasibility of the iCOPE Platform:

- There was **high acceptability** of the digital screening platform
- The screening process is **simple and intuitive**
- The average time taken to perform the screen was **6-7 minutes**
- The iCOPE Platform effectively allows **additional data items** for select individuals
- There was a **100% completion rate** with respect to risk status questions
- Eighty per cent of women **requested a free copy of their results**

Clinical Outcomes:

- Almost a third of women had **moderate to very high probability of depression** (higher than the national average)
- Nine per cent of women had **thoughts of self harm**
- Around one third of clients indicated **symptoms of anxiety**
- Around a of women wanted or were open to **accessing help either now or in the future**

Next steps:

- Expansion** into other clinical and research settings (including 26 centres in the region)
- Adaption of screening questions and patient reports into **other languages**
- Integration with **e-referral pathways** via postcode data

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