

# The OnTrack Diabetes Group Project: A Feasibility Trial

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# Type 2 Diabetes

- In Australia, 273 new diagnoses of diabetes/ day are diagnosed – Type 2 = 85%
- Increasing prevalence, including at younger ages.
- Comorbidity with depression and anxiety is high.
- Health systems are under-resourced.
- Australians living in regional, rural and remote areas are underserved.




# Treatment Regime

1. Diet + Exercise
  2. + Antidiabetic agents (tablets)
  3. + Insulin secretagogues (tablets)
  4. + Insulin injections
  - ... + Blood glucose self-monitoring
- 95% of management is up to the patient.



# Mental health & Diabetes

*In people with diabetes, depression and anxiety symptoms are associated with:*

- Physical inactivity
  - Poor nutrition
  - Reduced diabetes self-care
  - Poor Glycaemic control
  - Complications
  - Mortality
- 

# OnTrack Diabetes

- Web-based program developed in 2013
- User-centred
- Built on feedback from doctors as well as PWD
- Based on Social Cognitive Theory
- MI and CBT strategies

Australian  
Psychologist



ORIGINAL ARTICLE

## Perceived Needs for Supported Self-management of Type 2 Diabetes: A Qualitative Investigation of the Potential for a Web-based Intervention

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The estimated one million Australians with type 2 diabetes face significant risks of morbidity and premature mortality. Inadequate diabetes self-management is associated with poor glycaemic control, which is further impaired by comorbid dysphoria. Regular access to ongoing self-management and psychological support is limited, especially in rural and regional locations. Web-based interventions can provide complementary support to patients' usual care. Semi-structured interviews were undertaken with two samples that comprised (a) 13 people with type 2 diabetes and (b) 12 general practitioners (GPs). Interviews explored enablers and barriers to self-care, emotional challenges, needs for support,



# OnTrack Diabetes

The screenshot shows the OnTrack Diabetes website interface. At the top right, there are 'SIGNUP' and 'LOGIN' buttons. The main header features the OnTrack logo with the tagline 'Supporting your journey to health and wellbeing' and a photograph of three elderly people and some fresh produce. A navigation menu includes 'Home', 'About OnTrack', 'Quiz', 'Resources', and 'Get Help'. The main content area is divided into two columns. The left column contains the 'OnTrack Diabetes' title, a description of the program, a link to a diabetes quiz, a list of benefits (information, management steps, support network, lifestyle tips, and help locations), and a notice about a research trial. The right column features a 'DIABETES QUIZ' section with a mouse cursor icon and a 'Try this quiz to see how you're going.' prompt. Below this is a login form with 'USERNAME' and 'PASSWORD' input fields, a 'Forgot your password?' link, and a green 'Login' button. The footer contains a 'Sitemap' with links to Home, About OnTrack Diabetes, Resources, and Contact Us, along with logos for QUT ihbi, The Wesley Research Institute, and Mitsubishi Development Pty Ltd, and a note about sponsorship by the Queensland Government.

Site: <https://www.ontrack.org.au/diabetes/login>

# Journey Map

[GET HELP](#) [ACCOUNT DETAILS](#) [LOGOUT](#)



[My Journey](#) [My Diary](#) [What I've Done](#) [How I'm Doing](#) [Tools](#) [Resources](#)

## Welcome to OnTrack **Using the Program**

As you go through My Journey, a guidebook tells you how to use tools and resources to work on your goals. Sections in My Journey are called signposts. The Journey Map on the right will help you to keep track of where you are.

### Where to I start?

Look at the Journey Map now. You are in "Welcome"

The rest of the program is in 5 signposts. You can choose the order you do them, but don't forget to come back and do things you miss.

We suggest you start with Keeping Active and Feeling Great. That will boost your mood, as well as helping you stay fit.

But if you want to start with Eating Well and Feeling Healthy, go straight to that.

For some people, the most urgent problem is remembering to check blood glucose or take medication. If that is you, go to Health Routines first.

Do the fifth signpost, Keeping On Track, last. It will help you to keep going with your goals.

### When can I do it...and how fast can I go?

You can log into the program from any computer, any time...and you can do a signpost in one session, or split it over a few days. You are in charge ...but for best results, pace yourself through the program. Give yourself a few days to try out things you learn, before you try something else.

[Previous](#) [Next](#)

### Journey Map

- Welcome to OnTrack
  - Welcome to OnTrack
  - Diabetes
  - Finding My Way Around
  - Using the Program
- Keeping Active & Feeling Great
  - More on Keeping Active & Feeling
- Healthy
  - Eating Well & Feeling Healthy
    - More On Eating Well & Feeling Healthy
  - Health Routines
    - More On Health Routines
  - Thinking Well & Feeling Fine
  - Keeping On Track

# Interactive Tools

[GET HELP](#) [ACCOUNT DETAILS](#) [LOGOUT](#)



[My Journey](#) [My Diary](#) [What I've Done](#) [How I'm Doing](#) [Tools](#) [Resources](#)

## Ideas About Fun Activity **Fun Physical Activity Ideas**

Let's look at a few options for physical activities you'd enjoy doing.

Click on the activities you may want to try.

This isn't so you can make a plan. For now, it's just about finding something you like doing, or you may want to try.

Choose one thing for new - you can come back later and redo this section if you want.

### Fun Physical Activity Ideas

**Fun Activities**

|   |  |
|---|--|
| <input type="checkbox"/> Brisk Walking        | <input checked="" type="checkbox"/> Bush Walking |
| <input type="checkbox"/> Walking in the sand  | <input type="checkbox"/> Running                 |
| <input type="checkbox"/> Cycling              | <input checked="" type="checkbox"/> Swimming     |
| <input type="checkbox"/> Boxing               | <input type="checkbox"/> Rowing                  |
| <input type="checkbox"/> Dancing              | <input type="checkbox"/> Surfing                 |
| <input type="checkbox"/> Body boarding        | <input checked="" type="checkbox"/> Golf         |
| <input type="checkbox"/> Aerobics / gym class | <input type="checkbox"/> Pilates                 |
| <input type="checkbox"/> Swiss ball workout   | <input type="checkbox"/> Skipping rope           |
| <input type="checkbox"/> Yoga                 | <input type="checkbox"/> Ice skating             |
| <input type="checkbox"/> Sailing              | <input type="checkbox"/> Horseriding             |

[Add Another +](#)

### Team Sports

|                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> Football     | <input type="checkbox"/> Touch football |
| <input type="checkbox"/> Soccer       | <input type="checkbox"/> Tennis         |
| <input type="checkbox"/> Table tennis | <input type="checkbox"/> Squash         |
| <input type="checkbox"/> Cricket      | <input type="checkbox"/> Netball        |
| <input type="checkbox"/> Basketball   | <input type="checkbox"/> Hockey         |
| <input type="checkbox"/> Waterpolo    | <input type="checkbox"/> Volleyball     |
| <input type="checkbox"/> Bowling      |   |

[Add Another +](#)

### Journey Map



Welcome to OnTrack

**Keeping Active & Feeling Great**

- Keeping Active & Feeling Great Introduction
- Ideas About Fun Activity
  - Fun Physical Activity Ideas**
  - Just Imagine
  - Good things about my idea
  - Imagine the good things
  - Things that might get in the way
  - Getting Obstacles Out of The Way
  - Weighing up the pros and cons
  - Deciding what to do
  - Summary
- Feeling Confident
- Planning My Physical Activity Goal
- My Physical Activity Goal
- Feedback



**More on Keeping Active & Feeling Great**

Healthy

- Eating Well & Feeling Healthy
- More On Eating Well & Feeling Healthy
- Health Routines
- More On Health Routines
- Thinking Well & Feeling Fine
- Keeping On Track



# Summary Cards



GET HELP ACCOUNT DETAILS LOGOUT

My Journey My Diary What I've Done How I'm Doing Tools Resources

## Ideas About Fun Activity Summary

### My Summary

#### Skydiving

**Good Things About My Idea**

Clearer thinking More energy  
More physically fit Stronger  
Sleeping better

**Obstacles or downsides to the activity**

Requires a whole day Costs quite a lot to do it  
Takes time to organise

**Solutions To My Obstacles**

Requires a whole day but I could Schedule around them  
Costs quite a lot to do it but I could Save up some more elsewhere  
Takes time to organise but I could Book well in advance

Each time you do the activity

- Imagine the good things that will happen. Make them as vivid as you can.
- Try to think of an actual event, to make them more real. Play out new events each time you think of the good things, to keep them fresh.
- Make an image of beating any obstacles and finishing the activity.
- Go into the future in imagination - think about how it will be if you do the activity regularly.
- Picture ways to help you keep going.

If you feel like giving up, make those good things come alive in your mind. Remember how good you will feel. Hold onto those images - they will help you keep going, even when it's hard.

### Journey Map

Welcome to OnTrack

#### Keeping Active & Feeling Great

- Keeping Active & Feeling Great Introduction
- Ideas About Fun Activity
  - Fun Physical Activity Ideas
  - Just Imagine
  - Good things about my idea
  - Imagine the good things
  - Things that might get in the way
  - Getting Obstacles Out of The Way
  - Weighing up the pros and cons
  - Deciding what to do
  - Summary
- Feeling Confident
- Planning My Physical Activity Goal
- My Physical Activity Goal
- Feedback

#### More on Keeping Active & Feeling

#### Healthy

- Eating Well & Feeling Healthy
- More On Eating Well & Feeling Healthy
- Health Routines
- More On Health Routines
- Thinking Well & Feeling Fine
- Keeping On Track

# Emotional Support

GET HELP   ACCOUNT DETAILS   LOGOUT

**OnTrack**  
Supporting your journey to health and wellbeing

My Journey   My Diary   What I've Done   How I'm Doing   Tools   Resources

## Thinking Well & Feeling Fine Introduction

Welcome to the Thinking Well and Feeling Fine signpost!

Feeling well emotionally is helpful for reaching your goals. Having your feelings in balance can help you feel more positive about changes and also persist through challenges. It's also important to make sure there's plenty of fun and pleasure in your life.

This signpost:

- Helps you think of ways you can add more enjoyment to your life
- Teaches you ways you can deal with stress, like Mindfulness
- Gives you some skills to use if you feel down about your diabetes

We hope you have fun with the tools and resources in this signpost and that you get enjoyment practising ways you can add more pleasure to your life!

[Previous](#)   [Next](#)

### Journey Map

- Welcome to OnTrack
- Keeping Active & Feeling Great
- More on Keeping Active & Feeling
- Healthy
  - Eating Well & Feeling Healthy
  - More On Eating Well & Feeling Healthy
  - Health Routines
  - More On Health Routines
- Thinking Well & Feeling Fine**
  - Thinking Well & Feeling Fine Introduction
  - Activities I Enjoy
  - Fun Activity Planning
  - Making A Relationship Stronger
  - My Mood Goal
  - More On Thinking Well & Feeling Fine Introduction
  - Risky Situations
  - Planning For Emotional Challenges
  - Thinking Well & Feeling Fine Summary
  - Feedback
- Keeping On Track

# Self-Monitoring

The screenshot displays the nTrack self-monitoring application interface. At the top, there are navigation buttons for "GET HELP", "ACCOUNT DETAILS", and "LOGOUT". Below these is the nTrack logo with the tagline "Supporting your journey to health and wellbeing" and a photograph of three elderly people (two women and one man) surrounded by fresh fruits like avocados, apples, and pears. A green navigation bar contains the following menu items: "My Journey", "My Diary", "What I've Done", "How I'm Doing", "Tools", and "Resources".

The main content area is presented as a spiral-bound notebook. The left page shows data for "Wednesday 9 November 2011":

- Blood Glucose:** Lowest: 5.6 Highest: 9.0
- Mood:** A slider bar is positioned between a blue and a green segment.
- Physical Activity Goal:** Run for 30 minutes, 80% complete.
- Nutrition Goal:** Eat 3 serves of fruit, 90% complete.

The right page features a "New Entry" button and a list of activities:

- 11 AM Enjoyable Eating
- 1 PM Ideas About Fun Activity
- 1 PM Feeling Confident
- 1 PM Feeling Confident
- 1 PM Planning My Physical Activity

Below the activity list is a calendar for "November 2011" with days of the week (Mo, Tu, We, Th, Fr, Sa, Su) and dates from 1 to 30. The 9th is highlighted.

# Feedback Graphs

GET HELP ACCOUNT DETAILS LOGOUT

**OnTrack**  
Supporting your journey to health and wellbeing

My Journey My Diary What I've Done How I'm Doing Tools Resources

## How I'm Doing

Mood **Glucose** Goals

Daily Weekly

### Daily Mood

| Date       | Best Mood | Worst Mood |
|------------|-----------|------------|
| Mon 10 Oct | High      | Medium     |
| Mon 17 Oct | High      | Medium     |
| Mon 24 Oct | High      | Medium     |
| Mon 31 Oct | High      | Medium     |
| Mon 7 Nov  | Low       | Very Low   |

This graph shows your best mood and worst mood for each day in the last 4 weeks.

- Your best mood
- Your worst mood


If there are gaps in your graph, go back to My Diary and record your best and worst moods for the missing days.

OnTrack Diabetes Site map

# OnTrack Diabetes

- Pilot ( $N = 38$ ) and main ( $N = 120$ ) RCT<sup>8</sup> across Australia
  - High user acceptability, perceived utility and user friendliness
  - Trends in reducing consumption of sweet foods and depressive symptoms.
  - Poor user engagement.....!
- Increasing recognition of the need for more psychological support for PWD who have comorbid mental health conditions, including at the subclinical level.

# Group Therapy

- Individual CBT has demonstrated efficacy for treating depressive symptoms and self-management separately in PWD.
    - Results are mixed in terms of efficacy in improving **both** mood and self-management.
  - Peer support has shown to be effective in improving diabetes self-management.
- 

# OnTrack Diabetes Group Project



OnTrack Diabetes  
(web-based support)

+



Group therapy  
(face-to-face)

# OnTrack Group Project

Location, location, location...



FedUni Community  
Services Clinic



USQ Psychology Clinic



**MONASH**  
University

Monash Psychology Clinic



# Aims

- (1) To evaluate *user uptake, engagement, perceived utility and acceptability; implementation fidelity, group cohesion and group-facilitator alliance*; and
- (2) To evaluate *trends in clinical, behavioural, psychological and psychosocial* outcomes.

# Program Structure

10 x 1.5-hour group therapy sessions covering:

- Goal-setting for personalised areas
- Physical activity/ behavioural activation
- Introduction to Mindfulness
- Emotional Balance – Psychoeducation about CBT, diabetes and mood; cognitive restructuring...
- Stigma – self-perceived and public stigma
- Illness beliefs & representations, identity
- Relationship with food
- Sleep

Homework = completing related activities in OnTrack Diabetes between group therapy sessions.



# Method

*Study sample.* 60 adults (2 groups x 10/ group for each site) with type 2 diabetes and at least subclinical depression, anxiety and/ or diabetes-specific distress.

Selection criteria: (i) age  $\geq 18$  years, (ii) diagnosis of type 2 diabetes, (iii) DASS21 score of  $\geq 10$  for depression and  $\geq 7$  for anxiety, (iv) no suicidal ideation, (v) willingness and availability to attend weekly group sessions for 10 weeks, (vi) access to a computer with internet.

# Method

*Study design:* Pre- and post-intervention measures  
- Baseline & 11 weeks Post-Baseline

*Primary outcomes:* User perceived acceptability and utility, implementation feasibility, group cohesion, group-facilitator alliance, program engagement

*Secondary outcomes:* Depressive symptoms, anxiety, diabetes-specific distress, glycosylated haemoglobin A1C (HbA1c level), anthropometric assessments, outcome expectancy & self-efficacy

*Measures:* Undertaken at Baseline and 11 weeks Post-Baseline.



# Measures


| <i>Process Evaluation</i>                |  |  |  |
|--|--|--|--|
| <b>Group cohesion</b>                    | Gross Cohesion Scale                                       | Self-report survey administered in group session                 | Fortnightly from Week 1 to Week 10 Post-Baseline |
| <b>Group-Facilitator Alliance</b>        | Working Alliance Inventory                                 |  |  |
| <i>Quality of Program Implementation</i> |  |  |  |
| <b>Implementation Fidelity</b>           | Ratings of therapist compliance with intervention protocol | Independent observer   | Each session                                     |
| <i>Program Engagement</i>                |  |  |  |
| <b>Engagement in out-of-group tasks</b>  | Exposure to OnTrack Diabetes web program                   | Web-based exposure data  | Analysis by week                                 |
| <b>Engagement in within-group tasks</b>  | Rating of workbook   | Observer rating based on completion, quality of response content | Analysis by session                              |
| <b>Engagement in group discussion</b>    | Rating of participation in group session                   | Facilitator rated  | Each session                                     |
| <b>Adherence to homework</b>             | Homework Rating Scale – II                                 | Administered before group session                                | Each session                                     |

| <b><i>Clinical/ Anthropometric</i></b> |   |  |                                   |
|--|---|--|-----------------------------------|
| <b>Glycaemic control</b>               | Glycosylated haemoglobin (HbA1c) level                                  | Pathology blood sample within past 3 months. Results obtained from client's GP with their consent. | Baseline & 11 weeks Post-Baseline |
| <b>Weight</b>                          | Kilograms   | Tanita scales at assessment session  |                                   |
| <b>Waist &amp; hip circumference</b>   | Centimetres   | Measured according to WHO-MONICA guidelines at assessment session                                  |                                   |
| <b><i>Behavioural</i></b>              |   |  |                                   |
| <b>Physical Activity Participation</b> | Active Australia Survey; Summary of Diabetes Self-Care Activities Scale | Self-report survey administered in assessment session  | Baseline & 11 weeks Post-Baseline |
| <b>Diet</b>                            |   |  |                                   |
| <b>Foot Care</b>                       |   |  |                                   |
| <b>Medication Adherence</b>            | Medication Adherence Rating Scale (MARS)                                |  |                                   |
| <b>Sleep</b>                           | Insomnia Severity Index with Medication Question                        |  | Baseline & 11 weeks Post-Baseline |
| <b><i>Psychological</i></b>            |   |  |                                   |
| <b>Depression</b>                      | BDI-II, SCID-5  | Self-report survey & clinical interview administered in assessment session                         | Baseline & 11 weeks Post-Baseline |
| <b>Anxiety</b>                         | BAI, SCID-5   |  |                                   |
| <b>Diabetes-specific distress</b>      | Diabetes Distress Screening Scale                                       | Self-report survey administered in assessment session  |                                   |

# Measures

- Qualitative interviews to obtain participant feedback on:
  - Experience in the group therapy program
  - Self-perceived impacts of the group therapy and web-based program components
  - Suggestions for improvements to the group therapy program and web-based program.

# Hypotheses

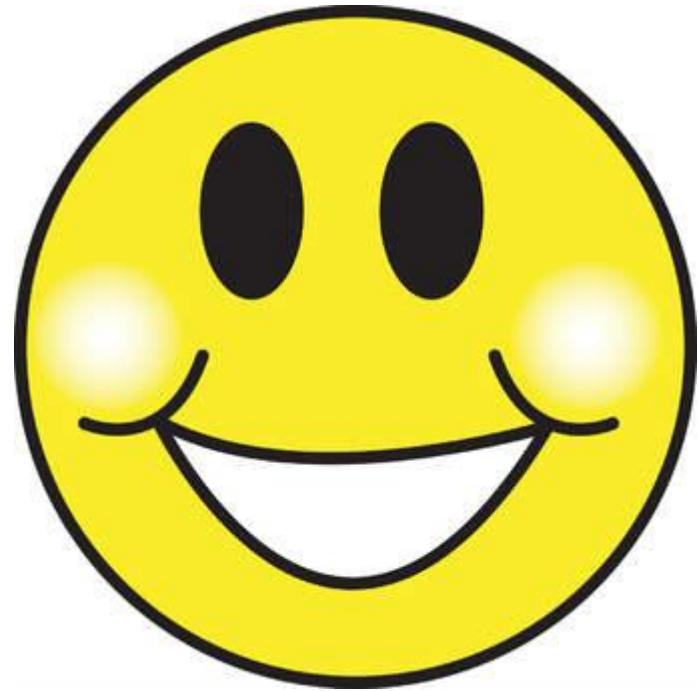
- (1) Participants will demonstrate ***high user uptake, engagement, and rate the program as having high perceived utility and acceptability.***
  - (2) The program will have ***high implementation fidelity,***
  - (3) There will be a ***high level of group cohesion and group-facilitator alliance.***
- (1) Trends towards improvements in clinical, behavioural and psychosocial outcomes.
- 



# Future Directions

- Complete web-based intervention!
  - Group therapy implemented online
  - RCT comparing face-to-face and online group therapy (+ web-based program).

# Thank you!



THE END

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