# The effectiveness and sustainability of health outcomes from an advanced digital weight-loss programme in the UK

Submission date	Recruitment status	[X] Prospectively registered
20/05/2024 Registration date	No longer recruiting Overall study status	[] Protocol
		[X] Statistical analysis plan
27/05/2024 Last Edited	Ongoing Condition category	[_] Results
		Individual participant data
28/05/2024	Nutritional, Metabolic, Endocrine	[] Record updated in last year

#### Plain English summary of protocol

#### Background and study aims

Glucagon-like-peptide-1 receptor agonists (GLP-1s) have been generating a lot of media hype in the context of the current obesity epidemic. Clinical trials have consistently demonstrated that the medications induce significant weight loss in short periods for most patients living with obesity. Another key conclusion drawn from these efficacy trials is that side effects are rare and can be effectively managed with appropriate support. However, these exciting discoveries have been tempered by the indication that a significant proportion of weight loss achieved through GLP-1 treatment comes from a reduction of fat-free mass (lean muscle and bone mass), and is often regained within several months of stopping the treatment.

Lean muscle mass is essential for physical function, disease prevention and general quality of life. Inadequate muscle mass limits human ability to perform daily tasks such as carrying shopping bags, walking up stairs without difficulty, or maintaining a healthy sitting posture. For people whose hobbies include higher energy activities such as hiking, social sports or playing with their children, muscle mass deficiencies become even more of a hindrance to their wellbeing. Perhaps most concerningly, people with low relative muscle mass are both at a greater risk of developing critical illnesses and take longer to recover from acute conditions. Lean muscle mass is also highly important for long-term weight management and bone health, with stronger bones reducing the likelihood of fractures, osteopenia and osteoporosis. The National Institute of Health and Care Excellence has stressed that GLP-1 treatment should only ever be used as a supplement to lifestyle (diet and exercise) therapy that is guided by well-connected multidisciplinary care teams. Doing this could help patients maintain lean muscle mass while losing weight, and also reduce the chance of regaining weight after stopping GLP-1 treatment, especially if the lifestyle program focuses on resistance training and high-protein dieting.

This study aims to test whether an advanced lifestyle program (proactive coaching and muscleretention focus) with GLP-1 supplementation leads to better and more sustainable health outcomes for people with overweight and obesity than a basic lifestyle program with GLP-1 supplementation. The study's findings should help policymakers and researchers develop clear program design standards for weight loss services in the UK.

#### Who can participate?

Adults between 18 and 70 years who doctors consider eligible for tirzepatide weight-loss treatment, based on Medicines and Healthcare products Regulatory Agency (MHRA) guidelines and Mounjaro product information.

#### What does the study involve?

Participants will be asked to present at a certified UK pathology clinic to provide a blood sample that measures various biomarkers. They will also be required to present at a designated sports clinic to provide body composition and strength measurements. Participants will then be randomly allocated to one of the two study groups. Those in the first group will receive advanced health coaching and tirzepatide treatment. Those in the second group will receive basic health coaching and tirzepatide treatment. Both groups will receive coaching and treatment for 6 months when they will again present at a pathology and sports clinic to provide the same measurements as they did at the start of the study. These measurements will be recorded again at 12 months (6 months after the coaching and treatment has ended). Both interventions will be delivered through a mobile phone app (computer platform available for those without smartphones) and therefore participants will have the freedom to implement lifestyle changes in their chosen environment. Blood samples will be collected at UK-registered pathology clinics, and body composition and strength measurements will be provided at designated UK sports clinics.

What are the possible benefits and risks of participating?

Participants may experience body composition improvements. However, there are several risks of participating in the study, including musculoskeletal injuries, anxiety, nausea, stomach issues, diarrhea, constipation, skin rashes, and in rarer cases, pancreatitis, gallbladder disease, low blood sugar and acute kidney injuries.

Where is the study run from? Eucalyptus (Juniper) UK

When is the study starting and how long is it expected to run for? November 2023 to October 2025

Who is funding the study? Eucalyptus (Juniper) UK

Who is the main contact? Dr Louis Talay, louis.talay@sydney.edu.au

## **Contact information**

**Type(s)** Public, Scientific, Principal Investigator

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## Additional identifiers

EudraCT/CTIS number Nil known

#### **IRAS number**

**ClinicalTrials.gov number** Nil known

Secondary identifying numbers ACTRN12624000022561p

## Study information

#### Scientific Title

The effectiveness and sustainability of health outcomes from an advanced GLP-1-supported digital weight-loss programme in the UK: a randomized controlled trial

#### Acronym

EQLADWLS

#### **Study objectives**

This study aims to assess the effectiveness, quality-of-life, and retention benefits of changing the health coaching component within a real-world GLP-1 RA-supported digital weight-loss service (DWLS) from a reactive to a proactive care model. It is hypothesized that proactive engagement from multidisciplinary teams will result in higher program adherence levels, which in turn, will improve weight loss and health-related quality of life (HRQoL) outcomes.

#### Ethics approval required

Ethics approval required

#### Ethics approval(s)

Approved 24/05/2024, Bellberry Limited (123 Glen Osmond Rd, Eastwood, 5063, Australia; +61 (08) 8361 3222; bellberry@bellberry.com.au), ref: 2023-11-1454

#### Study design

Randomized double-blind active-controlled study

## Primary study design

Interventional

Secondary study design

Randomised controlled trial

**Study setting(s)** Community, Fitness/sport facility, Home, Laboratory

**Study type(s)** Quality of life, Treatment, Safety, Efficacy

**Participant information sheet** See study outputs table

Health condition(s) or problem(s) studied Overweight and obesity

#### Interventions

The study will apply stratified randomisation through the LaunchDarkly program in order to achieve comparable representation of the various BMI categories, age categories and ethnicities in both treatment and control groups.

Participants in the treatment group will receive weekly subcutaneous injections of 2.5 mg tirzepatide for 4 weeks, with the dose increasing to 5 mg from week 5 until the end of the intervention period at 6 months. Tirzepatide will be sent to patients on a monthly basis to self-administer, along with return labels to allow study investigators to monitor treatment adherence (drug vial return).

As part of the group's advanced behavioural intervention, participants will have access to asynchronous, patient-initiated health coaching 5 days a week, 18 hours a day for the duration of the intervention. Health coaching (diet and exercise) will be delivered by a team of dietitians and mental health nurses through a mobile phone application in the form of videos, text messages, infographics and spreadsheets, and will be personalised for each treatment group participant, based on the assessment of the prescribing doctor and the participant's goal setting sessions with their health coaching team. Although personalisation will be prioritised, health coaches will focus on high-protein diets and resistance training, helping participants work towards 3 days-a-week of 45-minute resistance training sessions and diets that aim for 1.6 g of protein per kilogram of bodyweight (with 30 g protein per meal and 15g per snack, as a general recommendation). Each treatment group participant will receive a minimum of 1 asynchronous goal-setting and accountability session (45 minutes) and weekly asynchronous check-ins (15 minutes) for the first 12 weeks of treatment. Participant adherence to the behavioural intervention will be monitored through app analytics of weight-logging frequency, food diary input (text and image), and total app engagement.

From months 6 to 12, participants in the treatment group will continue to have access to educational resources and their goals via the program app but will no longer be able to communicate with their multidisciplinary team.

Participants in the control group will receive the same medical intervention as participants in the treatment group, i.e., weekly subcutaneous injections of 2.5 mg tirzepatide for 4 weeks, with the dose increasing to 5 mg from week 5 until the end of the intervention period at 6 months. For the behavioural intervention, control group participants will receive standardised diet and exercise counselling in a group session at the start of the trial (based on World Health Organisation recommendations). The group session will be delivered by a dietitian via

videoconferencing software (Zoom) to a maximum of 20 participants per group. A summary sheet of the session's recommendations will be sent to control group participants at months 2 and 4 of the trial period. Session attendance checklists and email logs will be used to monitor adherence to group sessions.

#### Intervention Type

Behavioural

#### Primary outcome measure

1. Body weight measured via medical scales at baseline, 6 months post-trial commencement, and 6 months following the end of treatment

2. Ratio of fat-free mass to fat mass measured via DEXA scan at baseline, 6 months post-trial commencement, and 6 months following the end of treatment

3. Composite strength (isometric squat, push and mid-thigh pull) measured via force plates at baseline, 6 months post-trial commencement, and 6 months following the end of treatment

#### Secondary outcome measures

1. Side effect incidence (e.g., gastrointestinal issues, stomach issues, dizziness, anxiety, fever, skin rash, etc) assessed by an independent doctor (via video consult) at any stage of the trial 2. Pathology results, including fasting glucose, fasting insulin, HbA1c and fasting lipid levels, measured via a blood test at baseline, 6 months post-trial commencement, and 6 months following the end of treatment

3. BMI: measured via medical scales and stadiometer (weight [kg]/height^2 [metres]) at baseline, 6 months post-trial commencement, and 6 months following the end of treatment

### Overall study start date

01/11/2023

#### **Completion date**

01/10/2025

## Eligibility

#### Key inclusion criteria

1. Between 18 years and 70 years of age at the time of completing the program's prequestionnaire

2. Satisfy the Medicines and Healthcare products Regulatory Agency (MHRA) guidelines for tirzepatide (Mounjaro) weight management

3. BMI of 30kg/m<sup>2</sup> or more (obesity), or a BMI between 27-30kg/m<sup>2</sup> (overweight) and also have weight-related health problems such as prediabetes, high blood pressure, high cholesterol, or heart problems

Participant type(s) Patient

**Age group** Adult

**Lower age limit** 18 Years

### Upper age limit

70 Years

**Sex** Both

Target number of participants 1000

#### Key exclusion criteria

1. Outside the 18-70 year age bracket

2. Does not have a BMI of 30 kg/m2 or more, or a BMI of 27-30 kg/m2 with at least one weightrelated comorbidity such as pre-diabetes, high blood pressure, high cholesterol, heart problems 3. Has already started tirzepatide treatment as a current subscriber to the Eucalyptus weightloss program

4. Failure to provide baseline measurements within three weeks of receiving confirmation of trial participation

Date of first enrolment

01/08/2024

## Date of final enrolment

28/08/2024

## Locations

#### **Countries of recruitment** England

Northern Ireland

Scotland

United Kingdom

Wales

#### Study participating centre Eucalyptus

12 New Fetter Lane London United Kingdom EC4A 1JP

## Sponsor information

#### Organisation

Eucalyptus

#### Sponsor details

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#### Sponsor type

Industry

Website https://www.myjuniper.co.uk/

## Funder(s)

Funder type Industry

**Funder Name** Eucalyptus

## **Results and Publications**

**Publication and dissemination plan** Planned publication in a peer-reviewed journal

# Intention to publish date 01/10/2026

#### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be stored in a publicly available repository (link to be provided before study commencement).

The datasets generated during and/or analysed during the current study will be published as a supplement to the results publication.

#### IPD sharing plan summary

Stored in publicly available repository, Published as a supplement to the results publication

#### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet			21/05/2024	No	Yes
<u>Statistical Analysis Plan</u>			21/05/2024	No	No