

# Psychosocial support to adults with newly diagnosed type 1 diabetes

<b>Submission date</b> 20/12/2024	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
<b>Registration date</b> 27/12/2024	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 23/12/2024	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data
		<input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Type 1 diabetes causes the level of glucose (sugar) in your blood to become too high. It happens when your body cannot produce enough of a hormone called insulin, which controls blood glucose. You need daily injections of insulin to keep your blood glucose levels under control. In this study, we will test and optimise a programme of support for adults (aged 20 years or older) with new-onset type 1 diabetes (T1D) to help them adjust to living with diabetes and integrate the diabetes self-care responsibilities such as taking insulin and blood sugar tests multiple times each day as part of their lives.

The programme was designed with adults with new-onset T1D and health care professionals to address the support needs of adults following the diagnosis. The programme is called the Living with and ADapting to DiabetEs PRogramme (LADDER). The aim of this study is to see if participating in the programme improves the physical, psychological, and social wellbeing of adults with new-onset T1D.

### Who can participate?

Adults aged 20 years or older who have recently been diagnosed with T1D

### What does the study involve?

The programme has two elements: early psychological support using visual conversation tools in both one-to-one sessions with health professionals in clinical settings and group sessions co-delivered by a person with T1D and a health professional. The programme covers the emotional, physical, and social impact of diabetes in everyday life and understanding diabetes care. The current study will test the first element, the one-to-one sessions. Group sessions will be tested in the UK.

The study lasts 15 months, and we aim to assess the participants' experiences within the programme and the way it impacts their social and psychological wellbeing and how they look after their diabetes. In so doing we will identify the views of adults with new-onset T1D on the one-to-one session programme component. This understanding together with the assessment of the programme's impact will enable us to improve the programme before we test it in a larger study. In addition, we aim to collect information which will help us design a future study by

considering issues in relation to the recruitment of adults with new-onset T1D to the study; how many participants complete the programme; and the measures we use to assess the impact and the delivery of the programme.

What are the possible benefits and risks of participating?

Based on the findings from our previous studies, potential benefits for adults with new-onset type 1 diabetes will include:

1. Enhanced psychological adjustment to living with diabetes
2. Enhanced social confidence and well-being
3. Increased attention to self-management behaviours and participation in diabetes care
4. Improved sugar levels in the short term, reducing acute and long-term health risks
5. Reduced psychological distress, anxiety, and depression
6. Prevention of hospital admissions and diabetes-related health events

These benefits will be experienced in the short-term by those who participate in the study; and in the longer term, should a larger study be successful, to the wider population of adults with new-onset type 1 diabetes. In terms of the latter benefit, provided the outcomes of the studies are positive then it is conceivable that the programme could be made available both in Denmark and in the UK.

We do not consider there to be any major risks associated with this study, as we have worked very closely with adult with new-onset type 1 diabetes in both developing the LADDER programme and in designing the current study. Therefore, we are confident that the approach we have proposed will be acceptable to participants. As with any study of a new care provision that involves collecting personal information from participants, there are some potential hazards to consider. In respect of LADDER, these mainly relate to the potential for causing emotional upset (either through their experiences in the programme or during interviews) and safeguarding issues. The interventionists will monitor these issues carefully by listening closely to how participants express their experiences in the programme and during the interviews. They will be mindful of any signs of emotional upset and where required ensure the appropriate additional care is instigated via their diabetes clinicians. All the researchers involved in the study will have safeguarding training and will adhere to the safeguarding policies of the hospitals. Any adverse occurrences that occur during the study will be logged and reported to the PI and CI for appropriate action, They will also be presented anonymously to the advisory board. The main burden will be the time commitment to completing the consent procedures, and questionnaires and attending the one-to-one sessions. However, we have addressed this by working together with adults with new-onset type 1 diabetes to identify which measures we would use in the questionnaires. Participants will be free to withdraw from the study at any point.

Where is the study run from?

Steno Diabetes Center Copenhagen

When is the study starting and how long is it expected to run for?

February 2018 to March 2023

Who is funding the study?

1. The Novo Nordisk Foundation (Denmark)
2. Jascha Foundation (Denmark)

Who is the main contact?

Dr Mette Due-Christensen, [mdue0015@regionh.dk](mailto:mdue0015@regionh.dk)

## Contact information

**Type(s)**

Public, Scientific, Principal Investigator

**Contact name**

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## Additional identifiers

**EudraCT/CTIS number**

Nil known

**IRAS number****ClinicalTrials.gov number**

Nil known

**Secondary identifying numbers**

VD-2018-196

## Study information

**Scientific Title**

A feasibility study and process evaluation in Denmark of an integrated support programme for adults following a diagnosis of type 1 diabetes - the Living with and ADapting to DiabetEs Programme (LADDER)

**Acronym**

LADDER

**Study objectives**

The main objective of the study is to test the feasibility of one-to-one LADDER sessions in terms of programme acceptance, implementability, recruitment and completion and to explore any effects on clinical, psychological, and social outcomes

**Ethics approval required**

Ethics approval not required

**Ethics approval(s)**

Ethics approval is not required in Denmark for studies that do not involve blood tests or invasive tests. Approval from the Danish Data Protection Agency was required and has been obtained (VD-2018-196).

Approval from the Danish Data Protection Agency was sought and granted for both the development phase and the feasibility testing of the study.

### **Study design**

Non-randomized multi-centre trial

### **Primary study design**

Interventional

### **Secondary study design**

Non randomised study

### **Study setting(s)**

Hospital, Medical and other records

### **Study type(s)**

Treatment

### **Participant information sheet**

See study outputs table

### **Health condition(s) or problem(s) studied**

Type 1 diabetes

### **Interventions**

The purpose of the study is to test the feasibility of one component of the LADDER programme, the research design, and the study outcomes. The study is a non-randomised multicentre trial testing component A of LADDER, namely one-to-one sessions.

The LADDER intervention was developed through a co-design process involving both people with type 1 diabetes and healthcare professionals. Two intervention components (A: one-to-one sessions and B: group sessions) underpinned by a bio-psycho-social model of adaptation were developed to provide an overarching framework and to reflect the multiple changes the diagnosis of T1D in adulthood introduces. It draws on acceptance and commitment theory; person-centered counselling; and self-determination theory. The intervention consists of the use of three visual dialogue tools developed specifically for and by adults with new-onset T1D to address the psychological and social impact of the diagnosis and how to adapt to life with diabetes.

In the feasibility study participants will be exposed to the LADDER one-to-one sessions or usual care (UC) in their diabetes clinic. Eligible adults with new-onset type 1 diabetes will be allocated to either intervention or UC group 2:1 depending on whether the HCP they see at the first study consultation is trained in using the LADDER tools.

Participation involves attending two one-to-one sessions starting 1-3 months post-diagnosis. The sessions will address their experiences, thoughts and emotions about the diagnosis, expectations and practical questions, and diabetes in everyday life. The sessions involve two visual conversational tools developed in the co-design project focusing on:

1. Diabetes in everyday life (work and relationships)

2. Diabetes practicalities

3. Developing diabetes acceptance

4. Understanding diabetes care

Usual care consists of two standard diabetes appointment in a similar period delivered by healthcare professionals who have not received training in LADDER.

Participants will be recruited from two diabetes centres in Denmark: Steno Diabetes Center Copenhagen and Steno Diabetes Center Odense. The intervention will be delivered by trained healthcare professionals in both settings.

Alongside the quantitative evaluation the researchers will collect qualitative data from participants and healthcare professionals to explore the benefit of participating in the intervention, the acceptability, appropriateness, and feasibility of the intervention as well as any unintended outcomes. The researchers will conduct interviews with participants after they have completed the sessions (n = 15) and healthcare professionals who deliver the intervention (n = 5). All interviews will be recorded digitally and transcribed word by word and analysed using framework analysis.

### **Intervention Type**

Behavioural

### **Primary outcome measure**

The researchers have not identified an individual primary outcome for the feasibility study because the intervention has been modelled to affect multiple outcomes. They will use the following outcome measures:

1. General health is measured by SF-36 at baseline, 6 and 9 months

2. Acceptance is measured by the Illness Identity Questionnaire at 3, 6 and 9 months

3. Illness perception is measured by the Brief Illness Perception Questionnaire at baseline, 3, 6 and 9 months

4. Well-being/depression is measured by WHO-5 at baseline, 6 and 9 months

5. Diabetes distress is measured by Problem Areas in Diabetes Scale at 3,6, and 9 months

6. Diabetes resilience is measured by the Diabetes Empowerment Scale-short form at 3, 6, and 9 months

7. Interactions with health care professionals measured by health care climate questionnaire at baseline

8. Impact of diabetes on everyday life measured by DAWN questionnaire at baseline, 3 and 6 months and by SF-36 role function (physical and emotional) at baseline and 3 months

9. Social support is measured by experience in close relationships at baseline and by the DAWN questionnaire at baseline, 3 and 6 months

10. Perceived stress is measured by the perceived stress scale at baseline, 3 and 6 months

11. Engagement with diabetes care is measured by attendance at screening and diabetes appointments at the end of the study

12. Hypoglycaemia (blood glucose <3.5 mmol/L) and severe hypoglycaemic events (where third-party assistance is required) measured using data collected from patient medical records at the end of the study

13. Glycaemic control is measured by HbA1c at baseline, 3, 6 and 9 months

### **Secondary outcome measures**

There are no secondary outcome measures

**Overall study start date**

01/02/2018

**Completion date**

31/03/2023

## Eligibility

**Key inclusion criteria**

Diagnosed with type 1 diabetes within the last 3 months

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

20 Years

**Upper age limit**

100 Years

**Sex**

Both

**Target number of participants**

50

**Total final enrolment**

49

**Key exclusion criteria**

1. Severe physical or mental illness
2. Unable to engage in conversation with the dialogue tools
3. Unable to speak or understand Danish

**Date of first enrolment**

29/01/2021

**Date of final enrolment**

17/03/2022

## Locations

**Countries of recruitment**

Denmark

**Study participating centre**  
**Steno Diabetes Center Copenhagen**  
Borgmester Ib Juuls vej 83  
Herlev  
Denmark  
2730

**Study participating centre**  
**Steno Diabetes Center Odense**  
Kloevervaenget 6, Indgang 93  
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## **Sponsor information**

**Organisation**  
Steno Diabetes Center Copenhagen

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**Sponsor type**  
Hospital/treatment centre

## **Funder(s)**

**Funder type**  
Industry

**Funder Name**  
Novo Nordisk Fonden

**Alternative Name(s)**  
Novo Nordisk Foundation, Novo Nordic Foundation, NNF

**Funding Body Type**

Private sector organisation

### Funding Body Subtype

Trusts, charities, foundations (both public and private)

### Location

Denmark

### Funder Name

Jaschafonden

## Results and Publications

### Publication and dissemination plan

The researchers plan to publish in a peer-reviewed journal and to disseminate findings at conferences.

### Intention to publish date

31/03/2025

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Dr Mette Due-Christensen (mdue0015@regionh.dk)

### IPD sharing plan summary

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>			20/12/2024	No	Yes