22nd Scientific Spring Meeting

Cluj-Napoca, Transylvania, România

5th-7th May 2017

Programme and Abstracts
Dear Members,

Welcome to the 22nd PSAD Scientific Spring meeting and welcome to Romania and the city of Cluj-Napoca, the unofficial capital of the historic province of Transylvania. The city was built on the site of a pre-Roman settlement named Napoca; the name Cluj dates from the early middle ages. Today, Cluj-Napoca is one of the most important academic, cultural and business centres in Romania.

For this year’s meeting, we have continued to make the programme as interactive as possible with time for discussions and exchange of ideas. As per tradition however, the scientific programme will start with the Anita Carlson lecture. We are very pleased that Prof. Kamlesh Khunti (University of Leicester, UK) has accepted our invitation to give the lecture this year. Professor Khunti is Head of Department and Professor of Primary Care, Diabetes and Vascular Medicine and has (co-)authored over 400 publications. In 2015, he was ranked as one of the most influential GP researchers on diabetes in the UK. His research focuses on quality improvement, especially in cardiovascular disease and diabetes. He has a strong interest in psychosocial issues in diabetes. The title of his presentation is: “Self-management education programmes for prevention and management of chronic diseases”. After the lecture and discussion, there will be dinner at the hotel.

Saturday will start with a discussion session, chaired by Prof. Frank Snoek, regarding the recently published ADA Psychosocial Guidelines. After the coffee break, there will be two parallel sessions devoted to work in progress; one session related to self-management interventions and the other on factors related to motivation to self-care. The work-in-progress sessions will be followed by the PSAD Business meeting. Although the business meeting usually takes place at the end of the meeting on the Sunday, we have brought this forward to allow attendees to catch their early flights on Sunday. After lunch there will be a session of presentations of completed work.

The social programme will include a visit to the Turda Salt Mine with a 14.45 departure of the bus. There will be plenty of time for discussions and exchange during the bus ride. Dinner is at 18.30 at restaurant "La Casa" with Chef Dan Muntean.

Sunday’s sessions will start with a debate on whether e-health or face-to-face contact are the best way forward to promote self-management and mental health. The debate will be chaired by Profs. Ingrid Willaing and Katherine Barnard. The remainder of the morning will be filled with two parallel sessions of work in progress (one session focusing on quantitative research and the other on qualitative research), and opportunities for further discussion and networking. The meeting will close at 11.45 allowing everyone to catch their flights.

On behalf of the Executive Committee, and the local organiser, Andreia Mocan, I wish you a fruitful and rewarding meeting and a pleasant stay in Cluj-Napoca.

Prof. Arie Nouwen
Chair of the PSAD
### Scientific Programme Friday, 5 May

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.00-19.00</td>
<td>Registration (€150) and welcome reception at the hotel</td>
</tr>
<tr>
<td>19.00-19.15</td>
<td>Welcome – Opening remarks</td>
</tr>
<tr>
<td>19.15-20.15</td>
<td><strong>Anita Carlson Lecture: Professor Kamlesh Khunti, United Kingdom.</strong></td>
</tr>
<tr>
<td></td>
<td>Self-management Education Programmes for Prevention and Management of Chronic Diseases.</td>
</tr>
<tr>
<td>20.30</td>
<td>Dinner</td>
</tr>
</tbody>
</table>

### Saturday, 6 May

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.30-9.30</td>
<td><strong>Discussion: ADA guidelines</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Chair: Frank Snoek</strong></td>
</tr>
<tr>
<td></td>
<td>Last December, the ADA published a position statement on psychosocial care for people with diabetes (Young-Hyman et al., Diabetes Care 2016;39:2126-2140). The ADA recommended that psychosocial care should be integrated with collaborative patient-centred care and provided to all people with diabetes to optimize health outcomes and health-related quality of life. To do so, providers should consider assessment of a host of psychosocial and self-management issues while taking into account life stages and circumstances, initiate interventions where possible or refer the person to a qualified behavioural health care provider.</td>
</tr>
<tr>
<td></td>
<td>As the official study group of the EASD, I think it is important to discuss these issues and to consider (1) whether we should respond to these guidelines, and (2) whether we should propose to the EASD a position statement on the psychosocial care in diabetes in a European context.</td>
</tr>
<tr>
<td>9.30-9.45</td>
<td>Coffee break</td>
</tr>
<tr>
<td>9.45-11.05</td>
<td><strong>Work in progress – parallel sessions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Chair: Marcel Adriaanse</strong></td>
</tr>
<tr>
<td>9.45-10.25</td>
<td>Treating patients with poor diabetes acceptance: Pilot testing of the effects a structured treatment program on diabetes acceptance, self-management, glycaemic control and psychosocial functioning.</td>
</tr>
<tr>
<td></td>
<td>A. Schmitt</td>
</tr>
<tr>
<td>10.25-11.05</td>
<td>POWER2DM: A diabetes self-management support system</td>
</tr>
<tr>
<td></td>
<td>I.P. Smith</td>
</tr>
<tr>
<td></td>
<td><strong>Session II</strong></td>
</tr>
<tr>
<td>9.45-10.25</td>
<td>A systematic review and meta-analysis of psychological interventions to improve motivation for self-management in type 2 diabetes mellitus</td>
</tr>
<tr>
<td></td>
<td>R. Upsher</td>
</tr>
<tr>
<td>10.25-11.05</td>
<td>An exploratory study of attendance by South Asian women at a community-based diabetes clinic</td>
</tr>
<tr>
<td></td>
<td>S-A. Francis</td>
</tr>
<tr>
<td>11.05-12.05</td>
<td><strong>PSAD Business Meeting</strong></td>
</tr>
<tr>
<td>12.05-13.00</td>
<td>Lunch</td>
</tr>
</tbody>
</table>

---
### Saturday, 6 May

<table>
<thead>
<tr>
<th>13.00-15.20 Completed Work</th>
<th>Chair: Maartje de Wit</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00-13.20</td>
<td>Glycaemic control and antidepressant medication: results of the depression and diabetes control trial (DDCT)</td>
</tr>
<tr>
<td>13.40-14.00</td>
<td>Experiences and attitudes regarding insulin pump therapy: Psychometric evaluation of a new questionnaire</td>
</tr>
<tr>
<td>14.00-14.20</td>
<td>Screening risk factors for type 2 diabetes in obese adolescents in school settings: A population-based study</td>
</tr>
<tr>
<td>14.45</td>
<td>Bus to the Salt Mine</td>
</tr>
<tr>
<td>18.30</td>
<td>Dinner</td>
</tr>
</tbody>
</table>

### Sunday, 7 May

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9.30-9.45</td>
<td>Coffee break</td>
<td></td>
</tr>
</tbody>
</table>

#### 9.45-11.45 Work in progress – parallel sessions

**Session I:** Chair: Norbert Hermanns

| 9.45-10.25 | Sexual activity in people with type 1 diabetes | K. Kanc |
| 10.25-11.05 | Glycemic variability in adolescents with type 1 diabetes: A role for emotional problems? | L. Nguyen |

**Session II:** Chair: Jackie Sturt

| 9.45-10.25 | A new approach to engage emerging adults with type 1 diabetes in life with diabetes | D. Grabowski |
| 10.25-11.05 | Using Patient-Reported Outcomes to promote patient activation and personalized psychosocial support in type 1 diabetes routine consultation (UPRO) - A study of the adaptation and effects of monitoring psychosocial patient reported outcome measure. | L. Joensen |
| 11.05-11.45 | Whose diabetes is it anyway? Exploring the division and transference of diabetes care responsibilities from parents to children with type 1 diabetes | J. Aalders |

| 11.45-12.00 Final remarks |
Social programme: Turda Salt Mine

Only 30 km away from Cluj, there is the old city of Turda. As a Dacian settlement, Turda was conquered by the Roman Empire between 105-106 AD, when Roman Emperor Trajan defeated the Dacian King Decebalus in his second Danube campaign. Legio Qvinta Macedonica was stationed on the hills near Turda (Potaissa) at the beginning of 101 AD to protect the border of the Roman Empire.

The exploitation of the salt deposit of Turda (Potaissa) started during the Roman occupation (106-271 AD) of Dacia and had an important contribution to the development of the city. The Turda Salt Mine was the one of most important salt mines in Transylvania until after 1862 when the Salt Mine of Ocna Mureș became the main extracting mine in the region. At that time the salt mine had three important wells, ‘Joseph’, ‘Theresa’ and ‘Anthony’, where the extraction depth reached 108 meters. After the first World War, the salt mine became state monopoly and was closed in 1932. In the Second World War it was used as an anti-aircraft shelter. In 1992 the salt mine was reopened as a tourist site and the first 500 meters of the “Franz Joseph” gallery were used as a warehouse for cheese storage. These days, the Turda Salt Mine is a ‘genuine history museum of salt exploitation’.

Located in the North-West of Romania, Cluj-Napoca, the ancient capital of Dacia Porolissensis and the former capital of Grand Principality of Transylvania, is the second largest city of the country. Cluj was one of the seven medieval Saxon cities in Transylvania and had a flourishing civilization in the Middle Age. The city was first fortified in 1321 AD, after a Tartar invasion with the center of the city in today Museum Square where ‘La Casa’ restaurant is. Founded in Cluj, initially ‘La Casa’ was created as a bakery shop which later became a chain that spread throughout Transylvania. Today, for Cluj only, the owners wanted to have a restaurant where people could enjoy time with family and friends, eating delicious meals. Traditional and international cuisine with local food products can be provided Chef Dan Muntean.

We are looking forward to see you in Cluj!
Title: TREATING PATIENTS WITH POOR DIABETES ACCEPTANCE: PILOT TESTING OF THE EFFECTS OF A STRUCTURED TREATMENT PROGRAM ON DIABETES ACCEPTANCE, SELF-MANAGEMENT, GLYCAEMIC CONTROL AND PSYCHOSOCIAL FUNCTIONING

Authors:
A Schmitt¹,², A Reimer¹,², B Kulzer¹,², D Ehrmann¹, A Schaefer¹, B Maier¹, T Haak¹, N Hermanns¹,²

Institute:¹ Research Institute of the Diabetes Academy Mergentheim (FIDAM), Diabetes Center Mergentheim (DZM), Bad Mergentheim, Germany
² German Center for Diabetes Research (DZD), Munich, Germany

AIMS
The extent to which a person accepts diabetes as part of one’s life is called diabetes acceptance. Patients unable to develop functional diabetes acceptance report high diabetes distress, elevated depressive symptoms and reduced quality of life. Moreover, lower diabetes acceptance has been associated with less adherent self-management and higher HbA₁c. Recent evidence suggests that patients with poor acceptance may even be at higher risk of acute metabolic complications (i.e. severe hypoglycaemia and ketoacidosis). Concerned patients thus appear as a high-risk group in need of tailored care and support. However, specific treatments for this group have not been introduced. To close this current gap in the psychosocial care of patients with diabetes, we developed a novel psychological treatment program aiming to improve diabetes acceptance, which will now be pilot tested in a non-randomised controlled trial.

DESIGN/METHODS
A novel treatment program to improve diabetes acceptance (‘DIACCEPT’) was recently developed. DIACCEPT is a structured psychological program, integrating interventions from acceptance and commitment therapy with cognitive-behavioural concepts. It consists of ten sessions of 120 minutes each, to be delivered by trained psychologists in groups of six to eight patients. The planned study will pilot-test the efficacy of the DIACCEPT treatment in a non-randomised controlled trial. A total 90 patients with poor diabetes acceptance (Diabetes Acceptance Scale [DAS] score < 40) will be assessed at pre-treatment, post-treatment and 6-month follow-up. During a 2-week in-patient phase, the treatment group (n = 45) will receive the DIACCEPT treatment while a control group of matched patients (n = 45) will receive diabetes care as usual. During the following 6-month out-patient phase, no further treatment will be provided. The primary outcome measure is the increase in diabetes acceptance (DAS score) at 6-month follow-up. Secondary outcome measures are improvements in diabetes self-management (DSMQ), glycaemic control (HbA₁c), diabetes distress (PAID), depressive symptoms (PHQ-9) and health-related quality of life (EQ-5D). We expect to find significantly greater improvement of the primary outcome diabetes acceptance in the treatment group compared to the control group. Additional beneficial effects of the treatment on the secondary outcomes are also expected.

PLANNED ANALYSIS
The efficacy of the treatment in improving the primary and secondary outcomes shall be analysed using repeated measures ANOVA, adjusting for potential baseline between-group differences. The changes in each outcome variable from the pre-treatment assessment to the 6-month follow-up will be compared between the treatment and control group. A significant time x group interaction effect with greater
improvement in the treatment group compared to the control group would indicate superiority of the treatment. A p-value < 0.05 will be considered to indicate statistical significance. Preliminary power analysis (using G*Power): Based on the sample size of n = 90, a comparison between 2 groups, an α error probability of 0.05 and an assumed medium size of the within-between interaction effect of $f = 0.25$, the achieved power is > 0.99. In case of an assumed small effect of $f = 0.15$, the achieved power would still be 0.80. This indicates high statistical power for the planned hypothesis testing.

EXPECTED OUTCOMES
This research will pilot test the effects of a new structured treatment program for patients with poor diabetes acceptance in an in-patient diabetes care setting. We expect to find significantly greater improvement of the primary outcome diabetes acceptance in the treatment group compared to the care as usual group. Given the evidence that lower diabetes acceptance is associated with less adherent diabetes self-management, worse glycaemic control, higher diabetes distress and depressive symptoms and lower quality of life, additional beneficial treatment effects on these secondary outcomes are also expected. In case of supportive findings, a subsequent full-scale study may then be conducted to test the program in an out-patient setting and on a broader sample base. This research is intended to close the present gap in the psychosocial care of patients with diabetes, which does not provide tailored interventions for the high-risk group with poor diabetes acceptance.

PROBLEMS/QUESTIONS
- Do you consider a non-randomised trial with matched control group a suitable approach for this pilot study? Since several regular DIACCEPT treatment groups are offered by our clinic each year, collecting the attending patients’ consent and data together with that of matched controls would be easier to accomplish than a classical RCT. (By the way, what do you think about the name ‘DIACCEPT’?)
- What method of patient matching would you suggest? Which concrete variables should we look at to decrease potential risks of bias?
- Do you see different statistical approaches to analysing the data than the suggested repeated measures ANOVA? How do you feel about regression modelling or structural equation modelling in trial analyses?
Title: POWER2DM: A DIABETES SELF-MANAGEMENT SUPPORT SYSTEM

Authors: Ian Smith, Sasja Huisman, Jaap Sont (on behalf of the POWER2DM Consortium)

Institute: Leiden University Medical Center, Leiden, The Netherlands

AIMS

The goal of POWER2DM is designing Diabetes Self-Management Support System to help patients during and between medical consultations. Diabetes management begins in the consultation room but takes place primarily when the patient is at home without the benefit of professional medical advice. POWER2DM is designed to optimize DM self-management by increasing patient autonomy and self-efficacy through tailored feedback and support based on patient provided information and integrated eHealth technologies. Data gathered through POWER2DM can then be used in the consultation room to help diabetes caregivers adjust patient care plans to what works best for the patient.

POWER2DM helps patients via two methods of support. The first method is using predictive models for short and long term risks. The short-term risk model (KADIS) is currently used to optimize diabetes care by building a patient specific glucose metabolism model based on three days of patient monitoring of glucose level, diabetes self-care, food intake, and exercise. Diabetes caregivers can use this model to assess the impact that changes in diabetes self-management would have on glucose patient levels. The current model is being assessed as a predictive glucose model for use in POWER2DM. Long term risk models include the MARVEL model which assesses risk of diabetes complication development and standard cardiovascular and kidney disease risk models.

The second method is automated e-coaching and support tailored to the patient’s needs based on real-time data processing and interpretation. Using integrated mobile eHealth technologies including activity/sleep trackers, stress meters, and glucose monitors, along with questions assessing psychological state and self-management barrier assessment, we aim to provide patients with the support that they need to help improve and maintain control of their glucose levels and manage their diabetes by assessing barriers that the patients experience in their diabetes self-management and tailoring interventions to help the patient overcome them.

DESIGN/METHODS

We are currently conducting an observational pre-study (Quantification Campaign) to help refine the models using widely available eHealth technologies and identify questions which can be used in the POWER2DM final product to guide intervention tailoring. In this pre-study, patients engage in six weeks of tracking over three months broken up into two periods. The first period lasts four weeks (baseline to end first month) and consists of continuous tracking of physical activity, sleep, and heart rate (Fitbit Charge 2), respiratory rate as proxy for stress (Spire), glucose levels (FreeStyleLibre), dietary intake, stress, mood and diabetes medication and insulin usage (mobile phone application). The second period is a two week follow-up at the end of the third month involving the same continuous monitoring. Additionally, patients complete a questionnaire packet at the beginning of the study to assess quality of life, depression, anxiety, stress, diabetes related distress, diabetes self-management, diabetes related eating problems and measures of fear of diabetes complications, hypoglycaemia, self-testing, and needles. The stress, diabetes related distress, diabetes self-management measures will be repeated at the end of the first month and at the end of the third month along with the quality of life, depression, and anxiety measures. HbA1c will be measured at baseline

HbA1c will be measured at baseline.
and at the end of the study and hair cortisol will be measured at the end of the study (with retrospective effect) as a proxy for the average stress level in the past three months.

Data collection is taking place in three clinical sites in Europe (ServicioAndaluz de Salud, Cordoba, Spain; Leiden University Medical Center, Leiden, The Netherlands; Institut für Diabetes Gerhardt Katsch, Karlsburg, Germany). In total, N=60 patients are taking part in this study, with n=30 T1DM (n=15 from Leiden, n=15 from Karlsburg) and n=30 T2DM patients (n=20 from Cordoba, n=5 from Leiden, n=5 from Karlsburg).

Findings from this study will be used to assess a) how we can use data from a physical activity trainer and from a mobile diabetes self-management tracking application as automated inputs for the KADIS glucose prediction model and b) the stability of these glucose models created by KADIS. Additionally, data from this study will be used to look at the relationships between stress, glucose levels, physical activity, diabetes self-management, and mood.

**PLANNED ANALYSIS**

Linear regression modelling: relationship between continuous measures of stress/mood and glucose levels

Contemporaneous and Temporal Network Modelling of the continuous measures of stress/mood, glucose, physical activity, sleep, heart rate, and diabetes self-management to see how these factors interact with one another for use in targeting interventions.

**EXPECTED OUTCOMES**

Stress and Glucose have a reciprocal impact on each other
Many factors interact and impact diabetes self-management

**PROBLEMS/QUESTIONS**

1. Unable to send notifications for Ecological Momentary Assessments, rely on patient filling in mood and stress levels
2. Small sample size if each disease type/country seen as unique.
3. Which (psychological) parameters should be prioritized when targeting feedback?

<table>
<thead>
<tr>
<th>Site</th>
<th>T1DM</th>
<th>T2DM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Netherlands</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Germany</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>
Title: A SYSTEMATIC REVIEW AND META-ANALYSIS OF PSYCHOLOGICAL INTERVENTIONS TO IMPROVE MOTIVATION FOR SELF-MANAGEMENT IN TYPE 2 DIABETES MELLITUS

Authors: Rebecca Upsher, Daniel Stahl, Daniel Pollard, Michael Gillett, Alan Brennan, Simon Heller, Khalida Ismail, Kirsty Winkley

Institute: King’s College London; University of Sheffield

AIMS:
To conduct a systematic review and meta-analysis of psychological interventions to determine effectiveness in improving motivation for self-management for patients with type 2 diabetes mellitus (T2DM). To assess whether patient and intervention characteristics are associated with glycaemic control.

DESIGN/METHODS:
Systematic review and meta-analysis of randomized controlled trials (RCTs) of brief psychological interventions (1-50 sessions) to assess their effectiveness in improving motivation for self-management in T2DM versus control (usual care, diabetes education or less intensive psychological treatment). The following databases have been searched; MEDLINE, CINAHL, CENTRAL, PsychINFO, EMBASE, Web of Science, and The Cochrane Library from 2003 to 2016. The primary outcome is glycaemic control. Secondary outcomes extracted will fall into the following two categories; changes in self-management behaviours or changes in psychological functioning.

PLANNED ANALYSIS:
Data will be extracted on publication characteristics, participant sociodemographics and clinical characteristics, and intervention/control characteristics (including type, theoretical framework, interventionist characteristics/training, and mode of delivery). A meta-analysis will be performed on the primary outcome; change in glycaemic control from baseline to 1-year follow-up. Authors will be contacted for missing data necessary for meta-analysis in the primary outcome. A meta-analysis will be performed on secondary outcomes if there is enough data reported (≥5 studies). Subgroup analyses will be conducted to identify clinical characteristics of patients who have better or worse diabetes self-management or glycaemic control, e.g. by age, gender, complication status. A risk of bias assessment will be conducted using the Cochrane Handbook Tool for Risk of Bias for RCTs.

EXPECTED OUTCOMES:
Previous systematic reviews and meta-analyses of RCTs of psychological interventions for people with T2DM found that psychological interventions were effective in improving glycaemic control. In this review, a preliminary meta-analysis has been conducted where there was enough reported data on glycaemic control (primary outcome) without contacting authors. This analysis of 25 trials found a pooled standardised mean difference in glycaemic control of -0.15% (95% CI -0.26, -0.03), for up to 1-year follow-up. These findings were consistent with previous meta-analyses. Secondary outcomes thus far include; changes in self-management behaviours (self-care behaviours, medication adherence, blood glucose monitoring, physical activity, diet), and changes in psychological functioning (psychological distress, self-efficacy, quality of life, depression, coping, anxiety, stress, illness perceptions, medication
beliefs, well-being, social support). A meta-analysis has not yet been conducted on secondary outcomes. Previous systematic reviews suggest that psychological interventions are effective in improving psychological distress, and psychological status. We expect to find similar findings in this review/meta-analysis for psychological functioning and we plan to report the evidence for self-management behaviours.

PROBLEMS/QUESTIONS TO BE ADDRESSED IN GROUP DISCUSSION:

- What component(s) of a psychological intervention leads to effective outcomes in type 2 diabetes?
- What clinical characteristics of patients determine better or worse glycaemic control?
- Which T2DM patient sub-groups should be targeted for psychological interventions?
Title: AN EXPLORATORY STUDY OF ATTENDANCE BY SOUTH ASIAN WOMEN AT A COMMUNITY-BASED DIABETES CLINIC

Authors: Sally-Anne Francis¹, Julie Smith¹, Pete Stokes¹, Anne Prestt²

Institute: ¹Anglia Ruskin University, Essex; ²Healthy Living Centre, Peterborough

AIMS:
To explore attendance at a community-based multidisciplinary diabetes clinic by older women of a South Asian origin.

1. To examine the characteristics of non-attenders at this diabetes clinic over a six month period (according to age, sex, ethnicity and time since diagnosis) compared with attenders.
2. To investigate perceived reasons for non-attendance at the service from the perspectives of staff members providing services at the clinic.
3. To explore the socio-cultural context of health service use by women aged 50+ with local community representatives supporting people of a South Asian origin.
4. To identify enabling factors and barriers to attendance from the perspective of a small sample of clinic patients (women aged 50 years+ and of South Asian origin).

SETTING:
This study has been designed in response to observations by diabetes clinic staff in the Healthy Living Centre in Peterborough, who report poor service attendance rates among older women of a South Asian origin.

Deprivation in Peterborough is higher than the average for England. Life expectancy for both men and women is lower than the England average; rates of early deaths from cardiovascular disease are worse than average. Reducing cardiovascular disease is a priority for the area of Peterborough; the prevalence of diabetes in people aged 17+ (2015-16) is 6.6% (13,473 people).

Nurse-led diabetes specialist teams often support local services to help prevent diabetes related complications, promote and support patient’s self-management of their condition and where possible, reduce or avoid hospital admissions. Structured education is available at the clinic such as the national DESMOND (Diabetes Education for Self-Management – Ongoing and Newly Diagnosed) programme.

DESIGN/METHODS:
Anonymised clinic records will be retrospectively reviewed to determine the age, sex, ethnicity and time since diagnosis of attenders and non-attenders at the clinic over a 6-month period.

Interviews with a representative sample of diabetes clinic staff from different professional backgrounds will be undertaken to determine their perspectives of the perceived reasons for non-attendance at the clinic by women of South Asian origin and aged 50+.

Local community groups from South Asian communities will be identified and representatives invited to participate in interviews to explore the socio-cultural context of health service use by women aged 50+.
All women (aged 50 years or more) of a South Asian origin on clinic lists during a two-month period will be provided with an attender or non-attender status and invited to participate in the study. People will be approached, week by week, in the first instance by clinic staff, and if interested to participate will be followed up by the research assistant. The first five attenders and first five non-attenders who agree to participate in the study will be invited to take part in a clinic, home-based or community centre interview. It is anticipated that patient interviews will need to be conducted in local languages (most commonly Punjabi and Urdu). Through local contacts, an interviewer who speaks these languages will be recruited and become part of the research team through a training session, conducting interviews and translating the data.

PLANNED ANALYSIS:
Clinic record data will be collated and analysed using descriptive statistic procedures.

Interview data will be translated, transcribed and coded to identify descriptive themes, then refined through an iterative process of interpretation and recoding. SAF and JS will meet to discuss patterns emerging from the data and to evaluate and consolidate themes.

EXPECTED OUTCOMES:
This is an exploratory study of attendance by South Asian women at a community-based diabetes clinic. At the end of this small case study, we will be able to describe the characteristics of attenders and non-attenders at the clinic over a 6-month period. The socio-cultural context of health service use by women aged 50+ from a South Asian origin will be discussed from the perspectives of the women themselves, local community representatives and clinic staff. Factors that enabled attendance at this clinic and provided barriers to attendance will be highlighted for this patient group.

PROBLEMS/QUESTIONS (MAXIMUM OF THREE) THAT YOU WOULD LIKE TO BE ADDRESSED IN THE GROUP DISCUSSIONS:
1. What may be the challenges to conducting culturally-sensitive research with older South Asian women with diabetes?
2. What strategies may be employed to overcome these challenges?
Title: GLYCAEMIC CONTROL AND ANTIDEPRESSANT MEDICATION: RESULTS OF THE DEPRESSION AND DIABETES CONTROL TRIAL (DDCT)

Authors: André Reimer, Andreas Schmitt, Dominic Ehrmann, Bernhard Kulzer, Norbert Hermanns

Institute: Research Institute of the Diabetes Academy Mergentheim

AIMS
The comorbidity of diabetes and depression is associated with negative diabetes outcomes. Antidepressant medication is a means of treating depression in people with diabetes. However, there is a current discussion regarding diabetogenic effects of antidepressant treatment. This study analysed whether people with diabetes who received antidepressant medication showed higher HbA1c-values than untreated people with diabetes.

METHODS AND PARTICIPANTS
3722 people with diabetes (aged 47 ± 14 years, 47% female, 60% type-1-diabetes, diabetes duration 16 ± 11 years, HbA1c 8.7 ± 1.8%) were screened for depressive symptoms, HbA1c-values and antidepressant medication in the course of the DDCT and ECCE HOMO studies.

RESULTS
13% of the study population (n=491) were treated with antidepressant medication. This group showed significantly higher HbA1c-values than persons without antidepressant treatment (8.7 ± 1.8% vs. 8.9 ± 1.8%; P< 0.001). The effect was reduced but remained significant after adjusting for age, sex and severity of depressive symptoms (P = 0.04).

CONCLUSIONS
We found that people with diabetes who were treated with antidepressants at the time of the screening showed a significantly worse glycaemic control than people without antidepressant medication independent from the severity of their depressive symptoms. However, the observed group difference of 0.2 percent in HbA1c-values was rather small. A limitation of the study was that types and doses of antidepressants were not considered. Our analysis shows that the issue of potentially diabetogenic effects of antidepressant medication demands more attention in clinical practice.

This work was supported by the German Center for Diabetes Research (DZD).
**Title:** EFFICACY OF COGNITIVE BEHAVIORAL THERAPY FOR CHRONIC FATIGUE IN TYPE 1 DIABETES: A RANDOMIZED CONTROLLED TRIAL

**Authors:** Juliane Menting\(^1\), Cees J Tack\(^2\), Hans Knoop\(^{1,3}\)

**Institute:** \(^1\)Expert Centre for Chronic Fatigue, Department of Medical Psychology, Amsterdam Public Health research institute, VU University Medical Center, Amsterdam, the Netherlands
\(^2\)Department of Internal Medicine, Radboud University Medical Center, Nijmegen, the Netherlands
\(^3\)Academic Medical Center (AMC), University of Amsterdam, Department of Medical Psychology, Amsterdam Public Health research institute, Amsterdam, the Netherlands

**AIMS:**
Chronic fatigue in type 1 diabetes is highly prevalent and associated with impairment of daily functioning. However, there is no evidence-based treatment for chronic fatigue in type 1 diabetes. We developed a web-based cognitive behavioral therapy for chronic fatigue in type 1 diabetes, consisting of web-based modules together with face-to-face sessions, and tested its efficacy in a randomized controlled trial.

**METHODS AND PARTICIPANTS:**
Between February 2014 and March 2016, we screened 1816 patients with type 1 diabetes in one university medical center and four large teaching hospitals in the Netherlands. One-hundred twenty patients aged 18 to 70 with type 1 diabetes for at least one year and chronic fatigue were randomly assigned to either cognitive behavioral therapy (n=60) or a waiting list group (n=60). Computer-generated blocked randomization was used. Primary outcome was fatigue severity assessed with the Checklist Individual Strength, subscale fatigue severity (CIS fatigue). Secondary outcomes were functional impairment assessed with the Sickness Impact Profile-8 total score (SIP-8), glycemic control (HbA1c) and glucose variability. Analyses were conducted on the basis of intention to treat.

**RESULTS:**
Fatigue severity and functional impairment significantly decreased after cognitive behavioral therapy compared to waiting list with large effect sizes for both fatigue severity (\(d=1.3;\) 95%CI, 0.9-1.7) and functional impairment (\(d=0.8;\) 95%CI, 0.4-1.2). The proportion of clinically significant improvement on fatigue severity was higher in the cognitive behavioral group [46 of 60 (76.7%); 95%CI, 66.0-87.4] than in the waiting list group [15 of 60 (25%); 95%CI, 14.0-36.0; \(X^2=32;\) p<.001]. HbA1c and glucose variability did not change after cognitive behavioral therapy.

**CONCLUSIONS/DISCUSSION:**
To our knowledge, this is the first randomized controlled trial investigating the effects of cognitive behavioral therapy for chronic fatigue in type 1 diabetes. Although our findings need replication, they show that cognitive behavioral therapy is effective in reducing fatigue severity and functional impairment in patients with type 1 diabetes.
Title: EXPERIENCES AND ATTITUDES REGARDING INSULIN PUMP THERAPY: PSYCHOMETRIC EVALUATION OF A NEW QUESTIONNAIRE

Authors: Dominic Ehrmann, Bernhard Kulzer, Melanie Schipfer, Norbert Hermanns
Institute: Research Institute of the Diabetes Academy Mergenthal (FIDAM)

AIMS
Theoretically, insulin pump therapy (CSII) should offer patients a better chance to achieve optimal glycaemic control than insulin therapy with multiple daily injections (MDI). However, treatment outcomes of CSII generally fall short of expectations as patients with an insulin pump do not achieve better glycaemic control than patients with MDI. This could be due to negative experiences with or negative attitudes towards CSII therapy of patients. We developed a new questionnaire to assess these experiences and attitudes. In this study, we analysed the psychometric quality of this new questionnaire.

METHODS and PARTICIPANTS
264 patients with CSII therapy completed the questionnaire (age 43.7 ± 14.3 years, HbA1c 8.1 ± 0.9 %, diabetes duration 23.0 ± 12.4 years, duration of CSII 9.6 ± 7.4 years). Factor analysis revealed seven factors with the following Cronbach’s alpha: flexibility (α=.78), glycaemic control (α=.77), impaired body image (α=.77), technological dependence (α=.77), ease of use (α=.84), connectivity (α=.84) and overall satisfaction (α=.74).

RESULTS
Higher perceived flexibility due to CSII was associated with higher empowerment (r=.24) and self-efficacy (r=.22). Higher perceived chances for achieving better glycaemic control via CSII was associated with lower HbA1c-values (r=-.19) whereas an impaired body image was associated with higher HbA1c (r=.22) and higher diabetes distress (r=.51). Higher diabetes distress was also highly correlated with feeling more dependent to the technology (r=.44). Patients did more frequently use analysis software when their insulin pump was easier to use (r=.13). Rating a good connectivity as important was associated with more frequent use of temporary basal rates (r=.29) and bolus calculators (r=.40). Overall satisfaction with CSII therapy was associated with less diabetes distress (r=-.41) and higher empowerment (r=.29).

DISCUSSION
The new questionnaire showed good reliability and its validity could be demonstrated via significant associations with external criteria. In clinical practice, experiences and attitudes regarding CSII therapy can be systematically assessed. This allows for the assessment of factors that could have prognostic relevance for the development of diabetes distress as well as for achieving good glycaemic control in CSII patients.
Title: SCREENING RISK FACTORS FOR TYPE 2 DIABETES IN OBESE ADOLESCENTS IN SCHOOL SETTINGS: A POPULATION-BASED STUDY

Authors: Andrea Lukács PhD¹, Emőke Kiss-Tóth PhD¹, Ágnes Csordás², Péter Sasvári PhD³, László Barkai MD, PhD, DSc¹,⁴

Institute:
¹Faculty of Health Care, University of Miskolc, Miskolc, Hungary
²Hungarian Association of Health Visitors, Budapest, Hungary
³Faculty of Mechanical Engineering and Informatics, University of Miskolc, Miskolc, Hungary
⁴Velkey László Center for Child Health, Miskolc, Hungary

AIM:
This population-based quantitative study explored the proportion of at-risk adolescents for development of type 2 diabetes (T2D) at school settings of Hungary.

METHODS and PARTICIPANTS:
There were 3962 adolescents with BMIs over 85th percentile. School nurses completed a screening form to collect demographic data and risk factors for development of T2D / family history (accounted 83.3%), hypertension (75.0%), Acanthosis nigricans (37.1%), dyslipidemia (20.7%) and PCOS in females (9.6%).

RESULTS:
512 students (262 males, 250 females) had at least two signs of conditions associated with insulin resistance and considered at-risk individuals. There was no gender difference regarding the risk factors for T2D, however, adolescents born preterm (χ²(1)=4.292, p=.047) and living in rural areas (χ²(1)=5.520, p=.022) were more likely to be in risk group. Gender difference was observed in hypertension, and boys were more afflicted with higher T2D risk. Thirteen percent of adolescents are at-risk for development of T2D in later years.

CONCLUSIONS/DISCUSSION:
This population-based screening data highlights the need of the public health approach. School settings may serve as suitable location where the screening and preventive protocol can be developed.
W O R K I N P R O G R E S S

Title: SEXUAL ACTIVITY IN PEOPLE WITH TYPE 1 DIABETES

Authors: Karin Kanc, Miša Bakan, Maja Gostič, Irena Rahne Otorepec
Institute: jazindiabetes (Diabetes&Me), Private Diabetes Centre, Židovska ulica 1, Ljubljana, Slovenia

AIMS
There is scarce data on sexual activity in people with type 1 diabetes, as well as there are conflicting data on whether and how technology may influence it.

Our aim is to explore:
- whether type 1 diabetes per se interferes with sexual activity;
- whether wearing an insulin pump, augmented insulin pump (i.e. with continuous sensors) and wearing continuous sensors only, interferes with sexual activity.

DESIGN/METHODS
We plan to send (majority of novel, self-generated) questionnaires to all type 1 diabetes patients in our institution (currently 198 persons: 62 on pump and sensor; 74 on pump-only; 5 on sensor-only; 57 on basal/bolus). The (anonymous) questionnaires will be on basic demographic data, diabetes history, metabolic control, pump/sensor-treatment history, convenience/inconvenience of pump/sensor/catheter and information on sexual activity (ASEX q.).

PLANNED ANALYSIS
Descriptive statistics will be computed as mean ± SD and percentages will be determined using the number of responses as the denominator. For testing the sexual activity factors and other variables in the questionnaire, analysis of variance (ANOVA) will be used for quantitative variables and chi-square test for qualitative variables. For all tests, P values less than 0,05 will be considered significant.

EXPECTED OUTCOMES
We hope to get an insight into how type 1 diabetes per se interferes/not-interferes with sexual life of the patients. Moreover, we will see whether modern technology has anything to do with sexual activities. We also aim to get an insight, whether concern about sexual activity is a decisive factor for accepting/not accepting of the new technological therapeutic tools.

PROBLEMS/QUESTIONS
Do you have suggestions for additional validated questionnaires to include in the study?
Any other advice/sharing of experience
**Title:** GLYCEMIC VARIABILITY IN ADOLESCENTS WITH TYPE 1 DIABETES: A ROLE FOR EMOTIONAL PROBLEMS?

**Authors:** L.A. Nguyen\(^a\), G.M. Nefs\(^{a,b,c}\), H.J. Aanstoot\(^b\), E.E. Hartman\(^a\), P. Winterdijk\(^b\), F. Pouwer\(^{a,d}\)

**Institute:**
\(^a\) Department of Medical and Clinical Psychology, Center of Research on Psychological and Somatic disorders (CoRPS), Tilburg University, Tilburg, The Netherlands
\(^b\) National treatment and research center for children, adolescents and young adults with type 1 diabetes, Rotterdam, The Netherlands
\(^c\) Department of Medical Psychology, Radboud UMC, Nijmegen, The Netherlands
\(^d\) Department of Psychology, University of Southern Denmark, Odense, Denmark

**AIMS**

It is well known that glycemic control in adolescents with type 1 diabetes mellitus (T1D) is often suboptimal. Despite technological advances in diabetes care and efforts of multi-disciplinary healthcare teams, many adolescents are still struggling to meet age-appropriate HbA\(_{1c}\) target-values. This leaves them at increased risk for future micro- and macrovascular complications. When evaluating the risk for developing complications, HbA\(_{1c}\) is not the only factor as it fails to give insight in intraday glycemic fluctuations. Research has shown that increased glycemic variability is related to increased inflammation in adolescents with T1D. Variability-based measures appear to be better predictors for future hypoglycemic events than HbA\(_{1c}\).

To keep blood glucose levels within target range, adolescents must actively engage in diabetes self-care. Identifying barriers to self-care is therefore of utmost important for maintaining good health. Prior research has shown that psychosocial problems are one important barrier to optimal diabetes self-care and that one-in-three young persons with type 1 diabetes will have encountered a depression or anxiety disorder while growing up. As emotional problems could very well interfere with the motivation or the ability to perform diabetes self-care adequately, emotional problems could be related to greater glycemic variability. The aim of the present study is therefore to examine the relationship between emotional problems (i.e. mood disorders and anxiety disorders) and glycemic variability in adolescents with T1D. Whether diabetes self-care is related to glycemic variability will be examined as well.

**DESIGN/METHODS**

This study is part of the Longitudinal study of Emotional problems in Adolescents with type 1 diabetes and their Parents/caregivers (Diabetes LEAP). Adolescents with type 1 diabetes between the ages of 12 and 18 years were eligible for participation, unless: 1) the adolescent suffered from language difficulties or intellectual disabilities, 2) the diabetes duration was less than 6 months, 3) there were other circumstances hindering participation. Written informed consent was obtained from all participants.

For the purpose of the study described in this abstract, cross-sectional adolescent baseline data collected in 2015-2016 at the four participating Dutch pediatric diabetes clinics will be used.

Demographic characteristics (date of birth, gender) were extracted from electronic medical charts. Age was computed by subtracting the date of birth from the date of the interview.
To assess emotional problems the Diagnostic Interview Schedule for Children-IV (DISC-IV) was conducted. The DISC-IV is a highly structured diagnostic interview to assess DSM-IV psychiatric disorders. For the present study, only the modules Anxiety Disorders and Mood Disorders were conducted. Additionally, a modified module with questions concerning fear of hypoglycemia was administered.

To assess diabetes self-care the Adherence in Diabetes Questionnaire – Conventional treatment – Children (ADQ-C-C, 19 items) and the Adherence in Diabetes Questionnaire – Insulin pump – Children (ADQ-I-C, 17 items) were used. The total score of the questionnaires was computed similarly, as the mean of all item responses. Higher scores represent greater adherence.

At this point in time, the psychological data has been collected. The extraction of relevant clinical data from electronic medical charts is being planned. HbA1c was regularly measured at clinic visits and the HbA1c level measured closest to the interview date will be extracted for the present study. To assess glycemic variability, blood glucose levels of the four weeks prior to the interview date and the standard deviation of these values will be extracted from the medical charts. Date of diagnosis, type of insulin-therapy (continuous subcutaneous insulin infusion vs. multiple daily injections) will be extracted as well. The diabetes duration will be computed by subtracting the date of diagnosis from the date of birth.

**PLANNED ANALYSIS**

To assess whether emotional problems and diabetes self-care are related to glycemic variability, multiple hierarchical regression analysis is planned. Age, gender (male vs. female), insulin-delivery (continuous subcutaneous insulin infusion vs. multiple daily injections), HbA1c, and diabetes duration will be taken into account as well.

**EXPECTED OUTCOMES**

With the results of the present study, more insight in correlates of glucose variability will be gained. This knowledge could in turn be used to further limit the risk for future hypoglycemic events and micro-/macrovascular complications in adolescents with T1D.

**PROBLEMS/QUESTIONS**

- Is the standard deviation of blood glucose measurements a suitable way to measure glucose variability or are there (better) alternatives?
- What is the minimum number of blood glucose measurements required for reliable analysis?
- Should people with sensor augmented therapy be analysed separately from those who self-monitored blood glucose levels?
WORK IN PROGRESS

Title: A NEW APPROACH TO ENGAGE EMERGING ADULTS WITH TYPE 1 DIABETES IN LIFE WITH DIABETES.

Authors: Dan Grabowski & Ingrid Willaing
Institute: Steno Diabetes Center Copenhagen

BACKGROUND/AIM:
Young adults with type 1 diabetes often struggle with glycemic control and diabetes self-management and furthermore face considerable psychological and social challenges. There is an increased risk of depression, anxiety, and distress in this age group in general and this risk is likely to be increased in young adults with type 1 diabetes. An important aspect of this problem is that the traditional distinction between adolescent and adult appears too simplistic to capture what is at stake for these young adults. In close co-operation with emerging adults we want to develop a new innovative approach that manages to positively engage emerging adults in their diabetes.

DESIGN/METHODS/THEORIES:
This problem area has traditionally been approached focusing on transitions (from one life phase to the next or from youth clinic to adult clinic) using developmental psychological theories. Existing approaches have not, however, been successful in positively involving young people in their own diabetes management. We propose that this lack of success may be due to a lack of attention to inter-relational and sociological factors. We propose to supplement the traditional psychological approach with an innovative theoretical approach that has not been used in this area before. This approach contains two main elements:

Health Identity: A focus on health identity includes the contexts within which the young people observe their identity. It also entails a perpetual focus on the settings of central importance to the young person’s self-perception - especially on the relational contexts constructed by the interconnected observational structures of any social setting.

Health identity can be used to analyse how young people navigate in diabetes-information and healthcare communication in general. Those who cannot relate information and communication to their health identity are not expected to be interested in neither health nor diabetes, or to change their behaviour in any way. Without considering the differences in health identities, health practitioners run the risk of increasing the difference between healthy and unhealthy young people with type 1 diabetes. Within the concept of health identity are social imaginaries, which are the connections between expectations and common understandings of how we choose and act in society and in relational contexts. Firm social imaginaries make it difficult to make changes in health behavior – on an individual level as well as on a group level. There will always be an element of having to fit in with a certain group and an ensuing element of imagining how that group might interpret these changes.

Authenticity: It is often difficult to present diabetes information and health communication in ways that appeal to young people. This often results in misconceived approaches with little or no effect in terms of acquisition of diabetes knowledge or changes in diabetes behavior.
Concepts of authenticity have been relatively unexplored and underdeveloped in patient education research. In the broader education literature authenticity is defined as a notion of genuine care, consistency between values and actions, and the importance of contextually relevant information.

In our approach to emerging adults with type 1 diabetes we aim to take forward these contributions by exploring young people’s perspectives, wishes and needs as regards their diabetes (self-)management to help advance our understanding of what authenticity in healthcare with young people may mean and how it can be unfolded in practice. Crucially, by pushing forward the idea of authenticity, we explore how young people’s perspectives on communicating about diabetes are linked to the idea of being genuine and developing openness in terms of adults’ practices and perspectives.

Incorporating these theoretical elements in a new approach necessitates thorough studies. We propose a study grounded in design based research and co-creation – involving young people with type 1 diabetes in needs assessment, ideation and prototyping processes. Using a design approach entails being open-minded about every element of the approach: Which settings to focus on, how to focus, when to focus and which relations (friends, peers, family, healthcare professionals etc.) to include. In other words, the approach has to meet the young adults where they potentially face their type 1 diabetes in their everyday life.

**PLANNED ANALYSIS:**
We will use radical hermeneutics to keep a perpetual balance between theory, method and data by acknowledging this as an interconnected process that requires a constant awareness on all the elements influencing each other – we observe how and what we observe because of earlier distinctions and observations. The use of radical hermeneutics also entails a constant fluctuation between analysing and interpreting.

**EXPECTED OUTCOMES:**
A new innovative approach that manages to positively engage emerging adults in their diabetes.

**QUESTIONS:**
1. How do we merge this sociological approach with more traditional psychological theories/concepts?
2. What will the challenges be when it comes to co-creation with the target group of emerging adults?
Title: USING PATIENT-REPORTED OUTCOMES TO PROMOTE PATIENT ACTIVATION AND PERSONALIZED PSYCHOSOCIAL SUPPORT IN TYPE 1 DIABETES ROUTINE CONSULTATIONS (UPRO) - A STUDY OF THE ADAPTATION AND EFFECTS OF MONITORING PSYCHOSOCIAL PATIENT REPORTED OUTCOME MEASURE.

Authors: Joensen L, Persson F, Willaing I.

Institution: 1 Steno Diabetes Center Copenhagen, Health Promotion, Diabetes Management Research
2 Steno Diabetes Center Copenhagen, Complication Research and Patient Care

BACKGROUND AND AIMS
Although it is well known that many people with type 1 diabetes experience psychological challenges, little is known about how to effectively address psychological problems in routine consultations. Also, the literature indicates that psychosocial problems are not routinely addressed in diabetes consultations. Some of the reasons for this are lack of training and time and structural limitations. Therefore there is a need for a new approach to identifying and addressing psychosocial health in clinical practice.

Patient activation interventions are aimed at identifying and discussing patient concerns and actively involving patients in consultations. Such interventions have shown the ability to improve both emotional and physical health; self-management and satisfaction with care. One method of patient activation is to use patient reported outcomes (PROs) prior to consultations and include brief summaries and discussions of the PRO assessments in the consultations. This primes patients to be active in their consultations and facilitates and improves dialogue between diabetologists and patients. Studies have shown that including psychosocial PROs can help direct focus to psychological health, improve psychological well-being and decrease diabetes distress.

The aims of this study are to adapt and feasibility test an intervention aimed at:
- Priming adults with type 1 diabetes to be more active and to discuss relevant psychosocial aspects of their diabetes during diabetes consultations with their diabetologists
- Monitoring and addressing psychosocial health in people with type 1 diabetes in routine diabetes consultations

The study explores to what extent the use of PROs on psychosocial issues can
- Improve dialogue about psychosocial health between diabetologists and patients
- Improve diabetes empowerment, motivation for self-management, well-being and glycaemic control in people with type 1 diabetes

DESIGN/METHODS
The overall approach in this study is inspired by action research. Different interventions that use PROs to screen and address psychosocial challenges will be explored, tested and adjusted in collaboration with people with type 1 diabetes and diabetologists.

The study will be carried out in three consecutive phases. Phase 1 and 2 consist of adapting and feasibility testing an intervention that uses PROs. Intervention methods will be tried out in diabetes consultations with iterative evaluations and adjustments of the intervention methods (including PROs). Phase 3 will consist of
a randomised study to measure the effect of the intervention. The methodological approach in this study is a combination of qualitative and quantitative methods with observations and/or audio recordings of consultations, interviews/workshops with people with diabetes as well as diabetologists and use of questionnaires.

All three phases of the study will be carried out at Steno Diabetes Center Copenhagen. Other Danish hospitals may also be included in phase 2 and 3.

**PLANNED ANALYSIS**

 Phase 1 + Phase 2:
Field notes from the initial observations, transcribed interviews and workshop data will be thematically analysed focusing on:

- How and to what extent the PROs was used and discussed in the consultations
- Facilitators and inhibitors in promoting psychosocial dialogue
- Needs and preferences related to measuring and using PROs in routine consultations

 Phase 2
The recorded consultations will be transcribed and talk time estimated in order to analyse e.g.:

- Talk ratios:
  - Patient talk vs. other activities
  - Talk about psychosocial themes vs. talk about other themes (statistical analyses)
- Consultation themes (thematic qualitative data analyses)

Questionnaire data from people with diabetes will primarily be analysed descriptively and explored in connection to data from observations and interviews – e.g. what characterised the consultations of participants scoring high on the Health Care Climate Questionnaire.

 Phase 3
Recorded consultations and talk time will be estimated in order to compare intervention and control groups:

- Talk ratios:
  - Patient talk vs. other activities
  - Talk about psychosocial themes vs. talk about other themes (statistical analyses)
- Consultation themes (thematic qualitative data analyses)

Quantitative indicators measured with questionnaires (e.g. DES, PAID, HCCQ) are expected to be analysed with binary and linear regression analyses.

**EXPECTED OUTCOMES**
The study will hopefully result in a relevant, simple and feasible intervention focusing on:

1) enhanced patient activation in diabetes consultations
2) enhanced attention from diabetologist on psychosocial aspects of diabetes in routine diabetes consultations
3) facilitation of dialogue between diabetologists and patients on psychosocial health in routine consultations
The intervention will be ready for implementation in practice and scale-up after the study.

**PROBLEMS/QUESTIONS (MAXIMUM OF THREE) THAT YOU WOULD LIKE TO BE ADDRESSED IN THE GROUP DISCUSSIONS**

What will be the biggest challenge?
What are the most crucial PROs to include?
What are the most important effects to explore?
Title: WHOSE DIABETES IS IT ANYWAY? EXPLORING THE DIVISION AND TRANSFERENCE OF DIABETES CARE RESPONSIBILITIES FROM PARENTS TO CHILDREN WITH TYPE 1 DIABETES

Authors: Jori Aalders¹*, Giesje Nefs¹-²-³, Esther Hartman¹, Henk-Jan Aanstoot³, Edgar van Mil⁴, Frans Oort⁵, Frans Pouwer¹,⁶ (* = corresponding author)

Institute:
1 Center of Research on Psychological and Somatic disorders [CoRPS], Department of Medical and Clinical Psychology, Tilburg University, Tilburg, the Netherlands
2 Diabeter, Rotterdam, the Netherlands
3 Department of Medical Psychology, Radboudumc, Nijmegen, The Netherlands
4 Kidz&Ko, Jeroen Bosch Hospital, ’s-Hertogenbosch, The Netherlands
5 Department of Medical Psychology, Academic Medical Centre, University of Amsterdam, Amsterdam, The Netherlands
6 Department of Psychology, University of Southern Denmark, Odense, Denmark

AIMS
a) To identify which factors enhance or impede the transference of diabetes care responsibilities from parents to children with type 1 diabetes, b) to define the right extent of transference in different developmental stages and c) to develop and subsequently test an explanatory framework (mediation/moderation model) that describes the relation between facilitating and impeding characteristics, the extent of transference of treatment responsibilities and health outcomes (e.g. blood glucose control and quality of life).

METHODS
To meet research aim a) and b), a qualitative focus group study will be conducted. Focus groups will be organized with children with type 1 diabetes within the age groups 6-8, 9-11, 12-14 and 15-17 years. In addition, for every age group separate focus groups with parents will be conducted. Participants will be recruited from hospitals and specialized centres. The data collection procedure will continue until data saturation is reached (i.e. no new themes emerge). Prior research suggests that 3 to 6 focus groups are generally sufficient to reach data saturation. Therefore, it is expected that approximately 24 focus groups have to be organized (parents/children x 4 age groups x 3 focus groups). During focus group meetings children and parents will be asked to list the most important tasks within the diabetes care of the child. Participants will be asked to indicate on a VAS-scale who executed, decided and thought about executing a particular task (range VAS-scale: child to parent). After mapping the current division of diabetes care responsibilities between parents and children, participants will be asked to indicate whether they are satisfied with the amount of responsibility they have. Next, participants will be asked to elaborate their ideas about what helps them or their child/parent (facilitators) and what makes it difficult for them or their child/parent (impeding factors) to transfer diabetes responsibility to the child. Finally, participants will be asked if they would change their approach concerning the process of the transference of diabetes care responsibilities retrospectively.
To meet research aim c, we will use the qualitative data together with the results from our systematic review on the division and transference of diabetes care responsibilities, to develop an explanatory framework, linking parent/child/contextual factors to diabetes care transference and health outcomes. This explanatory framework will subsequently be tested in a large-scale quantitative cross-sectional questionnaire study (N~200).

PLANNED ANALYSES
Audio recordings of the focus groups will be transcribed. Open coding will be used by two independent researchers to identify factors among the responses. In case of disagreement, discussion will be used to achieve consensus. The identified facilitating and impeding factors will then be categorized into parent, contextual and child domains according to Belsky’s Process Model (Belsky, 1984). In the quantitative study, Structural Equation Modeling (SEM) will be used to test the explanatory framework.

EXPECTED OUTCOMES
It is expected that the results of this project will disentangle associations between child-, parent-, and context characteristics, the extent of care transference and diabetes-outcomes in different developmental stages. The results of this project may be used by researchers and clinicians to develop family-tailored advice about the right extent and timing of the transference of treatment responsibilities.

PROBLEMS/QUESTIONS
1. In this research project results from our qualitative study and systematic review will be tested in a large-scale quantitative study. For our research team it will be the first time to use a mixed method approach in this way. Are there researchers who have experiences with mixed methods research? Do you have any recommendations to foster the translation of qualitative research outcomes into quantitative research? What problems might we encounter?
2. For the development of the explanatory framework, we plan to base our choices for mediation or moderation on estimates within Structural Equation Modeling (SEM). Is this a good approach? Are there alternative strategies?
3. For our qualitative study, we use focus groups. However, with this method we frequently encounter logistical problems (e.g. too few applications per centre, difficulties in scheduling focus groups). For future studies, would it be better to use individual interviews?
## Participants at the 22nd PSAD Scientific Spring Meeting

**Cluj-Napoca**

**2017**

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jori Aalders</td>
<td><a href="mailto:J.Aalders@tilburguniversity.edu">J.Aalders@tilburguniversity.edu</a></td>
</tr>
<tr>
<td>2</td>
<td>Marcel Adriaanse</td>
<td><a href="mailto:marcel.adriaanse@vu.nl">marcel.adriaanse@vu.nl</a></td>
</tr>
<tr>
<td>3</td>
<td>Juan Albertorio</td>
<td><a href="mailto:jna8@cdc.gov">jna8@cdc.gov</a></td>
</tr>
<tr>
<td>4</td>
<td>Katharine Barnard</td>
<td><a href="mailto:k.barnard@bournemouth.ac.uk">k.barnard@bournemouth.ac.uk</a></td>
</tr>
<tr>
<td>5</td>
<td>Dominic Ehrmann</td>
<td><a href="mailto:ehrmann@diabetes-zentrum.de">ehrmann@diabetes-zentrum.de</a></td>
</tr>
<tr>
<td>6</td>
<td>Sally Anne Francis</td>
<td><a href="mailto:sally-anne.francis@anglia.ac.uk">sally-anne.francis@anglia.ac.uk</a></td>
</tr>
<tr>
<td>7</td>
<td>Dan Grabowski</td>
<td><a href="mailto:dan.grabowski@regionh.dk">dan.grabowski@regionh.dk</a></td>
</tr>
<tr>
<td>8</td>
<td>Joacim Hagman</td>
<td><a href="mailto:joacim.hagman@karolinska.se">joacim.hagman@karolinska.se</a></td>
</tr>
<tr>
<td>9</td>
<td>Jörg Wolfgang Huber</td>
<td><a href="mailto:J.Huber@brighton.ac.uk">J.Huber@brighton.ac.uk</a></td>
</tr>
<tr>
<td>10</td>
<td>Liliana Indelicato</td>
<td><a href="mailto:liliana.indelicato@univr.it">liliana.indelicato@univr.it</a></td>
</tr>
<tr>
<td>11</td>
<td>Lene Eide Joensen</td>
<td><a href="mailto:lene.eide.joensen@regionh.dk">lene.eide.joensen@regionh.dk</a></td>
</tr>
<tr>
<td>12</td>
<td>Karin Kanc Hanžel</td>
<td><a href="mailto:karin.kanc@he.si">karin.kanc@he.si</a></td>
</tr>
<tr>
<td>13</td>
<td>Dilara Karsidag</td>
<td><a href="mailto:karsidagd@gmail.com">karsidagd@gmail.com</a></td>
</tr>
<tr>
<td>14</td>
<td>Juliene Menting</td>
<td><a href="mailto:Juliane.Menting@radboudumc.nl">Juliane.Menting@radboudumc.nl</a></td>
</tr>
<tr>
<td>15</td>
<td>Andrea Lukács</td>
<td><a href="mailto:lukacs.andrea@ymail.com">lukacs.andrea@ymail.com</a></td>
</tr>
<tr>
<td>16</td>
<td>Andreia Mocan</td>
<td><a href="mailto:andreiamocan@gmail.com">andreiamocan@gmail.com</a></td>
</tr>
<tr>
<td>17</td>
<td>Linh Nguyen</td>
<td><a href="mailto:l.a.nguyen@tilburguniversity.edu">l.a.nguyen@tilburguniversity.edu</a></td>
</tr>
<tr>
<td>18</td>
<td>Norbert Hermanns</td>
<td><a href="mailto:hermanns@diabetes-zentrum.de">hermanns@diabetes-zentrum.de</a></td>
</tr>
<tr>
<td>19</td>
<td>Matthew Reaney</td>
<td><a href="mailto:matthew.d.reaney@gmail.com">matthew.d.reaney@gmail.com</a></td>
</tr>
<tr>
<td>20</td>
<td>André Reimer</td>
<td><a href="mailto:Reimer@diabetes-zentrum.de">Reimer@diabetes-zentrum.de</a></td>
</tr>
<tr>
<td>21</td>
<td>Andreas Schmitt</td>
<td><a href="mailto:schmitt@diabetes-zentrum.de">schmitt@diabetes-zentrum.de</a></td>
</tr>
<tr>
<td>22</td>
<td>Ian P Smith</td>
<td><a href="mailto:I.P.Smith@lumc.nl">I.P.Smith@lumc.nl</a></td>
</tr>
<tr>
<td>23</td>
<td>Frank Snoek</td>
<td><a href="mailto:fj.snoek@vumc.nl">fj.snoek@vumc.nl</a></td>
</tr>
<tr>
<td>24</td>
<td>Jackie Sturt</td>
<td><a href="mailto:jackie.sturt@kcl.ac.uk">jackie.sturt@kcl.ac.uk</a></td>
</tr>
<tr>
<td>25</td>
<td>Rebecca Upsher</td>
<td><a href="mailto:rebecca.j.upsher@kcl.ac.uk">rebecca.j.upsher@kcl.ac.uk</a></td>
</tr>
<tr>
<td>26</td>
<td>Ingrid Willaing</td>
<td><a href="mailto:ingrid.willaing.tapager@regionh.dk">ingrid.willaing.tapager@regionh.dk</a></td>
</tr>
<tr>
<td>27</td>
<td>Maartje de Wit</td>
<td><a href="mailto:m.dewit@vumc.nl">m.dewit@vumc.nl</a></td>
</tr>
</tbody>
</table>