

# The Qualimeter: Improving care for children and adults with type 1 diabetes by measuring and discussing quality of life

E Donkers<sup>a,b</sup>, P Dekker<sup>a</sup>, P Winterdijk<sup>a</sup>, D Mul<sup>a</sup>, T Sas<sup>a,c</sup>, M de Vries<sup>a</sup>, HJ Veeze<sup>a</sup>, HJ Aanstoot<sup>a</sup>, G Nefs<sup>a,d,e</sup>, M Eilander<sup>f</sup>

<sup>a</sup>Diabeter, Rotterdam; <sup>b</sup>Memphys GGZ, Rotterdam; <sup>c</sup>Erasmus MC - Sophia Children's Hospital, Rotterdam; <sup>d</sup>Radboudumc, Nijmegen; <sup>e</sup>Tilburg University, Tilburg; <sup>f</sup>VU University, Amsterdam; The Netherlands

## Context

- Type 1 diabetes (T1D) is a chronic condition necessitating complex and intensive self-care, including insulin injections and measurement and monitoring of blood glucose levels.
- Only 30% of people with T1D (PWD) achieve their glycaemic targets due to the complexity and psychosocial challenges of T1D (self-)management<sup>1</sup>.
- The working relationship between healthcare professionals (HCPs: physicians and nurses) and PWD is vital in order to identify factors limiting self-management, thereby impacting Quality of Life (QoL).
- This working relationship can be improved if measuring and discussing QoL are added to regular care.

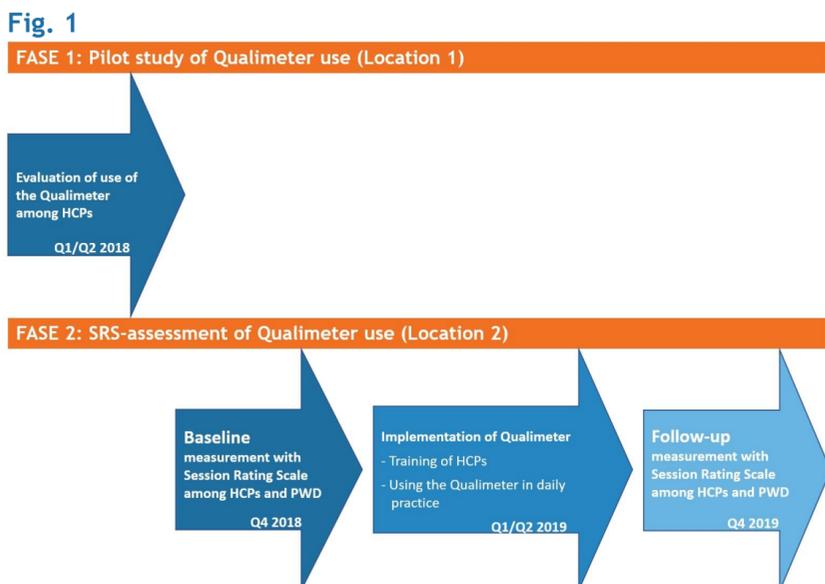
- HCPs were trained by psychologists in discussing psychosocial issues by asking solution-focused questions
- The score was discussed during the consultation
- The feasibility was evaluated by 6 HCPs
- Session Rating Scale - Baseline & Follow-up:
  - The impact of using the Qualimeter in daily practice is being assessed among PWD and HCPs using an instrument adapted from the Session Rating Scale (SRS: measures the tendency to build working relationships)
  - Baseline measurements are currently being performed
  - Impact of the Qualimeter will be assessed by follow-up SRS measurement 4 months after implementation

## Situation/Background

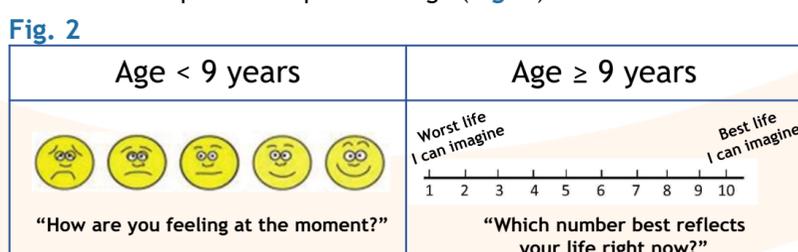
- Diabeter, a center for focused T1D care and research (>2400 patients over 5 locations), and Dutch healthcare insurers agreed on (long-term) contracts based on both medical and patient-reported outcomes (PROs).
- To measure and discuss QoL in the consultation room, a practical tool is needed which is simple and accessible to use in daily practice.
- The ICHOM data collection reference guide<sup>2</sup> suggests multi-item PRO measures only for adults. We developed a one-item tool, the Qualimeter, which can also be applied in children and parents.

## What did we do?

- We developed and are assessing use of the Qualimeter (Fig. 1).



- Pilot study of the Qualimeter:
  - A one-item mood scale that asks PWD to rate their current QoL. The format of this question depends on age (Fig. 2)



- Age < 9 years: Wong-Baker Faces Pain Rating Scale<sup>3</sup> (age 5-6 years: helped by parents)
- Age ≥ 9 years: first item of Mind-Youth Questionnaire (MY-Q)<sup>4</sup>
- PWD were asked by the receptionist to complete the Qualimeter before the consultation with the HCP

## Impact of change on outcomes

Sample characteristics of pilot study and SRS baseline assessment

	Qualimeter pilot	SRS-assessment of Qualimeter use <sup>a</sup>
	Location 1	Location 2
N	158	50
Age in years, mean (SD)	20.0 (8.2)	14.4 (3.9)
Disease duration in years, mean (SD)	10.7 (6.3)	6.8 (4.8)
Gender, % male	44	52
HbA <sub>1c</sub> in %, mean (SD)	7.9 (1.4)	8.0 (1.9)
HbA <sub>1c</sub> in mmol/mol, mean (SD)	63.3 (15.8)	64.3 (20.7)
Treatment, %, mean (SD)		
insulin pump	66	74
Qualimeter score <sup>b</sup>		
Mean (SD)	7.6 (1.3)	N/A
(IQR)	8.0 (1.5)	N/A
HCPs with SRS score ≥ 36, % <sup>a</sup>	N/A	4
Patients with SRS score ≥ 6, % <sup>a</sup>	N/A	50

<sup>a</sup>Patients rated their experience with HCPs and vice versa. Values are patient values except for ‘HCPs with SRS score ≥ 36’, which reflect HCP scores. Maximum score is 40; a score of <36 may be a reason to discuss the results with participants.<sup>5</sup>

<sup>b</sup>Scale from 1 (low) to 10 (high)

HbA<sub>1c</sub>, glycated haemoglobin; HCP, healthcare professional; IQR, interquartile range; PWD, people with diabetes; SD, standard deviation; SRS, session rating scale. N/A: Not applicable

- During the pilot study HCPs reported the Qualimeter to be a practical tool that seems to improve the quality of the working relationship between PWD and HCPs.
- HCPs also reported that PWD were pleasantly surprised by the attention for QoL raised by HCPs.

## Lesson points

- The preliminary results from the pilot study indicate that the Qualimeter may be a practical tool to improve the working relationship between PWD and HCPs.
- The Qualimeter seems to facilitate shared decision making in daily practice through a better working relationship. This is currently being assessed objectively, using the SRS.
- Use of the Qualimeter will be a first step in measuring and discussing QoL as a PRO in a structured way, aiming to improve the care process.

## References

- McKnight et al., Diabet Med 2015;32:8: 1036-50.
- <https://ichom.org/files/medical-conditions/diabetes-in-adults/dia-reference-guide.pdf>
- <https://wongbakerfaces.org/>
- <https://diabij.nl/wp-content/uploads/2017/01/MY-Q-NL-v2.0.pdf>
- Duncan et al., Journal of Brief Therapy 2003;3[1]:3-12.

## Disclosures

- Diabeter Nederland B.V. has Healthcare contracts with all Dutch Healthcare Insurers
- Diabeter was acquired by Medtronic in April 2015: Diabeter is compliant with Dutch legal and healthcare policies and laws on independent and brand agnostic prescription, on patient and HCP-data, on research and on governance regulations.