



STENO DIABETES CENTER NORTH DENMARK
AALBORG UNIVERSITETSHOSPITAL



AALBORG UNIVERSITET



REGION NORDJYLLAND

Interim Real-World 10-site Data from the National Danish PRO Diabetes Multi-Sector Study (M-PRODIA) engaging 434 Persons with Diabetes and 34 Healthcare Professionals shows high Acceptability and Benefits

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DISCLOSURES

Presenter Disclosures 11-2022

Niels Ejskjaer has received research support, travel support, speaker honoraria and has served as a consultant on advisory boards for:

Admetsys, Allergan, Astra-Zeneca, Bayer, Boehringer-Ingelheim, Novo Nordisk, Sanofi-Aventis, Takeda



VBS-PRO-DIABETES PROJECT (VALUE BASED HEALTHCARE AND PROMS IN DIABETES)

”WHAT IS OF VALUE TO A PERSON WITH DIABETES?”

Project funding 5.6 mio DKK 2018-2021 from Region North Denmark

Close collaboration with Danish Regions and the National Danish Health Data Authority

Development of a National ”Diabetes PRO Questionnaire” and a seamless IT-platform

Tested in 3 regions, 10 sites, 632 PWD and HCP (GPs, Municipalities, Hospitals)

Cleared and ready for national implementation 2021

2021 Full clinical implementation Dept of Endocrinology, Aalborg

2022 Full clinical implementation Hjørring, Farsø, Thisted hospitals

Under implementation several sites in DK



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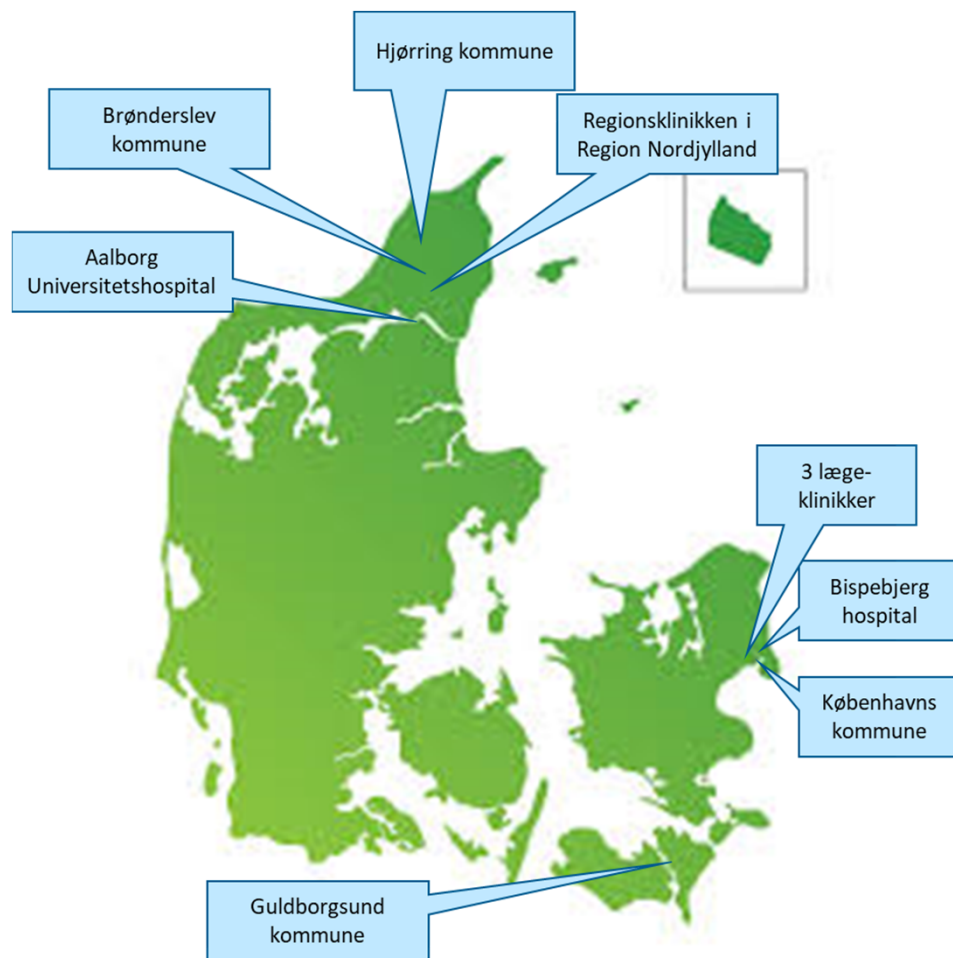
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NATIONAL TEST OF PRO QUESTIONNAIRE



3 regions

10 sites

34 healthcare professionals

594 persons with diabetes

350 interviews



AIM

Evaluate persons with diabetes (PWD) and healthcare professionals (HCP) with regard to acceptability of use and the perceived benefits of our PRO diabetes tool in routine diabetes care.



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METHODS

Single arm real-world implementation pilot study.

Outcomes: PWD and HCP perceptions of usability, value, impact and impact of the PRO diabetes tool.

Data collection: End-of-study survey.

Analysis: Descriptive analysis and qualitative content analysis was done using SPSS 26.0 and Nvivo 12.0.



STUDY PARTICIPANTS

Persons with diabetes: $n = 434$

T1DM hospital, T2DM primary sector

Healthcare professionals: $n = 34$

Nurses (20), Dieticians (4), Physiotherapists (7), doctors (3)

Setting: 2 hospitals, 4 municipality centers, 1 general practice



QUESTIONNAIRE DOMAINS

Health and life situation

Psychological well-being

Daily life with diabetes

Symptom- and diabetes stress

Self-efficacy

Blood-sugar regulation

Medicine experience

Access to care and

Personal priorities



THE DOMAINS

on
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- Blood-sugar regulation
- Medicine experience
- Access to care and
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Blood-sugar regulation
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WORKSHOP





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INTERVENTION - AND DIGITAL PLATFORM



PWD answers questionnaire from home on phone, tablet, pc



The digital tool provides a 360° overview for PWD and HCP



Dashboard shows problem areas and referral options

Video link: www.DiaProfil.dk



DASHBOARD - 9 DOMAINS

PROBLEM AREAS AND REFERRAL OPTIONS

The dashboard is organized into a grid of 9 domain cards, each with a title, a main question, a response, and a score. To the right of the grid are three summary boxes and a navigation menu.

Domain	Question	Response	Score
Health and life situation	How is your health overall?	Very good	5
	Life situation which affects my diabetes	Sometimes	3
Mental well-being	Feeling happy and in good spirits	42/50	5
Symptom distress	Do you experience chest pain?	Yes	1
	How bothered have you been by difficulty breathing during physical activities?	Medium	2
	How bothered have you been by pain in the chest or around your heart?	Not	6
Daily life and diabetes	Fitting diabetes into your daily life	Good	3
	Diabetes taking up too much of your life?	All the time	1
Worries about diabetes	Worried about <u>life stage</u> complications?	Sometimes	3
Confidence in self-management	Confidence in self-management	Very good	5
	How confident are you that you can measure your blood sugar as often as you would like to?	Not very sure	2
	How confident are you that you can maintain the weight that you would like?	Other	3
Blood sugar regulation	Your blood sugar regulation past month?	Not well regulated	3
	How often are you bothered by your blood sugar fluctuating between being too high and too low?	Other	3
	How often do you worry that your blood sugar is too high?	Other	3
	Can you feel when your blood sugar is low?	Rarely	3
Medicine experience	How satisfied are you with your medication?	Satisfied	4
Confidence in access to diabetes care	Confidence in ability to access a HCP	Confident	5

Navigation: SIMPLE VIEW, TREND VIEW, COMPLETED, EVALUATION, NOTE SHEET, PATIENT SIDE

I would like to discuss...

- Blood sugar management
- Psychological effects of having diabetes
- Weight loss

I would like support for...

- Measuring my blood sugar in a way that works better for me

Other information [SHOW MORE](#)

Examinations (within the last 12 months)

- Feet at podiatrist: Yes
- Eyes at ophthalmologist: Yes

Who completed DiaProff?

I have completed it myself

Consent for evaluation
Consent given



RESULTS

EVALUATIONS PERSONS WITH DIABETES

Descriptive data: PWD evaluation: 309 diabetes visits					
Response options	1	2	3	4	5
Did the [PRO Result Dashboard] give a good picture of your current situation, needs and priorities related to diabetes? (Not at all – Great extent (1-5))	0%	2%	28%	36%	34%
Did the display of the results help you to talk about what was most important to you? Not at all–Great extent (1-5)	0	2%	3%	22%	69%
Did you experience any problems or unpleasant experiences of any kind in relation to the way your PRO results were used? (Not at all – Great extent (1-5))	87%	8%	2%	1%	1%



RESULTS: EVALUATIONS HEALTH CARE PROFESSIONNELS

Descriptive data: HCP evaluation: 476 visits, 434 PWD, 34 HCP.					
Response options	1	2	3	4	5
What effect did use of PRO have on the quality of your dialogue with this PWD? (very negative – very positive (1-5))	0%	2%	28%	36%	34%

Source: PRO-CON-EVAL-HCP-SF



SEMANTIC ANALYSIS OF FREE-TEXT RESPONSES

Outcome	Explanations for Responses (HCP)
Work satisfaction	Both PWD and HCP come well prepared Provides better, more meaningful care
Effect on diabetes stress for HCP	PRO supports delivery of care (less stress) Too many topics in one session (more stress) Balancing focus on PWD's and own professional care agenda (more stress)
Wish to continue using PRO	PWD more prepared and ready for visits PRO provides quick overview PRO supports person-centered care



CONCLUSION

The Danish National Diabetes PRO Model and Design consists of a validated questionnaire and a digital platform.

Persons with diabetes fill out a PRO-questionnaire before a visit.

PRO aims for a collaborative, focused and whole-person care.

The multi-dimensional PRO questionnaire (36-70 items) covers general health/wellbeing, daily life with diabetes, diabetes distress, self-care, BG regulation, symptoms, access to care and personal priorities.

This Real-world 10-site PRO study including 434 PWD and 34 HCPs showed high acceptability and demonstrated benefits related to an active engagement of PWD focusing on person-centred individual diabetes care.



Selected References

Feasibility and Acceptability of a Digital Patient-Reported Outcome Tool in Routine Outpatient Diabetes Care: Mixed Methods Formative Pilot Study. Skovlund SE, Troelsen LH, Noergaard LM, Pietraszek A, Jakobsen PE, Ejskjaer N. JMIR Form Res. 2021 Nov 3;5(11)

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Can the Routine Use of Patient-Reported Outcome Measures Improve the Delivery of Person-Centered Diabetes Care? A Review of Recent Developments and a Case Study. Skovlund SE, Lichtenberg TH, Hessler D, Ejskjaer N. Curr Diab Rep. 2019 Aug 16;19(9):84

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VIDEO LINKS

[Sådan foregår en diabetessamtale med "DiaProfil - Spørgeskema ifm Diabetes" - borger og behandler - YouTube](#)

[Vinder Danske Regioners Pris 2021 for Borgerinddragende Initiativ Digitalt Værktøj til Diabetes - YouTube](#)

LINK Ph.D.-thesis on questionnaire development:





DESCRIPTION - AND EFFECTS OF USE

