

Secondary Publication



Pouwer, Francois; Barnard-Kelly, Katharine; Cleal, Bryan Richard; u. a.

The missing piece : The clinical translation of precision diabetes medicine requires precision mental health care : A call to action from the international PsychoSocial Aspects of Diabetes (PSAD) Study Group

Date of secondary publication: 16.12.2025

Version of Record (Published Version), Article

Persistent identifier: urn:nbn:de:bvb:473-irb-112216x

Primary publication

Pouwer, Francois; Barnard-Kelly, Katharine; Cleal, Bryan Richard; u. a. (2025): The missing piece : The clinical translation of precision diabetes medicine requires precision mental health care : A call to action from the international PsychoSocial Aspects of Diabetes (PSAD) Study Group, in: Diabetic Medicine, Oxford [u.a.]: Wiley-Blackwell, Vol. 42, Nr. 5, e15514, pp. 1–4, doi: 10.1111/dme.15514.

Legal Notice

This work is protected by copyright and/or the indication of a licence. You are free to use this work in any way permitted by the copyright and/or the licence that applies to your usage. For other uses, you must obtain permission from the rights-holders.

This document is made available under a Creative Commons license.



































The license information is available online:

<https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode>

COMMENTARY

The missing piece: The clinical translation of precision diabetes medicine requires precision mental health care: A call to action from the international PsychoSocial Aspects of Diabetes (PSAD) Study Group

François Pouwer^{1,2,3,4}  | Katharine Barnard-Kelly⁵  | Bryan Richard Cleal⁶  |
 Debbie Cooke^{7,8}  | Mary de Groot⁹  | Sonya Deschênes¹⁰  | Dominic Ehrmann^{11,12}  |
 Anthony Fernandez^{13,14}  | Lisbeth Frostholt^{15,16}  | David Hopkins¹⁷  |
 Norbert Hermanns^{11,12}  | Richard I. G. Holt^{18,19}  | Marjolein Memelink Iversen^{20,21}  |
 Thomas Kubiak²²  | Christina Maar Andersen²  | Briana Mezuk²³  |
 Giesje Nefs^{24,25,26,27}  | Susanne S. Pedersen^{1,28}  | Miranda Schram^{29,30,31}  |
 Frank Snoek³  | Uffe Søholm^{32,33}  | Timothy C. Skinner³²  | Søren Skovlund³⁴  |
 Marietta Stadler^{35,36}  | Ragnhild B. Strandberg²⁰  | Sarah Bro Trasmundi^{37,38}  |
 Michael Vallis³⁹  | Kirsty Winkley⁴⁰  | Per Winterdijk²⁶  | Maartje de Wit³  |
 Natalie Zaremba^{25,41}  | Jane Speight^{1,4,32,33}  | on behalf of the international
 PsychoSocial Aspects of Diabetes (PSAD) Study Group

Correspondence

François Pouwer, Department of Psychology, University of Southern Denmark, DK-5230, Odense, Denmark.

Email: fpouwer@health.sdu.dk

KEYWORDS

diabetes, mental health

Diabetes is an increasingly common, long-term condition, requiring 24/7 self-care and constituting one of the greatest health challenges of our time. As with all ‘wicked problems’, a one-size-fits-all approach to care is doomed to fail.

In 2020, we welcomed the first international consensus report on precision diabetes medicine, which included a section on patient-centred mental health and quality of life outcomes.¹ This included the recommendation that, ‘in the setting of precision diabetes medicine, providers should assess symptoms of diabetes distress, depression,

anxiety, disordered eating and cognitive capacities using appropriate standardized and validated tools at the initial visit, at periodic intervals and when there is a change in disease, treatment or life circumstance (..), information that, when combined with other data, are likely to improve the precision of clinical decision making’.¹

In 2023, the Precision Medicine in Diabetes Initiative (PMDI) published the second international consensus report, on gaps and opportunities for the clinical translation of precision diabetes medicine.² This report focused on results ‘from a systematic evidence review across the key pillars

For affiliations refer to page 3.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2025 The Author(s). *Diabetic Medicine* published by John Wiley & Sons Ltd on behalf of Diabetes UK.

of precision medicine (prevention, diagnosis, treatment, prognosis) in four recognized forms of diabetes (monogenic, gestational, type 1, type 2), to inform the translation of precision medicine research into practice.² Regrettably, the second consensus omits any such recommendation or discussion of mental health issues. Furthermore, among the 'key sources of heterogeneity in diabetes', only 'behaviour' was included, while among the 'pillars of precision medicine', only 'lifestyle interventions' were included.²

The first consensus called for 'a rigorous review elucidating effective precision medicine strategies, areas of promise and notable gaps across ...[diabetes]... to inform an evidence-based road map to optimize the integration of precision medicine into the global response to the diabetes crisis'.¹ Of the 15 new systematic reviews conducted to inform the second consensus report, none includes the psychosocial aspects of diabetes.¹ Yet, there is a robust evidence base demonstrating the crucial role of psychosocial factors for people living with, or at risk of, diabetes; and this evidence has only strengthened since the first consensus. For example, a recent umbrella review of 25 systematic reviews of longitudinal studies concluded that common mental disorders, such as depression, anxiety disorders, sleep disorders and schizophrenia, are associated with increased risks for developing type 2 diabetes.³ Various psychotropic medications can increase weight, and people living with mental disorders often face additional challenges, such as high stress, lowered self-esteem, lack of energy, as well as socioeconomic disadvantage, all of which may compromise health and healthy behaviours, and need to be considered when managing risk for type 2 diabetes.³

Furthermore, in 2020, a special issue of Diabetic Medicine, commemorating the 25th anniversary of the PsychoSocial Aspects of Diabetes (PSAD) study group, included 14 commissioned reviews of behavioural, psychological and social aspects of diabetes.⁴ These included diabetes and depression,⁵ diabetes distress,⁶ fear of hypoglycaemia,⁷ disordered eating,⁸ and disordered sleep,⁹ other reviews focused on psychological factors related to the use of medications and diabetes technologies, motivation for self-care, importance of social support, the quality of the patient-clinician communication and the impact of diabetes and its management on quality of life.⁴ These reviews summarized the state-of-the-science regarding the inseparable role of psychology in diabetes, including several effective (and cost-effective) interventions based on psychological and behavioural science, none of which are mentioned in the second international consensus report.¹

The systematic removal of essential psychosocial factors from a report focused on the 'gaps and opportunities for the clinical translation' of precision diabetes medicine, without any clarification, appears to be

a step backwards, creating rather than recognising a gap. Given that approximately one in two people will experience mental health problems at some point in their life, and the crucial role that psychology plays in all self-management behaviours and clinician-patient communications, how can any of the four pillars—prevention, diagnosis, treatment or prognosis—be considered precise without recognizing these issues? The PMDI did not consider these omissions among the potential liabilities of a precision medicine approach. The PMDI statement is also out-of-step with other international consensus reports, which recognize the essential role of psychology in diabetes care, such as that published by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD) focused on the management of type 1 diabetes in adults.¹⁰ Section 10 describes psychosocial care, providing an overview of psychological comorbidities that can have a negative impact on diabetes outcomes, and explaining how monitoring of these problems should be integrated in diabetes care.¹⁰ Consistent with the studies described above, the ADA/EASD consensus statement not only discusses depression, anxiety, anorexia nervosa, bulimia nervosa, binge eating and intentional insulin omission for weight loss, but also different forms of diabetes-specific emotional distress, such as feeling powerless and overwhelmed by the daily self-care demands, fear of hypoglycaemia, worries about complications, a lack of social support or feeling 'policed' by family, friends or co-workers.¹⁰ Moreover, the ADA/EASD consensus statement explains how validated questionnaires can be used to 'flag' these psychological problems that may require psychological support. It is also emphasized that '*members of the team have a responsibility for providing psychosocial care as an integral component of diabetes care. Preferably, the diabetes care team should include a mental health professional (psychiatrist, psychologist and/or social worker) to advise the team and consult with people with diabetes in need of psychosocial support*'.¹⁰ Effective psychological therapies are available, including (online) cognitive behavioural therapy (CBT), mindfulness and interpersonal therapies.¹⁰

Thus, it is our consensus that psychosocial factors not only affect risks for and the course of diabetes, but that mental health is as important a goal of precision diabetes medicine as physical health. Nearly every mental disorder has a higher prevalence among people with diabetes. Thus, we contend that precision diabetes medicine must also entail precision mental health care. We therefore encourage the PMDI to incorporate phenotypic psychosocial factors into the next revision of the international consensus report, and everyone to recognise that

precision diabetes medicine must include precision mental health care.

FUNDING INFORMATION

The authors have received no funding for writing this article.

AFFILIATIONS

¹Department of Psychology, University of Southern Denmark, Odense, Denmark

²Steno Diabetes Center Odense (SDCO), Odense, Denmark

³Department of Medical Psychology, Amsterdam Public Health, Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

⁴School of Psychology, Faculty of Health, Deakin University, Geelong, Victoria, Australia

⁵Southern Health NHS Foundation Trust, Southampton, UK

⁶Steno Diabetes Center Copenhagen, Copenhagen, Denmark

⁷Atlantis Health Ltd UK, London, UK

⁸Faculty of Health & Medical Sciences, University of Surrey, Guildford, UK

⁹Indiana University School of Medicine, Bloomington, USA

¹⁰School of Psychology, University College Dublin, Dublin, Ireland

¹¹Research Institute Diabetes Academy Mergentheim (FIDAM), Bad Mergentheim, Germany

¹²Department of Clinical Psychology and Psychotherapy, University of Bamberg, Bamberg, Germany

¹³Department of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark

¹⁴Danish Institute for Advanced Study, University of Southern Denmark, Odense, Denmark

¹⁵Research Clinic for Functional Disorders and Psychosomatics, Aarhus University Hospital, Aarhus, Denmark

¹⁶Department of Clinical Medicine, Aarhus University, Aarhus, Denmark

¹⁷Department of Diabetic Medicine, King's College Hospital National Health Service Foundation Trust, London, UK

¹⁸Human Development and Health, Faculty of Medicine, University of Southampton, UK

¹⁹Southampton National Institute for Health Research Biomedical Research Centre, University Hospital Southampton NHS Foundation Trust, Southampton, UK

²⁰Department of Health and Caring Sciences, Western Norway University of Applied Sciences, Bergen, Norway

²¹Centre on Patient Reported Data, Haukeland University Hospital, Bergen, Norway

²²Health Psychology, Johannes Gutenberg University, Mainz, Germany

²³Center for Social Epidemiology and Population Health, Department of Epidemiology, University of Michigan, Ann Arbor, USA

²⁴Department of Medical and Clinical Psychology, Tilburg University, Center of Research on Psychological Disorders and Somatic Diseases (CoRPS), Tilburg, The Netherlands

²⁵Department of Medical Psychology, Radboud University Medical Center, Nijmegen, The Netherlands

²⁶Diabeter, Center for Pediatric & Adult Diabetes Care and Research, Rotterdam, The Netherlands

²⁷Diabeter Centrum Amsterdam, Amsterdam, The Netherlands

²⁸Department of Cardiology, Odense University Hospital, Odense, Denmark

²⁹Internal Medicine, Maastricht University Medical Centre, Maastricht, Netherlands

³⁰School for Cardiovascular Diseases, CARIM, and School for Mental Health and Neuroscience, MHENS, Maastricht University, Maastricht, Netherlands

³¹Department of Epidemiology, Erasmus Medical Centre, Rotterdam, the Netherlands

³²The Australian Centre for Behavioural Research in Diabetes (ACBRD), Diabetes Victoria, Carlton, Victoria, Australia

³³Institute for Health Transformation, Deakin University, Geelong, Victoria, Australia

³⁴Patient Engagement, Patient-Centered Research Science, London, UK

³⁵King's Diabetes Centre, King's College Hospital NHS Foundation Trust, London, UK

³⁶Diabetes, Endocrinology and Obesity Institute, King's Health Partners, Guy's Hospital London, London, UK

³⁷Department of Literature, Area Studies and European Languages, University of Oslo, Oslo, Norway

³⁸Department of Culture & Language, University of Southern Denmark, Odense, Denmark

³⁹Department of Family Medicine, Dalhousie University, Halifax, Nova Scotia, Canada

⁴⁰Care in Long-Term Conditions Research Division, King's College London, London, UK

⁴¹Department of Diabetes, School of Life Course Sciences, Faculty of Life Sciences and Medicine, King's College London, London, UK

ORCID

François Pouwer  <https://orcid.org/0000-0002-8172-9818>

Katharine Barnard-Kelly  <https://orcid.org/0000-0002-3888-3123>

Bryan Richard Cleal  <https://orcid.org/0000-0003-3065-7364>

Debbie Cooke  <https://orcid.org/0000-0003-1944-7905>

Mary Groot  <https://orcid.org/0000-0003-4021-8824>

Sonya Deschênes  <https://orcid.org/0000-0002-9258-0895>

Dominic Ehrmann  <https://orcid.org/0000-0002-5794-5596>

Anthony Fernandez  <https://orcid.org/0000-0003-1376-4520>

Lisbeth Frostholt  <https://orcid.org/0000-0002-9683-7416>

David Hopkins  <https://orcid.org/0000-0002-0451-0900>

Norbert Hermanns  <https://orcid.org/0000-0002-2903-2677>

Richard I. G. Holt  <https://orcid.org/0000-0001-8911-6744>

Marjolein Memelink Iversen  <https://orcid.org/0000-0001-9954-171X>

Thomas Kubiak  <https://orcid.org/0000-0003-0095-9265>


Christina Maar Andersen  <https://orcid.org/0000-0001-8008-6729>

Briana Mezuk  <https://orcid.org/0000-0003-1798-2285>

Giesje Nefs  <https://orcid.org/0000-0002-8772-740X>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8055-3251>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8055-3251>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8055-3251>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8055-3251>

Susanne S. Pedersen  <https://orcid.org/0000-0001-9954-171X>


Susanne S. Pedersen  <https://orcid.org/0000-0003-0095-9265>

Susanne S. Pedersen  <https://orcid.org/0000-0003-0095-9265>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8008-6729>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8008-6729>

Susanne S. Pedersen  <https://orcid.org/0000-0003-1798-2285>

Susanne S. Pedersen  <https://orcid.org/0000-0002-8772-740X>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8055-3251>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8055-3251>

Susanne S. Pedersen  <https://orcid.org/0000-0001-8055-3251>

Miranda Schram  <https://orcid.org/0000-0001-8113-7604>
 Frank Snoek  <https://orcid.org/0000-0001-9563-6762>
 Uffe Søholm  <https://orcid.org/0000-0003-0848-9421>
 Timothy C. Skinner  <https://orcid.org/0000-0002-0018-6963>
 Søren Skovlund  <https://orcid.org/0000-0003-3464-0885>
 Marietta Stadler  <https://orcid.org/0000-0001-6869-9960>
 Ragnhild B. Strandberg  <https://orcid.org/0000-0003-0256-438X>
 Sarah Bro Trasmundi  <https://orcid.org/0000-0003-1419-0450>
 Michael Vallis  <https://orcid.org/0000-0002-0165-5936>
 Kirsty Winkley  <https://orcid.org/0000-0002-1725-6040>
 Per Winterdijk  <https://orcid.org/0000-0003-3352-0523>
 Maartje de Wit  <https://orcid.org/0000-0001-6029-5101>
 Natalie Zaremba  <https://orcid.org/0000-0002-1720-1621>
 Jane Speight  <https://orcid.org/0000-0002-1204-6896>

REFERENCES

1. Chung WK, Erion K, Florez JC, et al. Precision medicine in diabetes: a consensus report from the American Diabetes Association (ADA) and the European Association for the Study of diabetes (EASD). *Diabetologia*. 2020;63(9):1671-1693. doi:[10.1007/s00125-020-05181-w](https://doi.org/10.1007/s00125-020-05181-w)
2. Tobias DK, Merino J, Ahmad A, et al. Second international consensus report on gaps and opportunities for the clinical translation of precision diabetes medicine. *Nat Med*. 2023;29(10):2438-2457. doi:[10.1038/s41591-023-02502-5](https://doi.org/10.1038/s41591-023-02502-5)
3. Lindekilde N, Rutters F, Henriksen JE, et al. Psychiatric disorders as risk factors for type 2 diabetes: an umbrella review of systematic reviews with and without meta-analyses. *Diabetes Res Clin Pract*. 2021;176:108855. doi:[10.1016/j.diabres.2021.108855](https://doi.org/10.1016/j.diabres.2021.108855)
4. Nouwen A, Speight J, Pouwer F, Holt RIG. How psychosocial and behavioural research has shaped our understanding

- of diabetes. *Diabet Med*. 2020;37(3):377-379. doi:[10.1111/dme.14254](https://doi.org/10.1111/dme.14254)
5. Pouwer F, Schram MT, Iversen MM, Nouwen A, Holt RIG. How 25 years of psychosocial research has contributed to a better understanding of the links between depression and diabetes. *Diabet Med*. 2020;37(3):383-392. doi:[10.1111/dme.14227](https://doi.org/10.1111/dme.14227)
6. Skinner TC, Joensen L, Parkin T. Twenty-five years of diabetes distress research. *Diabet Med*. 2020;37(3):393-400. doi:[10.1111/dme.14157](https://doi.org/10.1111/dme.14157)
7. Hendrieckx C, Gonder-Frederick L, Heller SR, Snoek FJ, Speight J. How has psycho-behavioural research advanced our understanding of hypoglycaemia in type 1 diabetes? *Diabet Med*. 2020;37(3):409-417. doi:[10.1111/dme.14205](https://doi.org/10.1111/dme.14205)
8. Broadley MM, Zaremba N, Andrew B, et al. 25 years of psychological research investigating disordered eating in people with diabetes: what have we learnt? *Diabet Med*. 2020;37(3):401-408. doi:[10.1111/dme.14197](https://doi.org/10.1111/dme.14197)
9. Nefs GM, Bazelmans E, Donga E, Tack CJ, de Galan BE. Sweet dreams or bitter nightmare: a narrative review of 25 years of research on the role of sleep in diabetes and the contributions of behavioural science. *Diabet Med*. 2020;37(3):418-426. doi:[10.1111/dme.14211](https://doi.org/10.1111/dme.14211)
10. Holt RIG, DeVries JH, Hess-Fischl A, et al. The management of type 1 diabetes in adults. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of diabetes (EASD). *Diabetologia*. 2021;64(12):2609-2652. doi:[10.1007/s00125-021-05568-3](https://doi.org/10.1007/s00125-021-05568-3)

How to cite this article: Pouwer F, Barnard-Kelly K, Cleal BR, et al. The missing piece: The clinical translation of precision diabetes medicine requires precision mental health care: A call to action from the international PsychoSocial Aspects of Diabetes (PSAD) Study Group. *Diabet Med*. 2025;42:e15514. doi:[10.1111/dme.15514](https://doi.org/10.1111/dme.15514)