

## COMMENTARY

# Diabetes in older adults – time to include frailty as a care indicator

Alan Sinclair<sup>1</sup>  | Sri Bellary<sup>2</sup> | Ketan K. Dhatariya<sup>3</sup> 

<sup>1</sup>Foundation for Diabetes Research in Older People (fDROP) and King's College, London, UK

<sup>2</sup>Aston University, Birmingham, UK

<sup>3</sup>Norfolk and Norwich University Hospitals NHS Foundation Trust and University of East Anglia, Norwich, UK

**Correspondence:** Professor Alan Sinclair, Foundation for Diabetes Research in Older People (fDROP), and King's College, London, SE1 9NH, UK.  
Email: alan.sinclair@kcl.ac.uk

**Keywords:** assessment, audit, diabetes, frailty, inpatient care

The recent publication of the Joint British Diabetes Societies for Inpatient Care (*JBDS-IP*) guideline, *Inpatient Care of the Frail Older Adult with Diabetes*<sup>1</sup> in this journal, represents a milestone in how we view modern diabetes care approaches to our ageing inpatient population. It also is a timely but delayed recognition of frailty as an emerging high impact complication of diabetes.<sup>2</sup> The guideline creates an important opportunity for diabetes inpatient teams to include frailty in their care pathways and in their local curricula of education and training for staff.

This *Commentary* is designed to increase the momentum of the *JBDS-IP* Guideline by reinforcing its key messages and providing a basis for including frailty measures in key processes of diabetes care such as national audits and other similar initiatives. In addition, the emergence of COVID-19 has highlighted the importance of frailty as a prognostic factor in older inpatients (with and without diabetes), and this has provided a further prompt for this follow-up *Commentary*.<sup>3</sup>

The *JBDS-IP* guideline delivers three important key messages to those looking after the frail older inpatient with diabetes: firstly, while managing acute illness remains the first priority of older inpatients with diabetes, there is a necessity to provide a focussed assessment of functional status and detection of frailty to guide further management; secondly, frailty can be screened for using rapid and easy-to-learn methods that have been well validated in multiple populations of older people; finally, that once frailty is detected, other outcome measures, such as assessing risk of hypoglycaemia,<sup>4</sup> falls rate and quality of life need to be routinely included in the

diabetes care plan along with glycaemic targets. It is likely that adopting these procedures will require a culture change as well as a degree of upskilling in health professionals managing those older adults with diabetes.

This *JBDS-IP* inpatient initiative parallels the publication of several international guidelines<sup>5,6</sup> that emphasise the special needs of older people with diabetes and which emphasise the importance of functional assessment and detection of frailty, and describe interventions to enhance intrinsic capacity and functional ability. The publication of this guideline can, therefore, be seen as a natural and necessary development to assist clinicians how to manage frailty successfully in an inpatient setting without requiring significant additional funding for diabetes care.

Frailty is an important predictor of clinical outcomes and there is increasing recognition that early detection of frailty can help slow functional decline. Despite this, screening for frailty remains poor in most health care settings. This may partly be due to the fact that there is no agreed operational definition of frailty.<sup>7</sup> Frailty should be seen as a state of extreme vulnerability to the effects of low-intensity stressors, and results from difficulty in maintaining homeostasis due to loss of functional reserve. In essence, it represents a multisystem dysregulation and a pre-disability state associated with a considerable decline in health and loss of independence. Frailty can also be recognised early in its evolution by detecting a pre-frailty state.

The prevalence of frailty varies according to the clinical setting studied and scales for measurement used with rates

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

© 2021 The Authors. Diabetic Medicine published by John Wiley & Sons Ltd on behalf of Diabetes UK

generally higher among hospitalised people (31%–58% in elderly care wards, 69% in nursing residential homes,<sup>8</sup> 29% in primary care settings<sup>9</sup> and 10%–25% in community-dwelling people with diabetes aged 60 years and over<sup>10</sup>). Scales that appear to have high feasibility for use in inpatient settings and clinical interpretation include the *FRAIL Scale*,<sup>11</sup> the *Survey of Health, Ageing and Retirement in Europe Frailty Index (SHARE-FI)*<sup>12</sup> and the *Gérontopôle Frailty Screening Tool (GFST)*<sup>13</sup> while the *Clinical Frailty Scale (CFS)*<sup>14</sup> has a short administration time (<30 sec). Irrespective of what scale is used, most are relatively easy to apply and measure frailty constructs. In UK primary care settings, the eFI (electronic Frailty Index<sup>15</sup>) is employed to detect frailty in those adults aged 65 years and over, and is based on the same conceptual model as the CFS. This latter assessment tool requires a software program linked to a primary care SystemOne system.

We now have evidence that it is possible to intervene in older adults with diabetes and frailty using a combination of resistance exercise, nutritional education and medical optimisation and this can lead to significant functional improvements associated with reduced health care costs.<sup>16,17</sup> Introducing such measures in an inpatient setting would be challenging but not impossible. The challenges would be to establish a program of intervention that can be introduced within a short period of time of admission and carried forward into the community after discharge, and the associated upskilling of both secondary care and community-based health professionals to deliver the interventions. This would represent an integrated and complementary approach that would have the potential to reduce health care costs, reduce length of stay, lower any associated morbidity and mortality, and reduce future unnecessary hospital admissions. These actions ensure it becomes a shared philosophy of care and action designed to improve the likelihood of benefits. Thus, the *JBDS-IP* frailty guidance,<sup>1</sup> which is supported by recent national and international clinical guidance on managing frailty,<sup>18,19</sup> should be implemented in parallel with initiatives in primary care such as the introduction of six indicators relating to frailty within the *Quality Outcomes Framework* contract in the United Kingdom.<sup>20</sup>

No one can deny the immense success of the United Kingdom-based National Diabetes Audit (NaDia) in enhancing the quality of diabetes inpatient care (such as reduced rates of medication errors, severe hypoglycaemia and inpatient occurrence of foot ulcers)<sup>21</sup> and the recent *Getting it Right First Time* initiative (GIRFT) which aims to improve diabetes care and services for all in the United Kingdom by making key recommendations in six areas including type 1 diabetes, procurement and medicines optimisation, and diabetic footcare.<sup>22</sup> We urge both of these initiatives and similar projects elsewhere to consider proactively to introduce frailty measures (since the presence of frailty will influence self-care and foot care ability, hypoglycaemia incidence, insulin

usage and error rates, etc) in the future work. This will provide greater insight into interpreting data relating to older people and may assist to develop new pathways of care that are aligned with their special characteristics.

As frailty is now recognised as a significant predictor of adverse outcomes in older adults admitted to the hospital, it is not surprising that the ongoing COVID-19 pandemic has further highlighted the magnitude of this association particularly in those with diabetes.<sup>23</sup> Observational data from studies in frail older adults affected by COVID-19 show a disproportionately higher rates of mortality in frail older adults compared to those who are fit.<sup>3</sup> Moreover, assessment of severity of frailty has also been used to determine the ceiling of care in COVID-19-affected people.<sup>24</sup> As these decisions are generally made by admitting physicians, it is imperative that health care professionals who undertake these assessments are appropriately trained.

We feel that further delay in introducing frailty considerations into diabetes care guidance, protocols and audits could lead to a state of continuing suboptimal clinical care and may even be seen as a lack of equity of care for older people within diabetes health care systems. Frailty detection and management must now become part of routine diabetes care.<sup>10,25</sup>

## CONFLICT OF INTEREST

No conflict of interest declared.

## ORCID

Alan Sinclair  <https://orcid.org/0000-0001-6712-7805>

Ketan K. Dhataria  <https://orcid.org/0000-0003-3619-9579>

## REFERENCES

1. Sinclair AJ, Dashora U, George S, Dhataria K; JBDS-IP Writing Group. Joint british diabetes societies for inpatient care (JBDS-IP) clinical guideline inpatient care of the frail older adult with diabetes: an executive summary. *Diabet Med*. 2020;37(12):1981-1991.
2. Sinclair A, Morley J. Frailty and diabetes. *Lancet*. 2013;382(9902):1386-1387.
3. Sablerolles RSG, Lafeber M, van Kempen JAL, et al. Association between Clinical Frailty Scale score and hospital mortality in adult patients with COVID-19 (COMET): an international, multicentre, retrospective, observational cohort study. *Lancet Healthy Longev*. 2021;2(3):e163-e170.
4. Abdelhafiz AH, Rodríguez-Mañas L, Morley JE, Sinclair AJ. Hypoglycemia in older people - a less well recognized risk factor for frailty. *Aging Dis*. 2015;6(2):156-167.
5. Dunning T, Sinclair A, Colagiuri S. New IDF Guideline for managing type 2 diabetes in older people. *Diabetes Res Clin Pract*. 2014;103(3):538-540. <https://doi.org/10.1016/j.diabres.2014.03.005>
6. LeRoith D, Biessels GJ, Braithwaite SS, et al. Treatment of diabetes in older adults: an endocrine society\* clinical practice guideline. *J Clin Endocrinol Metab*. 2019;104(5):1520-1574.

7. Rodríguez-Mañas L, Féart C, Mann G, et al. Searching for an operational definition of frailty: a Delphi method based consensus statement: the frailty operative definition-consensus conference project. *J Gerontol A Biol Sci Med Sci*. 2013;68(1):62-67.
8. O’Caoimh R, Galluzzo L, Rodríguez-Laso Á, et al. Prevalence of frailty at population level in European ADVANTAGE Joint Action Member States: a systematic review and meta-analysis. *Ann Ist Super Sanità*. 2018;54(3):226-238.
9. Rodríguez-Laso Á, Caballero MÁ, García I, et al. State of the Art Report on the Prevention and Management of Frailty [Internet]. 2018 [cited 2020 Mar 22]. p. 30. [http://www.advantageja.eu/images/SoAR-AdvantageJA\\_Full-text.pdf](http://www.advantageja.eu/images/SoAR-AdvantageJA_Full-text.pdf)
10. Hanlon P, Faure I, Corcoran N, et al. Frailty measurement, prevalence, incidence, and clinical implications in people with diabetes: a systematic review and study-level meta-analysis. *Lancet Healthy Longev*. 2020;1:e106-e116.
11. Van Kan GA, Rolland Y, Bergman H, et al. The I.A.N.A. task force on frailty assessment of older people in clinical practice. *J Nutr Heal Aging*. 2008;12(1):29-37.
12. Romero-Ortuno R, O’Shea D, Kenny RA. The SHARE frailty instrument for primary care predicts incident disability in a European population-based sample. *Qual Prim Care*. 2011;19(5):301-309.
13. Vellas B, Balardy L, Gillette-Guyonnet S, et al. Looking for frailty in community-dwelling older persons: the gerontopole frailty screening tool (GFST). *J Nutr Heal Aging*. 2013;17(7):629-631.
14. *Eur J Intern Med*. clinical practice: a review. 2016;31(1):3-10.
15. England NHS. Electronic Frailty Index. Available at: England NHS. Dent E, Kowal P, Hoogendijk EO. Frailty measurement in research and Electronic Frailty Index. Last accessed 6th March 2021.
16. Rodríguez-Mañas L, Laosa O, Vellas B, et al. European MID-Frail Consortium. Effectiveness of a multimodal intervention in functionally impaired older people with type 2 diabetes mellitus. *J Cachexia Sarcopenia Muscle*. 2019;10(4):721-733.
17. Peña-Longobardo LM, Oliva-Moreno J, Zozaya N, et al. Economic evaluation of a multimodal intervention in pre-frail and frail older people with diabetes mellitus: the MID-FRAIL project. *Exp Rev Pharmacoeconomics & Outcomes in Research*. 2020;1-8. <https://doi.org/10.1080/14737167>
18. Sinclair AJ, Abdelhafiz A, Dunning T, et al. An international position statement on the management of frailty in diabetes mellitus: summary of recommendations 2017. *J Frailty Aging*. 2018;7(1):10-20.
19. Strain WD, Hope SV, Green A, Kar P, Valabhji J, Sinclair AJ. Type 2 diabetes mellitus in older people: a brief statement of key principles of modern day management including the assessment of frailty. A national collaborative stakeholder initiative. *Diabet Med*. 2018;35(7):838-845.
20. Khan N, Rudoler D, McDiarmid M, Peckham S. A pay for performance scheme in primary care: Meta-synthesis of qualitative studies on the provider experiences of the quality and outcomes framework in the UK. *BMC Fam Pract*. 2020;21(1):142.
21. NHS Digital. National diabetes inpatient audit (NaDia)- 2019. Available at: National Diabetes Inpatient Audit (NaDIA) - 2019 - NHS Digital.
22. NHS. Diabetes. GIRFT programme national speciality report. 2020. Available at: Layout 1 ([gettingitrightfirsttime.co.uk](http://gettingitrightfirsttime.co.uk)).
23. Bode B, Garrett V, Messler J, et al. Glycemic characteristics and clinical outcomes of COVID-19 patients hospitalized in the United States. *Diabetes Sci Technol*. 2020;14(4):813-821.
24. NICE guideline (NG 159). Covid-19 rapid guideline: critical care in adults. 2021. <https://www.nice.org.uk/guidance/ng159/chapter/1-Admission-to-hospital>
25. Sinclair A, Dunning T, Rodríguez-Mañas L. Diabetes in older people: new insights and remaining challenges. *Lancet Diabetes Endocrinol*. 2015;3(4):275-285.

**How to cite this article:** Sinclair A, Bellary S, Dhatariya KK. Diabetes in older adults – time to include frailty as a care indicator. *Diabet Med*. 2021;38:e14560. <https://doi.org/10.1111/dme.14560>