

A literature review to explore tools used in the assessment of Hospital-Acquired Deconditioning

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Introduction

'Hospital-acquired deconditioning' (HAD) describes the phenomenon of acute functional decline during a hospital stay, which is secondary to the condition being treated. The prevalence of HAD among older adults is estimated to be between 30-65% (1,2). An individual's risk of HAD is influenced by pre-illness functional reserves, hospital treatment, environment and behavioural factors including physical activity and nutritional intake.

This project aimed to explore tools used in the assessment of HAD. This is part of a programme of work led by the NHS Wales Executive to support multidisciplinary teams in identifying, monitoring, and preventing HAD.

Methods

A search strategy was designed and run in Ovid Medline. Registries were searched for ongoing clinical trials. Studies were included that used validated tools to assess HAD, a change in functional status, or changes in prespecified domains of HAD (i.e., mobility, cognition, and continence) in generalisable adult, in-patient populations. Records were screened and selected systematically by two reviewers.

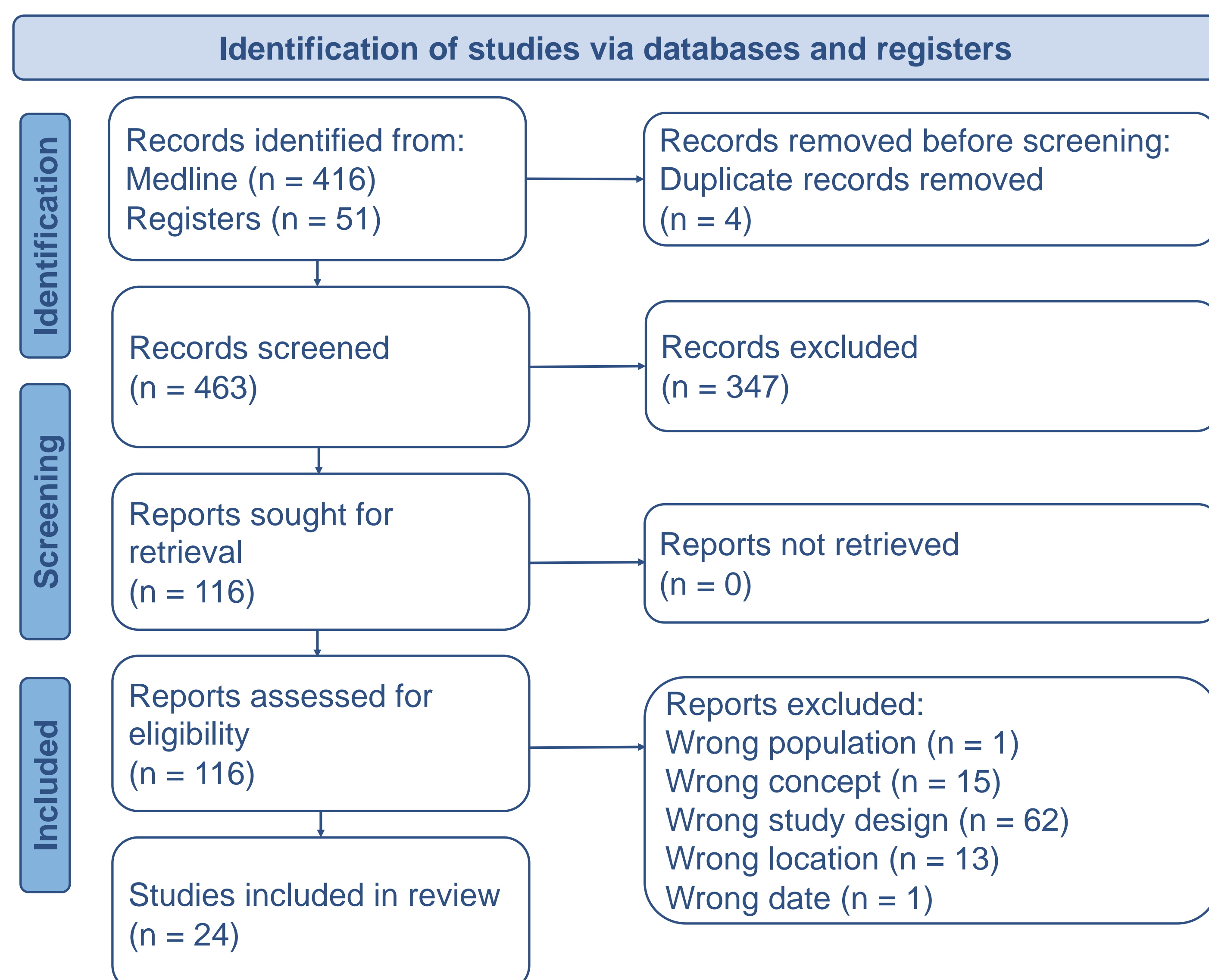


Figure 1: PRISMA diagram for study selection

Conclusion

While 22 tools were identified, none were comprehensive in their assessment of HAD. This highlights the urgent need for a suitable tool to effectively identify and monitor HAD, ultimately guiding the development and evaluation of targeted, multifaceted interventions to reduce the prevalence of avoidable in-hospital deconditioning. This field of research may also benefit from developing an agreed consensus of the definition of HAD.

Results

From 467 records, 116 full-text articles were reviewed, and 24 studies deemed eligible. These included 23 observational studies and one systematic review. Sample sizes ranged from 44 to 33,111 patients, predominantly involving populations ≥ 65 years of age.

A total of 22 tools were identified across 24 studies. The most common tools used to assess HAD were those pertaining to a patient's functional abilities and independence in the activities of daily living. Of the 24 studies, 19 (79%) used either the Barthel Index, modified Barthel Index, or Katz Activities of Daily Living tools to assess HAD. These tools assess independence in functional ability (bathing, dressing, feeding, toileting), mobility, and continence. This represents some consensus in the literature regarding tools to assess HAD. Other tools assessed additional elements of HAD including cognition, delirium, social engagement, nutrition, mental wellbeing, communication, and fatigue. No tool was identified to comprehensively assess all elements of HAD.



Figure 2: A word cloud created (with NVivo 14) using 9 definitions of HAD and associated terms identified in included studies

References:

References:

1) Loyd C, Markland AD, Zhang Y, Fowler M, Harper S, Wright NC, et al. Prevalence of Hospital-Associated Disability in Older Adults: A Meta-analysis. *J Am Med Dir Assoc.* 2020;21(4):455-61 e5. 2) Dharmarajan K, Han L, Gahbauer EA, Leo-Summers LS, Gill TM. Disability and Recovery After Hospitalization for Medical Illness Among Community-Living Older Persons: A Prospective Cohort Study. *J Am Geriatr Soc.* 2020;68(3):486-95