

Delirium detection tools show varying tool completion and positive score rates when used at scale in routine care: a systematic review

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INTRODUCTION

- Delirium affects up to one in four hospitalized older adults but is poorly detected in acute settings
- Delirium detection is essential to deliver effective care
- Multiple short detection tools have been validated in research studies and implemented in clinical practice
- However, there has been little scrutiny of how well these tools perform in real-world conditions

AIM: This systematic review aims to summarize large scale (N≥1000) studies and audit reports which report data on the performance of delirium detection tools in routine clinical practice in acute care settings

METHODS

- Systematic review according to PRISMA guidelines
- Search terms: “delirium”, “assess*” (& synonyms) and “clinical practice” (& synonyms)
- Databases: Medline, Embase, PsycINFO and CINAHL
- RoB: ROBINS-E quality assessment tool

For full protocol please see PROSPERO:



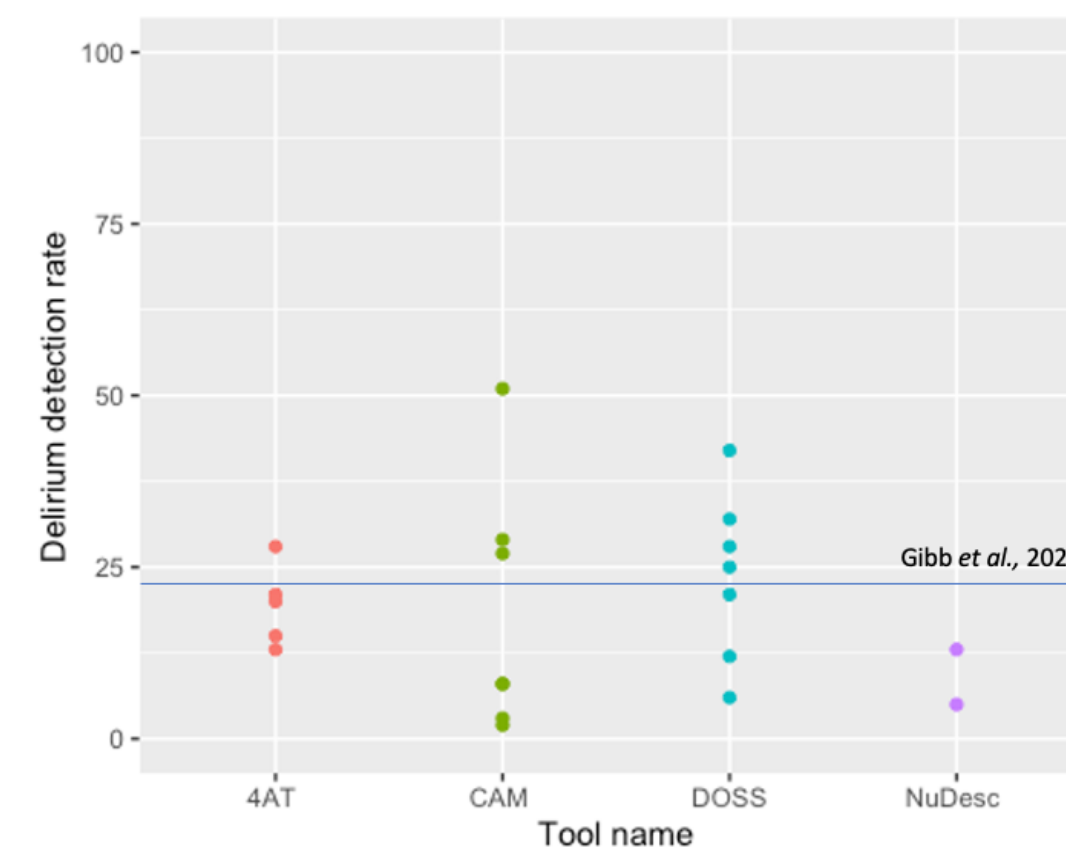
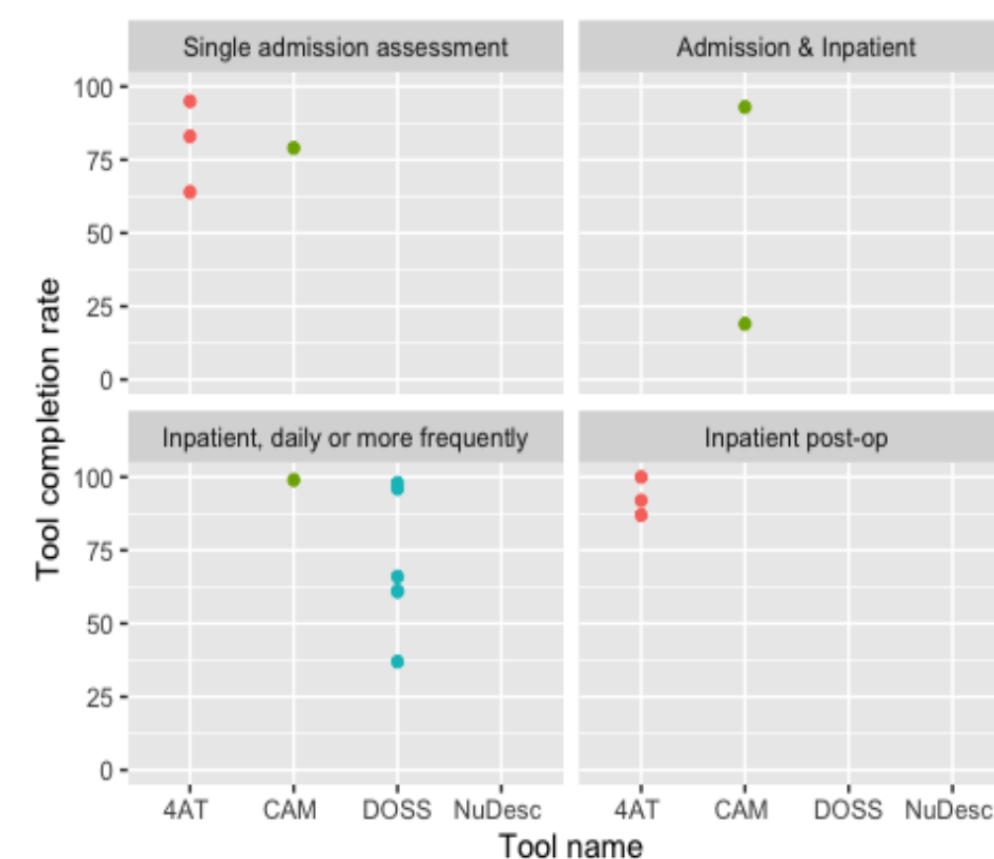
RESULTS

We found 22 research studies and four audit reports examining six different validated tools: the Confusion Assessment Method (CAM); brief-CAM; the 4 ‘A’s Test (4AT); the Delirium Observation Screening Scale (DOSS); the Intensive Care Delirium Screening Checklist (ICDSC) & the Nursing Delirium Screening Scale (NuDesc)

Delirium assessments were done at different timepoints in the patient journey. Assessment frequencies ranged from single assessments to multiple times per day for the whole admission

Front door assessment only
Alhaidari <i>et al.</i> , 2021 (4AT) Anand <i>et al.</i> , 2022 (4AT) Di Bari <i>et al.</i> , 2022 (4AT) Garcia, Jacob-Filho, and Avelino-Silva, 2020 (CAM) Peralta-Cuervo <i>et al.</i> , 2021 (CAM) Resniko <i>et al.</i> , 2017 (CAM)
Front door assessment and throughout inpatient stay, daily or more frequently
Avelino-Silva <i>et al.</i> , 2017 (CAM) Dulin <i>et al.</i> , 2022 (bCAM)
Throughout inpatient stay, daily or more frequently
Corradi <i>et al.</i> , 2016 (CAM) Fuchs <i>et al.</i> , 2020 (DOSS; ICDSC) LaiHue <i>et al.</i> , 2021 (NuDESC) Lee <i>et al.</i> , 2019 (DOSS) Lee <i>et al.</i> , 2022 (DOSS) Marquetand <i>et al.</i> , 2021 (DOSS; ePA-AC; ICDSC) Rohatgi <i>et al.</i> , 2019 (CAM) Schubert <i>et al.</i> , 2018 (DOSS) Spiller <i>et al.</i> , 2022 (DOSS) Wong <i>et al.</i> , 2018 (NuDESC) Zipser <i>et al.</i> , 2022 (DOSS; ePA-AC)
Inpatient post-operative assessment only
Han <i>et al.</i> , 2021 (4AT) Matharu <i>et al.</i> , 2022 (4AT) Tyas <i>et al.</i> , 2021 (4AT)

Tool completion rates and positive score rates varied widely. Some studies reported delirium detection rates lower than expected in the population studied, despite high tool completion rates



CONCLUSIONS

- This review identifies exemplars where routine delirium detection tool use appears feasible in acute care settings
- It complements diagnostic test accuracy studies which have evaluated tool performance under research conditions
- This review highlights variation in performance when tools have been implemented under real-world conditions

RECOMMENDATIONS FOR FUTURE CLINICAL PRACTICE AND RESEARCH

- Healthcare systems can use these findings to inform which tool is most appropriate for their clinical context, considering the availability of staff, training and resources
- When implementing a tool at scale, healthcare systems should plan to monitor tool completion and delirium detection rates
- Embedding detection tools within EHRs could support routine use and measurement
- Data-sharing and collaboration among healthcare providers and researchers could create a comprehensive information repository on real-world tool performance to inform future research and practice

Reference:

Gibb K, Seeley A, Quinn T, *et al.* The consistent burden in published estimates of delirium occurrence in medical inpatients over four decades: a systematic review and meta-analysis study. *Age Ageing*. 2020;49: 352-360

