Implementing a Novel Identification Tool to Improve the Recognition of Non-Ambulatory Fragility Fractures: A Quality Improvement Project

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Background

- Non-Ambulatory Fragility Fractures (NAFFs) are a nationally under-recognised problem, yet there are no national initiatives aimed at improving their identification or management.
- Delayed recognition of NAFFs leads to worse patient outcomes - including prolonged hospital stays, higher complication rates, and increased mortality - and contributes to significant financial burden, with potential NHS savings of over £250 million annually through improved identification and management[1].

Objective

- This QIP aimed to improve the identification of NAFFs in the orthopaedic department at Medway Maritime Hospital by 50%

Methods

PDSA 1

- Recognised the limitations of education alone; initiated plans for an integrated, system-level intervention.
- Identified a critical knowledge gap in NAFF recognition; designed targeted teaching to improve diagnostic accuracy.
- Awareness improved, but application remained inconsistent; clinicians reported uncertainty in translating theory to practice.
- Delivered data-driven education sessions introducing formal NAFF criteria and highlighting clinical consequences of under-recognition.

PDSA 2

- Embedded tool into routine practice; advocated for inclusion in junior doctor induction and ongoing departmental audits to ensure sustainability.
- Developed a NAFF identification tool (Figure 1) within the eTrauma system, requiring triaging clinicians to complete it for every new admission.
- Marked improvement in identification and tagging rates; enhanced workflow integration and clinician confidence.
- Launched the tool with embedded CFS guidance and real-time prompts; addressed usability through stakeholder feedback.

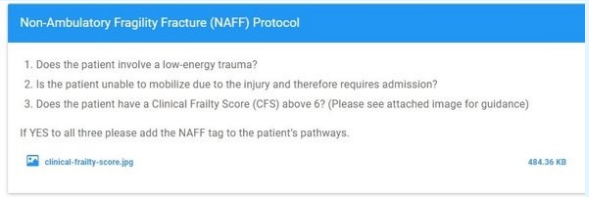
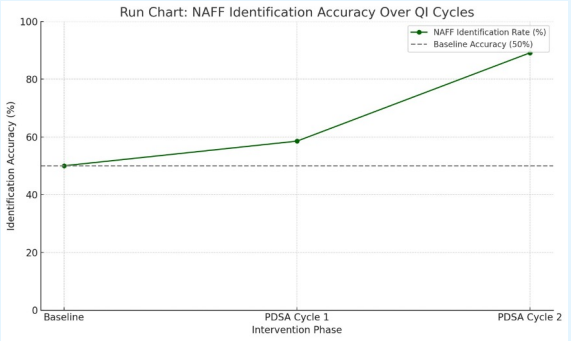


Figure 1: Our NAFF Identification Tool

Results & Discussion



Cycle 1

- Of 115 fracture admissions, 41 met NAFF criteria. Only 24 were correctly tagged (58.5%), a modest improvement from baseline (50%).
- However, 18 NAFFs were missed, and one false positive was recorded

Cycle 2

- 41 fracture admissions were reviewed; 46 met NAFF criteria, of which 41 (89.1%) were correctly tagged.
- Missed NAFFs reduced from 18 to 5 (a 72.2% relative reduction).

Broader Impact

- Early tagging enabled timely orthogeriatric input, prioritised physiotherapy, and proactive discharge planning. mirroring the established NOF pathway.
- This led to more efficient, standardised care for frail patients with high clinical need.

Innovation

- Our trust is the first in the UK to introduce a structured NAFF identification tool into trauma workflows.
- This QIP positions us to lead regional and national rollout, with scalable potential across orthopaedic services.

Results & Discussion

- This project surpassed its original aim, reporting a substantial improvement in NAFF identification (from 50% to 89.1%)
- As the first UK trust to implement a formal NAFF identification tool, we demonstrated a scalable, low-cost model with potential for national adoption
- Next steps include embedding training into induction, ongoing data collection to assess sustainability, and engaging with regional networks for wider rollout

References – 1 **Marsh D et al.** *The Multidisciplinary Approach to Fragility Fractures Around the World.* In: Falaschi P, Marsh D (eds). **Orthogeriatrics.** Springer; 2021.