

Effectiveness and Feasibility of a Non-Weight Bearing Coordinator Across a Health Service – A Scoping Review

Asher Kirk^{1,2}, Kate Behm¹, Elizabeth Batchelor¹, Doug McCaskie¹, Martin McCall-White¹, Lara Kimmel^{1,2}

1. Alfred Health, Melbourne, Victoria, Australia
2. Monash University, Melbourne, Victoria, Australia

Contact a.kirk2@alfred.org.au

Background

Patients with limb fractures are commonly advised to avoid weight bearing (WB) (e.g. non-weight bearing [NWB]) for 6-12 weeks. NWB status following a lower limb fracture has been identified to be a common barrier to discharge home¹, leading to longer length of stay (LOS)² and an increased risk of complications³. Emerging evidence has shown in select lower limb fractures that early WB can be safe⁴, reduce complications⁴ and allow patients to return directly home⁵.

Patients with orthopaedic fractures are admitted across multiple units within Alfred Health. In a retrospective audit of the Alfred General Medicine unit there were 140 patients with orthopaedic injuries in a 6-month period (see Figure 1). The introduction of a NWB Coordinator with expert knowledge of fracture types and current evidence was trialled to assist with patient management and discharge.

Retrospective audit of Alfred General Medicine Unit (June 23 – Jan 24)

140 patients admitted with a fracture



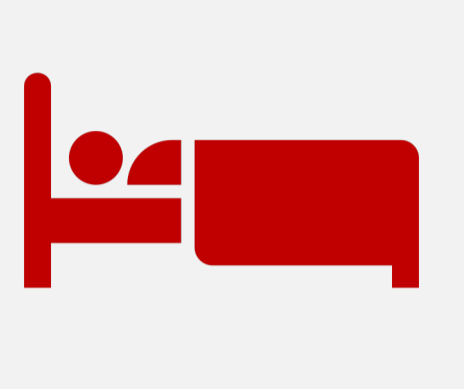
Only 50%
DC home



44% of isolated
UL #s DC home



Acute LOS
6 (3-10) days



Subacute LOS
25 (14-51) days

Figure 1: Retrospective audit of The Alfred General Medicine Unit (June 23-Jan 24) of all patients admitted with a fracture

Methods

Role of the NWB Coordinator

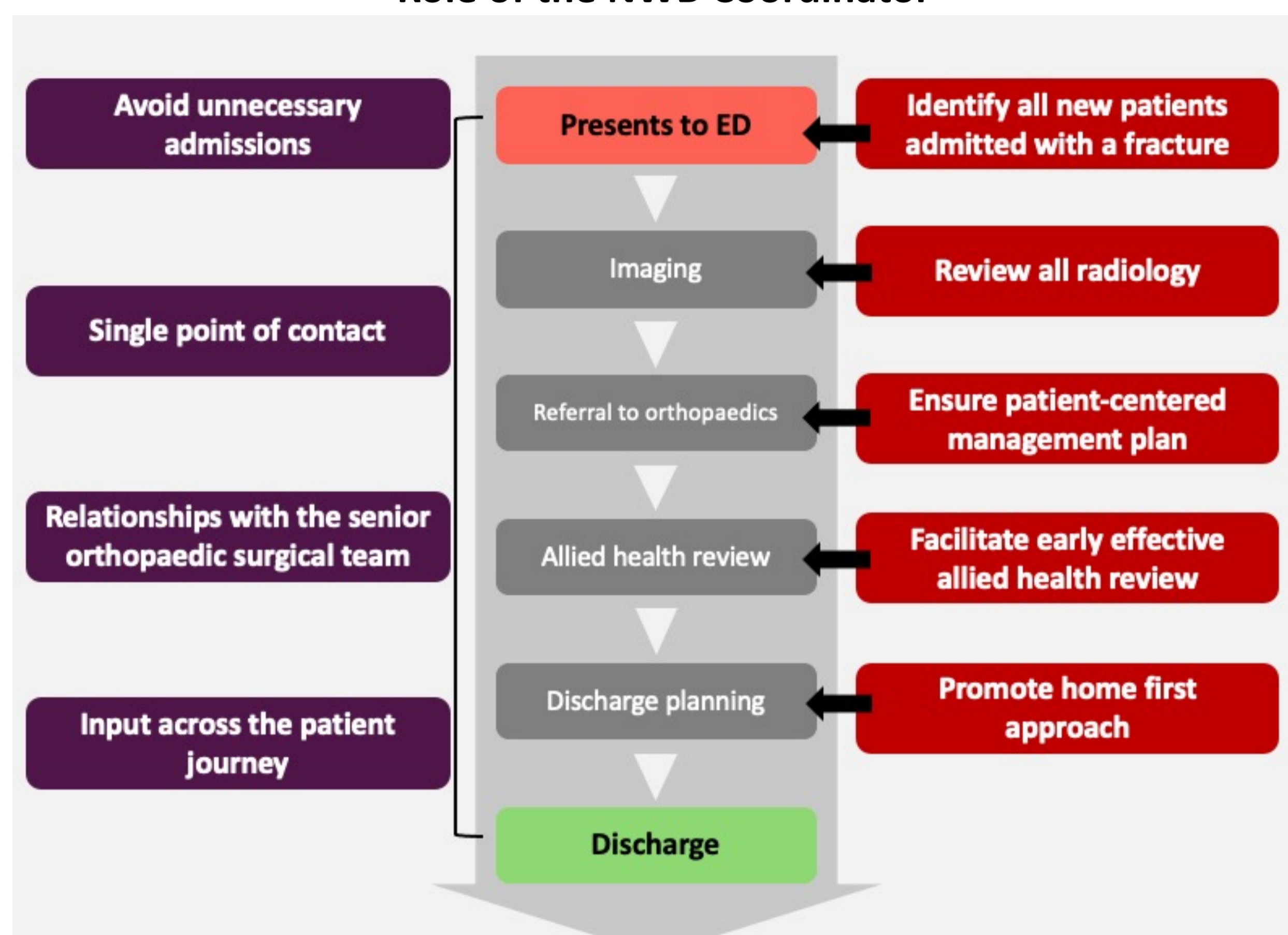


Figure 2: The role of the NWB coordinator across the patient journey

A four-week prospective audit was undertaken by a senior orthopaedic trauma physiotherapist of all patients with a fracture managed under any bed-card (excluding orthopaedic or trauma) across Alfred Health. This audit included two acute sites, one subacute facility and one transitional care program.

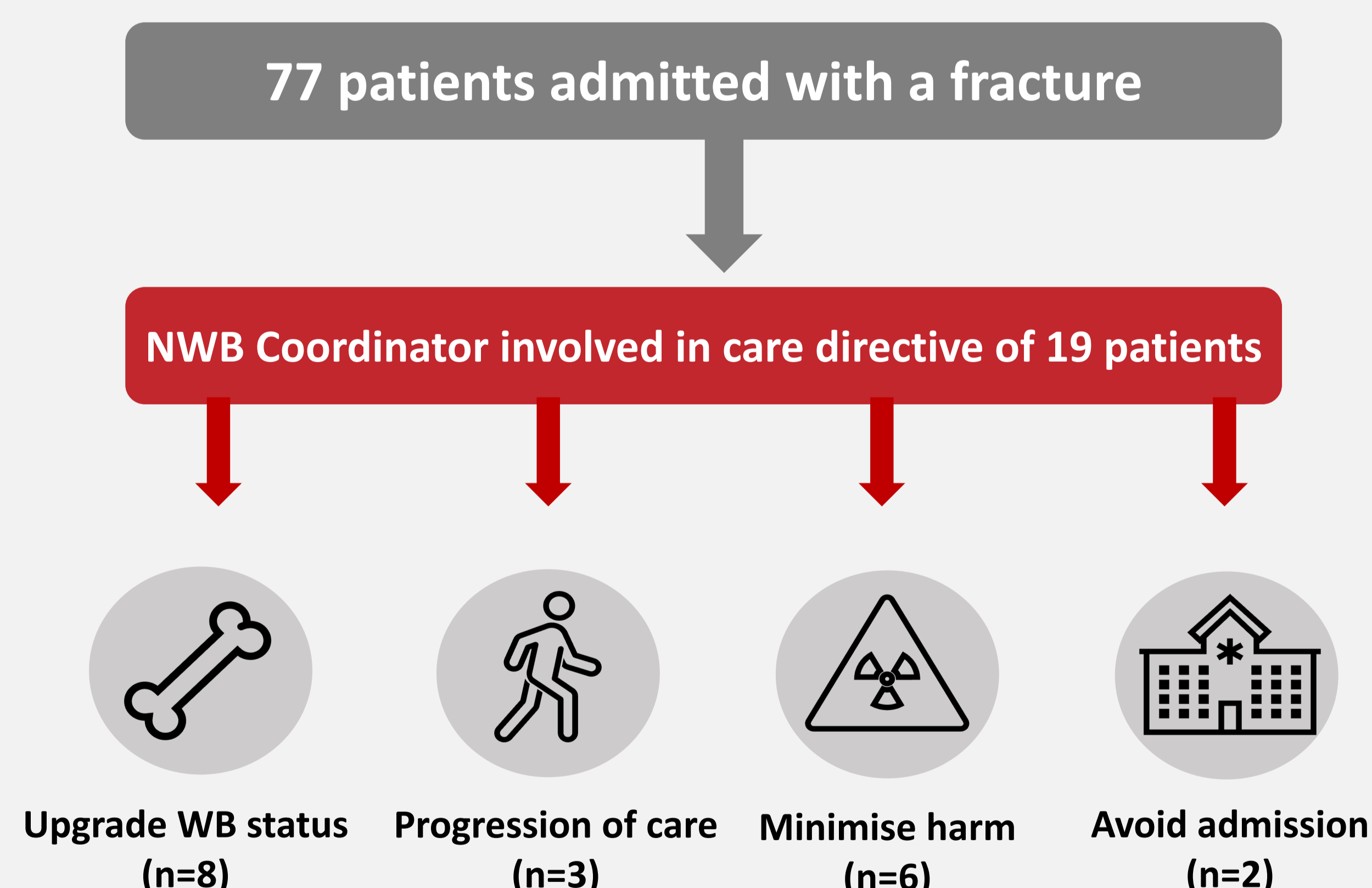
Key aims of the NWB Coordinator role were to:

- Progress patient care
- Upgrade / review weight bearing status
- Reduce length of stay
- Minimise harm
- Facilitate discharge home

The NWB Coordinator remotely reviewed all fracture admissions, assessing radiology and considering individual patient factors (see Figure 2). Evidence-based principles were applied, and care plans were adjusted in collaboration with senior orthopaedic medical staff when necessary.

Results

March 2025 – 4-week summary of NWB Coordinator outcomes



Improved hospital flow through progression of care

14 – 42 days of inpatient care avoided per patient

Conservatively estimated accumulative total of



Conclusion

- Implementing a NWB Coordinator across a large health network is both feasible and effective
- A senior physiotherapy-led NWB Coordinator may enhance patient flow by enabling timely review and adjustment of weight-bearing status to improve patient flow and promote equitable access to best-practice care for all fracture patients, regardless of admitting team
- A formal health economics evaluation is underway to quantify organisational cost savings
- Further research is needed to explore long-term outcomes for patients managed under this model

References

1. New PW, Jolley DJ, Cameron PA, Oliver JH, Stoelwinder JU. A prospective multicentre study of barriers to discharge from inpatient rehabilitation. *MJA*. 2013;198:104–8. doi: 10.5694/mja12.10340.
2. Hingorani R, Lammers K, Smith M, Smith D. Functional outcomes and rehabilitation efficiency in patients with restricted weight-bearing. *Am Med J*. 2018;9(2):64-9.
3. Donohoe E, Roberts HJ, Miclau T, Kreder H. Management of Lower Extremity Fractures in the Elderly: A Focus on Post-Operative Rehabilitation. *Injury*. 2020 May;51 Suppl 2:S118-22. doi: 10.1016/j.injury.2020.04.050. PMID: 32448467.
4. Flowers DW, McCallister E, Christopherson R, Ware E. The Safety and Effectiveness of Early, Progressive Weight Bearing and Implant Choice after Traumatic Lower Extremity Fracture: A Systematic Review. *Bioengineering (Basel)*. 2022 Dec 1;9(12):750.
5. Barlow C, Duggleby L, Barton T. Early weight bearing in elderly patients with ankle fractures reduces care needs and maintains independence. *Foot Ankle Surg*. 2023 Jan;29(1):63-6. doi: 10.1016/j.fas.2022.09.006. PMID: 36175269.