

Improving Outcomes With A Novel Orthopaedic/Inclusion Health Service For Patients Experiencing Homelessness: A Retrospective Cohort Study and Systematic Review

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Background

Patients experiencing homelessness (PEH) sustain disproportionately higher rates of orthopaedic injuries, often requiring surgical intervention and generating relatively high rates of emergency department utilisation. Existing literature demonstrates poor adherence to follow-up in this patient group, elevated complication rates, and high rates of self-directed discharge. This study aims to quantify the published outcomes and evaluate the functionality of a novel, dedicated Inclusion Health/Orthopaedic surgical service – the first of its kind at the time of its inception.

Methods

A PRISMA-guided systematic review of Embase, Scopus and PubMed was completed. In parallel, a retrospective cohort study was performed of patients attending a dedicated Inclusion Health/Orthopaedic surgical service at our tertiary hospital between January 2024 and March 2026. Cohort outcomes were benchmarked against pooled comparator rates derived from directly comparable systematic review studies, using Fisher's exact or chi-squared testing, with Wilson score 95% confidence intervals reported given small denominators.

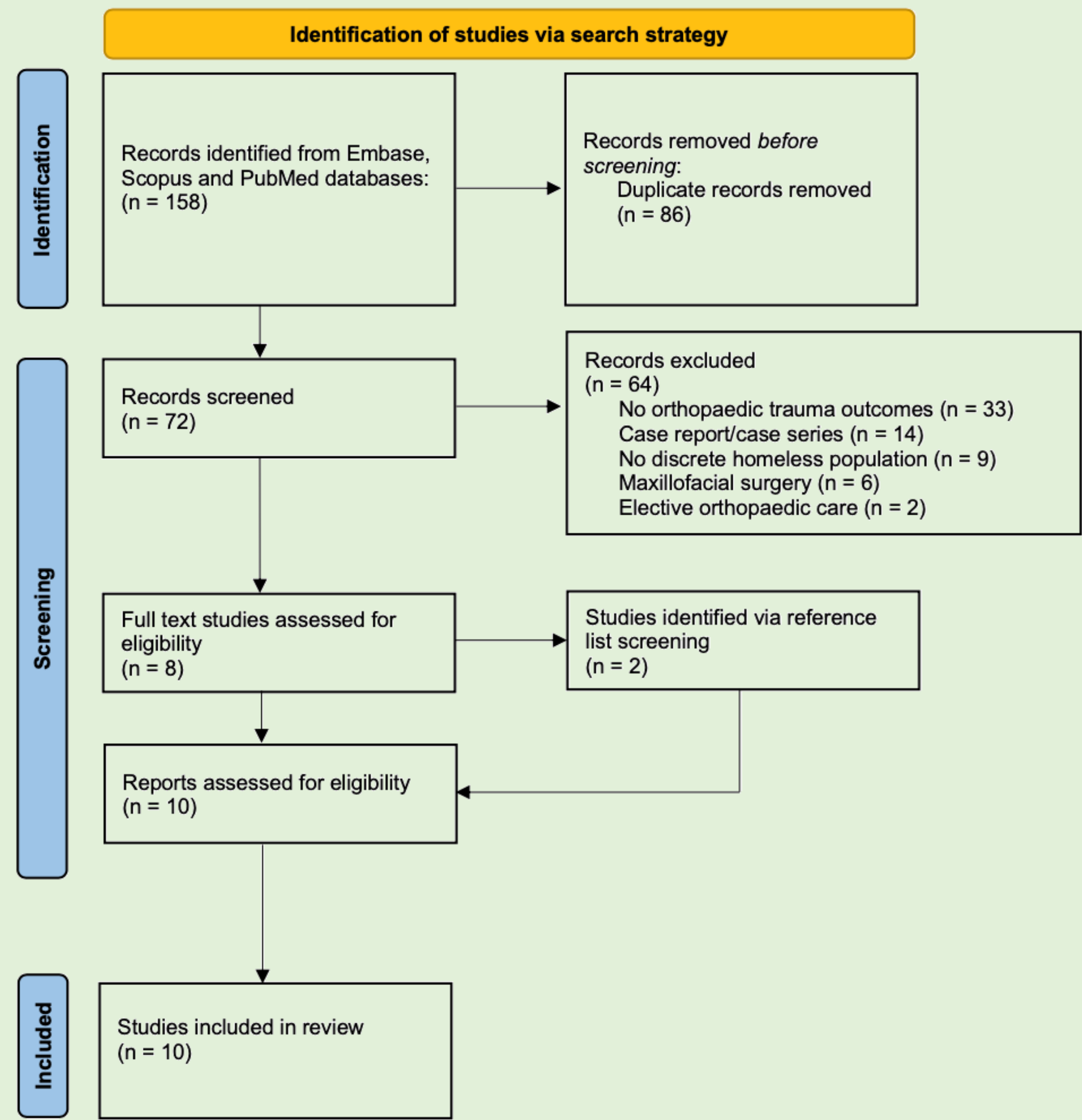


Figure 1: PRISMA flow diagram of search strategy of systematic review

Results

The systematic review yielded 10 studies reporting orthopaedic outcomes in patients experiencing homelessness (N = 63–7,589 depending on outcome). Our cohort comprised 47 patients with 52 injury episodes: 84.6% male, median age 51 years, and 36.5% with substance use recorded at the time of injury. Falls accounted for 63.5% of injuries and alleged assault for 19.2%. First follow-up attendance was significantly higher than pooled published rates (76.0% vs 53.8%, p = 0.005), and self-directed discharge was significantly lower (10.0% vs 24.0%, p = 0.036). No other outcome differed significantly.

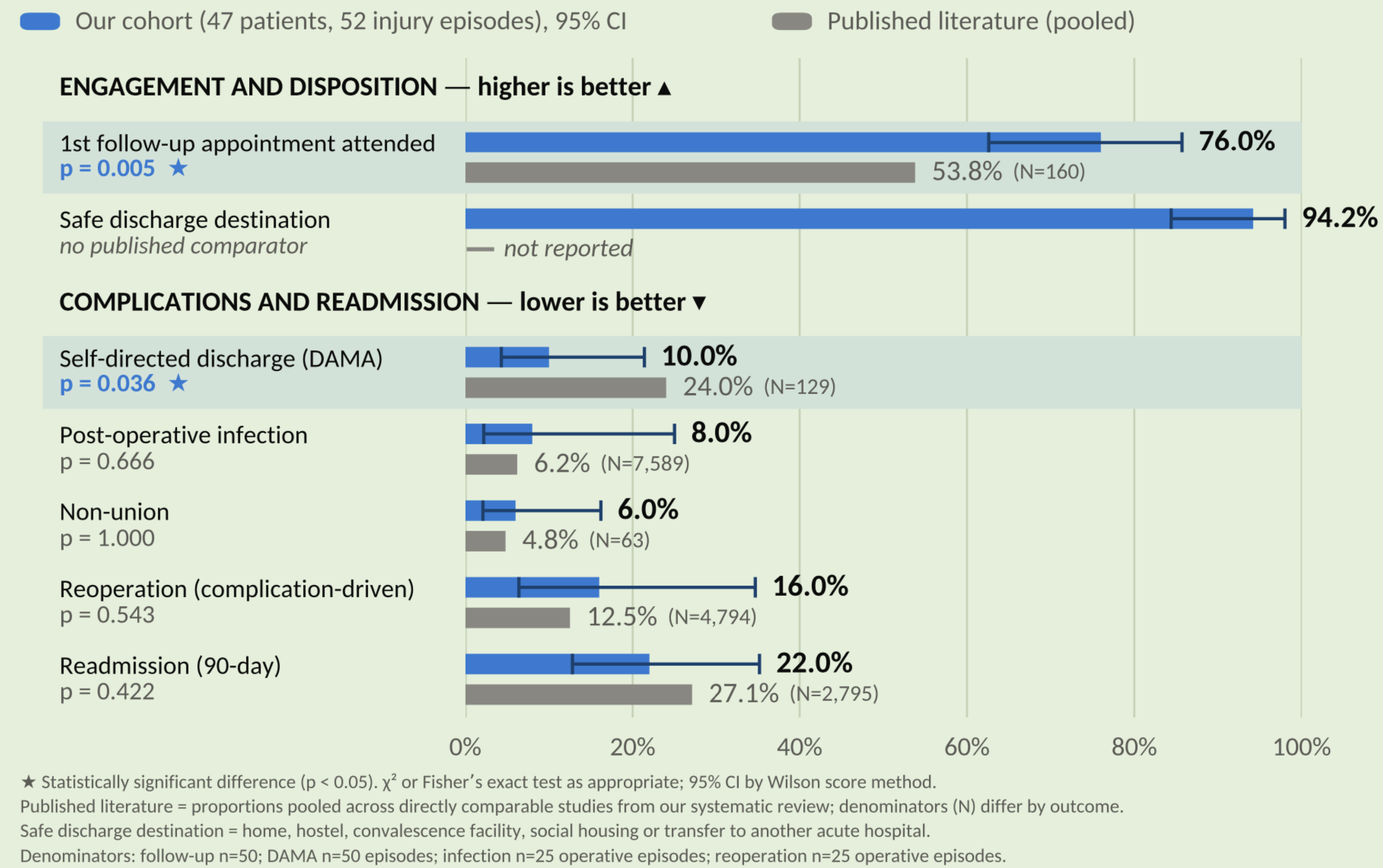


Figure 2: Cohort outcomes vs published literature

Outcome	Cohort study n (%)	Published Literature % (N)	P-value
Follow-Up (n=50 eligible for follow-up)			
1st follow-up appointment attended	38 (76.0%)	53.8% (N=160)	0.005
Attended multiple follow-up appointments	35 (70%)	—	—
Discharge			
Safe discharge destination	49 (94.2%)	—	—
Self-directed discharge (DAMA) — all episodes	5 (10.0%)	24.0% (N=129)	0.036
Infection			
Post-operative infection — operative episodes (n=25) [†]	2 (8.0%)	6.2% (N=7,589)	0.666
Complications			
Non-union	3 (6.0%)	4.8% (N=63)	1.000
Reoperation — all injury episodes	6 (12.0%)	19.0% (N=63)	0.309
- Operatively managed episodes (n=25)	6 (24.0%)	21.1% (N=4,794)	0.720
- Complication driven reoperation	4 (16.0%)	12.5% (N=4,794)	0.543
Readmission			
Any readmission (90-day)	11 (22.0%)	27.1% (N=2,795)	0.422
- Surgery-related	6 (12.0%)	—	—
- Other	5 (10.0%)	—	—

Table 1: Cohort outcomes compared with pooled comparator rates of the systematic review

[†] One patient (two injury episodes) excluded from outcome analysis due to follow-up at a different hospital

Conclusions

PEH sustaining orthopaedic injuries represent a complex and vulnerable patient cohort with recognised barriers to engagement with standard care pathways. Through a novel, dedicated Inclusion Health/Orthopaedic service model, we demonstrate significantly higher follow-up attendance, significantly lower self-directed discharge, and comparable complication rates to the published literature, alongside high rates of safe discharge destination. These findings support the integration of dedicated Inclusion Health expertise within orthopaedic trauma services, as a replicable model of care for this vulnerable population.

References

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