

The hidden cost of recovery: infective complications of open long bone fractures in major trauma care

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€772,468

Total additional cost of treating fracture-related infection after open long bone fracture, **over a 2.5-year period** at a single major trauma centre.

168

open long bone fractures in cohort

13

confirmed fracture-related infections (FRI)

7.7%

infection rate in this cohort

Background

Fracture-related infection (FRI) complicates up to **25% of open fractures** in the published literature.¹

It drives prolonged inpatient stay, repeated operations, and sustained demand on laboratory and imaging services and outpatient follow-up.

Despite this burden on services, the **economic cost of FRI has been poorly quantified**.

Aim

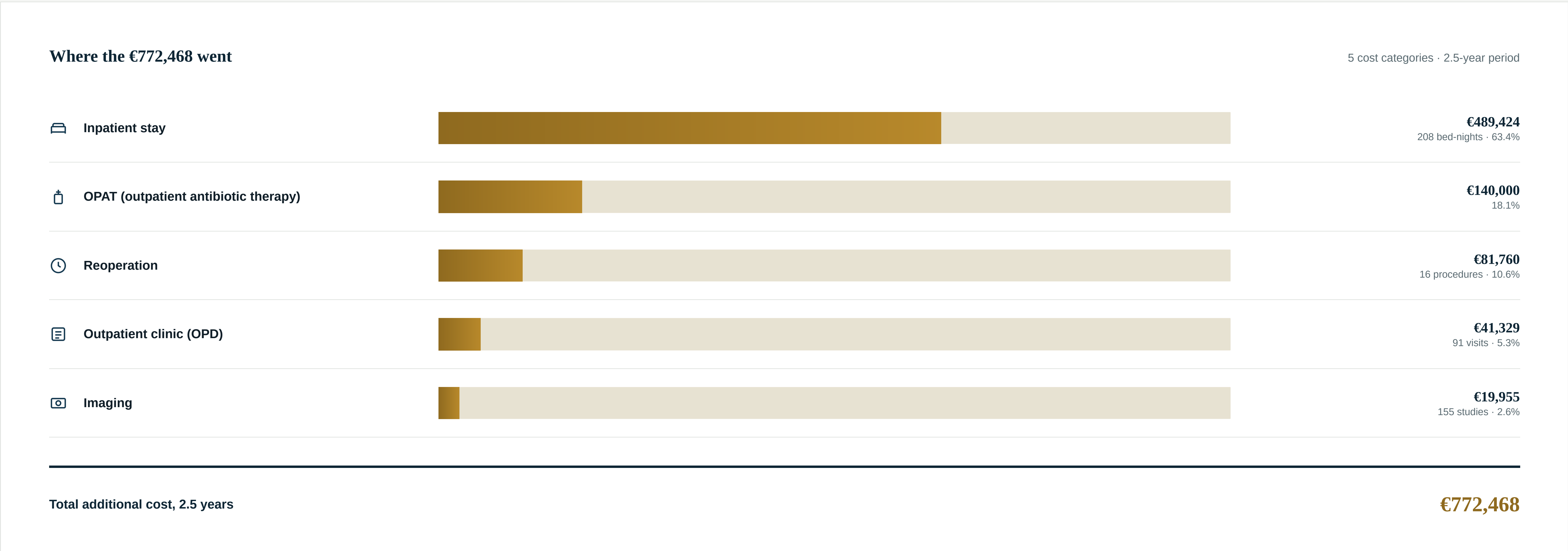
To quantify the direct hospital cost associated with fracture-related infection following open long bone fracture.

Methods

Patients were identified from a prospectively maintained open fracture database, applying the consensus definition of FRI.²

Financial data were obtained from the hospital finance analyst and the departments of radiology, microbiology and laboratory medicine.

Results



Discussion

This is **real-world, patient-level costing data from a major trauma centre**, capturing the true downstream resource use generated by fracture-related infection rather than a modelled estimate.

This cost profile is not currently captured in routine trauma service costing, meaning FRI represents a real but largely invisible burden on hospital resources — one that current planning and staffing models do not explicitly account for.

These largely unrecognised downstream costs represent a **significant opportunity cost**, diverting finite healthcare resources away from other patients and services.

Conclusion

€772,468 over 2.5 years — a major opportunity for planning future service provision.

Take-home message

Fracture-related infection is a significant, currently under-accounted-for cost of major trauma care — and a measurable target for service redesign.

References

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