

Abstract Code: FDI25002-60

DIGITAL INNOVATION AND HOSPITAL–COMMUNITY INTEGRATION: TELEMEDICINE IN OUTPATIENT PARENTERAL ANTIMICROBIAL THERAPY

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Background. Home-based parenteral antimicrobial therapy allows continuation of intravenous antibiotic treatment outside the hospital, promoting integration between hospital and community care. Telemedicine enables structured remote surveillance and early identification of complications.

Objectives. To evaluate the feasibility, safety, and clinical and economic impact of a pilot home-based parenteral antimicrobial therapy program integrated with telemonitoring at the Ospedale dei Castelli (Ariccia, Rome).

Methods. In September 2025 we started an observational pilot study, designed to enroll 100 patients; to date, 28 adult patients have been enrolled. The pathway included home intravenous antibiotics, daily telemonitoring, and laboratory reassessment 7 days after protected discharge. Clinical outcomes, inflammatory markers, early readmissions, and hospital days avoided were analyzed.

Results. Mean age was 76 years. Treatment was completed without early readmission in 82.1% of patients. Five patients were readmitted within 7 days; in all cases, readmission was preceded by fever detected through telemonitoring. In patients completing the program, inflammatory markers decreased between discharge and follow-up. The presence of invasive devices was associated with higher readmission risk. In non-rehospitalized patients, 138 hospital days were estimated to have been avoided with a saving of approximately 82,800 €.

Conclusions. Home-based parenteral antimicrobial therapy integrated with telemedicine appears feasible and safe and may provide clinical and economic benefits.