



IMPLEMENTATION OF DIGITAL AIFA REGISTRIES FOR RESERVE ANTIBIOTICS: A TOOL FOR ANTIMICROBIAL STEWARDSHIP AND PRESCRIBING GOVERNANCE IN AN INFECTIOUS DISEASE HOSPITAL

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Background and Importance

Antimicrobial resistance is a global health emergency requiring coordinated surveillance and stewardship strategies. The Italian Medicines Agency (AIFA) introduced digital monitoring registries to promote the rational use of reserve antibiotics. After cefiderocol in 2023, AIFA Resolution No. 52/2025 extended digital monitoring to ceftazidime/avibactam, ceftolozane/tazobactam, imipenem/cilastatin/relebactam, and meropenem/vaborbactam, replacing paper-based forms.

Aim and Objectives

This study aimed to evaluate the impact of **AIFA registry digitalisation** for **reserve antibiotics** as a tool for prescribing governance and support to antimicrobial stewardship in an Italian infectious disease hospital.



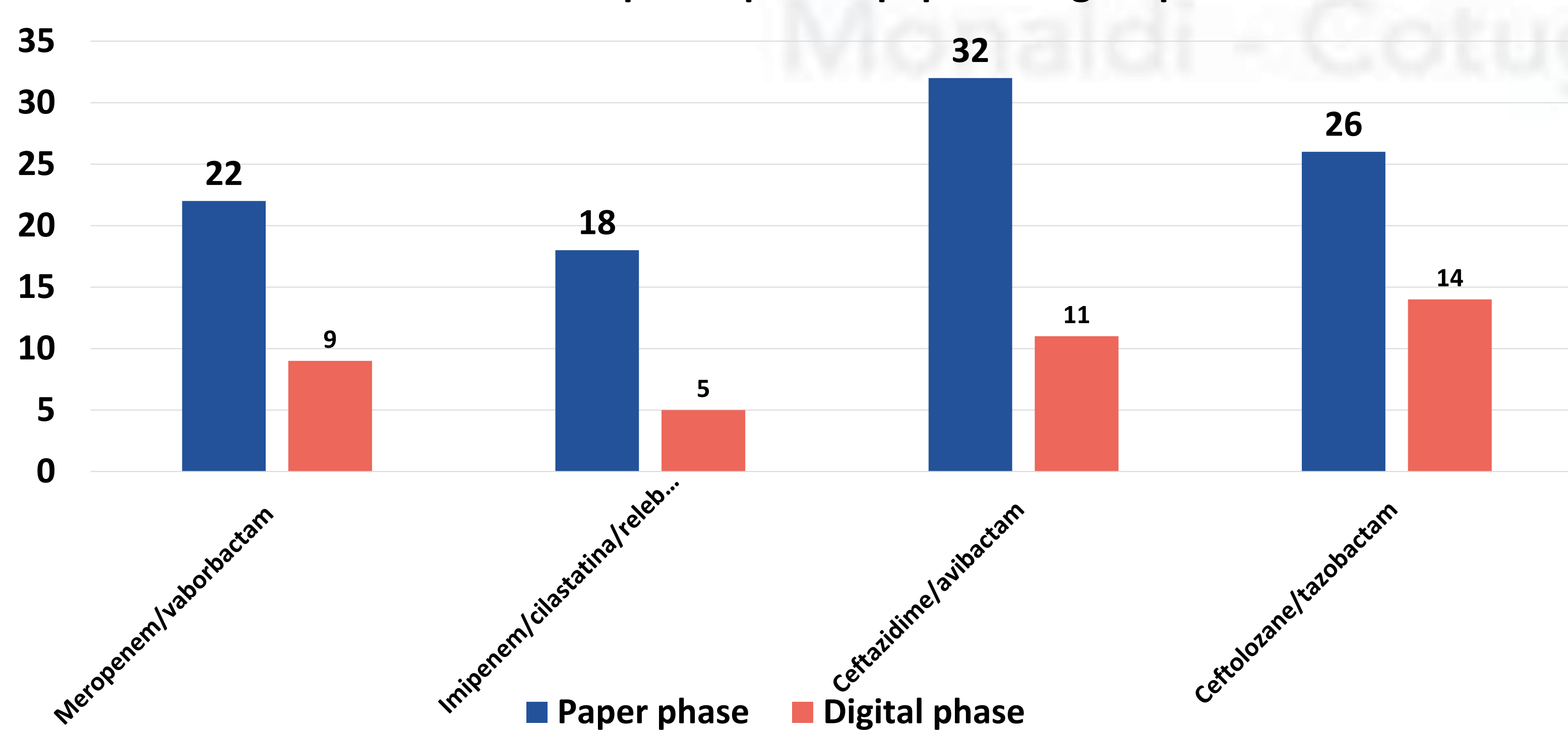
Materials and Methods

The observation period was divided into two phases: January–June 2025 (**paper-based forms**) and July–October 2025 (**digital registry implementation**, AIFA Resolution No. 52/2025). Consumption data were extracted from the Regional Accounting Information System, while clinical and prescribing data were collected from AIFA registries. The **hospital pharmacist** developed an internal analysis file to assess prescribing appropriateness, integrating clinical and therapeutic information for each patient. The pharmacist also coordinated the retrospective reconciliation of paper records and continuously monitored data consistency.

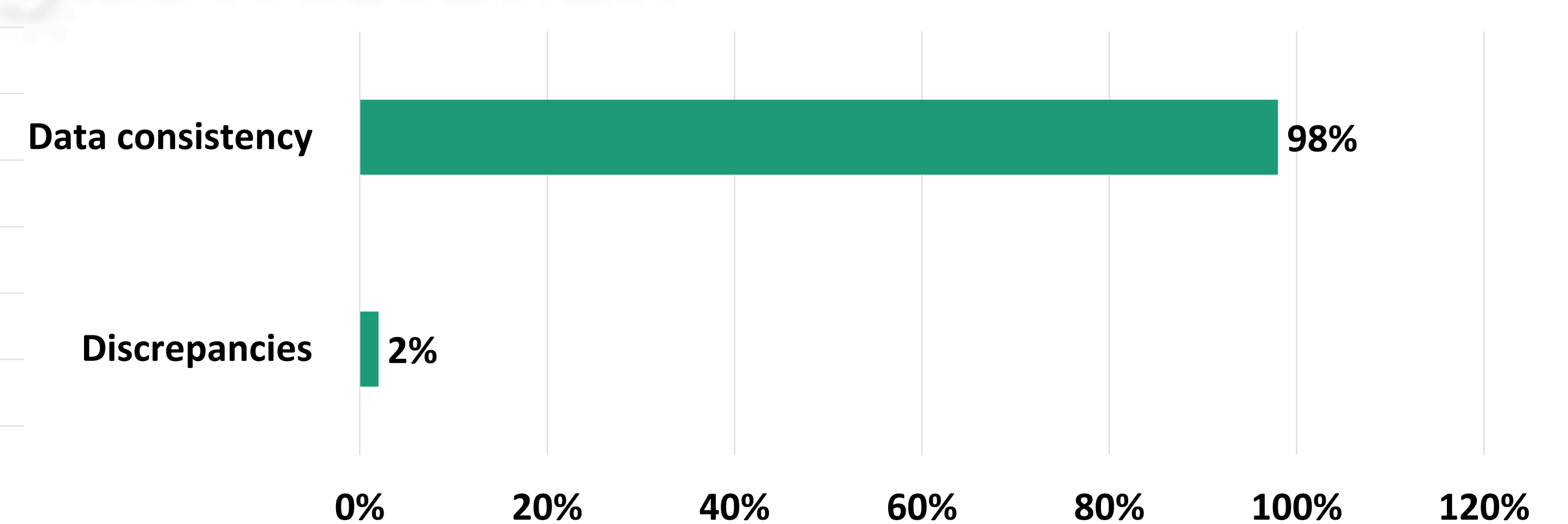
Results

From January to October 2025, **137** patients received reserve antibiotics. During the paper-based phase, prescriptions included meropenem/vaborbactam (22), imipenem/cilastatin/relebactam (18), ceftazidime/avibactam (32), and ceftolozane/tazobactam (26). In the digital phase, treated patients were 9, 5, 11, and 14, respectively. Retrospective reconciliation of paper forms revealed a **2% discrepancy**, mainly due to incomplete documentation. **Pharmacist validation ensured compliance with AIFA eligibility criteria.**

Reserve antibiotics prescriptions: paper vs digital phase



Retrospective Reconciliation Accuracy



Conclusion and Relevance

The implementation of AIFA digital registries improved traceability, consistency, and quality of prescribing data. At the international level, programmes such as DARWIN EU and GLASS promote antimicrobial use surveillance, while Italy stands out for its mandatory, digitalised prescribing approach. This system represents an **innovative model of clinical-pharmaceutical management** that integrates innovation, therapeutic safety, and economic sustainability.

