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HEALTHCHAIN STORIES

MEDIRECON: THE DIGITAL BACKBONE OF MEDICATION SAFETY

THE NEED

Medication reconciliation is a formal and systematic process in which different healthcare professionals work together to obtain and evaluate the patient's medication list with the doctor's admission, transfer, or discharge prescriptions. It consists of obtaining and checking a complete and accurate list of the medicines that each patient is currently taking. This list is compared with the medicines that have been prescribed and where discrepancies are identified, these are discussed with the prescriber and the reasons for these changes are documented. When the patient is transferred, a current and accurate list of medicines is provided to the person who will be taking over the patient's care.

The primary goal is to ensure the accurate acquisition, verification, and communication of patients' medication lists during critical care transitions—admission, transfer, and discharge.

This initiative aims to:

- Improve patient safety by reducing medication-related errors.
- Automate the identification and resolution of medication discrepancies.
- Enhance clinical decision-making through the integration of the MediRecon software with hospital information systems.
- Ensure regulatory compliance with standards like ISO 13485 and national safety mandates.

THE HEALTHCHAIN SUPPORT

HealthChain supported Healthcare Organisations in identifying their innovation challenges and selecting companies to address them. They worked closely as an interregional team to co-create, test, and validate a solution aligned with real clinical workflows, patient needs, and organisational constraints. The project provided financial and business support to boost the solution's market-readiness and commercialisation.



THE SOLUTION

The proposed solution is MediRecon, a clinical decision support software designed to automate and streamline the medication reconciliation process. It addresses patient safety by identifying and resolving medication discrepancies during critical care transitions, such as hospital admission and discharge. Key features include:

- **Data Aggregation Engine:** Harmonizes fragmented data from internal hospital systems and external prescription sources into a unified record.
- **Interoperability:** Built on HL7 FHIR standards to ensure seamless integration with existing hospital information systems and future scalability across the EU.
- **Regulatory Compliance:** Developed within an ISO 13485-aligned Quality Management System, ensuring the software is “regulatory-ready” for medical device certification.
- **Clinical Decision Support:** Provides a structured environment for pharmacists to log, evaluate, and resolve medication errors efficiently.



IMPACT

The pilot moved the project from a “test phase” to a “market-ready” solution that solves critical gaps in the Portuguese healthcare system.

- For the Hospital: It proved the technical viability of a tool that can bridge the care-level data gap created by recent national healthcare reforms.
- For Patient Safety: It established a scalable, compliant framework to meet national safety mandates (DGS Norma 018/2016), paving the way for digitalized, error-free medication management across the region
- For the SMEs: It provided a validated architectural foundation and a commercial bridge to other healthcare units, with interest already expressed by several other Local Health Units (ULSs) in Portugal.

OUTCOMES

While regulatory constraints regarding real patient data prevented the measurement of clinical KPIs (like error reduction rates) during the pilot period, the project achieved significant technical and structural milestones:

- Demonstrated stability with over 150 days of continuous uptime.
- Successfully handled over 71,000 hospital messages (HL7/FHIR) with a 99.996% success rate.
- Completed usability testing with the ULS Coimbra Pharmacy and Clinical teams, resulting in high acceptance.

SUSTAINABILITY

The plan for long-term success focuses on turning the pilot into a permanent, paid service through institutional support and staff leadership.

- The team is currently presenting the pilot results to the ULS Coimbra Board to secure a formal commercial contract.
- The Pharmacy Department will lead the transition, acting as onsite experts to train peers and ensure the system is used every day.
- By aligning with national safety mandates, the system is positioned as a “must-have” tool for regional healthcare compliance.

TESTIMONIALS

“As a digital health company, our main takeaway from HealthChain was how much co-creation de-risks innovation when it is structured, continuous, and embedded in the reality of healthcare delivery. Close collaboration with a healthcare organisation, from early requirements through iterative validation, helped align the solution with real workflows, governance constraints, and adoption conditions, rather than building in isolation. HealthChain also created a common framework where technical development, interoperability ambitions, and compliance expectations could be managed transparently among stakeholders, accelerating organisational learning and strengthening confidence in real-world implementation. Seeing healthcare professionals continue to rely on the tool even after the official pilot ended is the ultimate proof of its value; HealthChain has truly paved the way for more integrated, regional healthcare collaboration that improves the coordination of care for shared patients.”

