Co-funded by the European Union

HEALTHCHAIN

HEALTHCHAIN STORIES

RM4HEART: ENABLING REAL-TIME MONITORING AND EARLY DETECTION OF CRITICAL RISKS

THE NEED

Heart failure is a leading cause of hospitalization and mortality globally, including in Croatia, accounting for 1-2% of healthcare expenditures due to frequent readmissions. Remote monitoring systems aim to detect early signs of deterioration, enable timely interventions, reduce hospital readmissions, and lower mortality rates.

These systems, including telemonitoring and wearable devices, monitor vital signs such as heart rate, blood pressure, and atrial fibrillation (AF), enabling real-time data transmission to medical staff. Early detection of AF, a key complicating factor in heart failure, is crucial as untreated AF increases the risk of cerebrovascular disease.

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.

Primorsko-Goranska, Croatia

THE **SOLUTION**

VERSO has developed a remote patient monitoring solution, for measuring and monitoring patients' vital functions and detecting heart arrhythmias. In case of detecting atrial fibrillation, the watch enables the patient to initiate real-time ECG measurements and share it with healthcare professionals which can non-invasively monitor patients' data via the Pulsevita portal

VERSO provides a comprehensive solution that combines a specialized wristwatch for measuring vital functions with the Pulsevita portal, which allows healthcare professionals to monitor patient data non-invasively.

IMPACT

The project generated significant clinical, organizational, and strategic impact by shifting cardiovascular care toward proactive, AI-enabled remote monitoring.

- Continuous monitoring and AI-based detection substantially enhanced clinical responsiveness and risk prevention.
- The dedicated smartphone application increased patient engagement, awareness, and active participation in recovery.
- Reduced emergency events and re-hospitalizations lowered pressure on hospital resources and improved care efficiency.
- The evolution from basic IoT sensors to advanced wearable technology demonstrated the organization's ability to adopt higher-value, clinically validated digital solutions.
- The clear reduction in hospitalizations and mortality supports a strong value proposition for payers, providers, and healthcare systems.

OUTCOMES

The pilot demonstrated strong quantitative clinical performance and measurable improvements in cardiovascular patient management.

- No cases of recurrent cardiovascular or heart failure hospitalization were recorded among device-wearing patients, compared to 19.57% re-hospitalization (9 patients) in the control group — representing a 100% relative reduction.
- No cardiovascular deaths were observed among monitored patients, compared to four deaths in the control group, corresponding to a 100% relative mortality reduction (noting limited statistical power due to small sample size).
- Transition to the CardiacSense smartwatch enabled continuous ECG monitoring and AI-driven atrial fibrillation detection, strengthening proactive risk identification.
- The pilot successfully met its predefined objectives of enabling earlier intervention, reducing readmissions, and lowering mortality among high-risk cardiovascular patients.

SUSTAINABILITY

The sustainability strategy focuses on scaling the validated solution while ensuring integration, financial viability, and operational readiness.

- The solution will be integrated into hospital workflows and national e-health systems to support broader deployment.
- Development of sustainable reimbursement pathways will ensure long-term financial viability.
- Structured staff and patient training programs will address usability barriers and encourage widespread adoption.
- Ongoing refinements based on pilot insights will further enhance system robustness and user experience.
- The demonstrated clinical effectiveness provides a strong foundation for adoption across additional healthcare organizations.

TESTIMONIALS

"The sustainability strategy focuses on scaling the validated solution while ensuring integration, financial viability, and operational readiness. -The solution will be integrated into hospital workflows and national e-health systems to support broader deployment. -Development of sustainable reimbursement pathways will ensure long-term financial viability. -Structured staff and patient training programs will address usability barriers and encourage widespread adoption. -Ongoing refinements based on pilot insights will further enhance system robustness and user experience. -The demonstrated clinical effectiveness provides a strong foundation for adoption across additional healthcare organizations. 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."