

Publishable summary

Deliverable S1.D5.2, part of the DARE (Digital Lifelong Prevention) project, focuses on integrating innovative digital tools and data-driven approaches to enhance proactive healthcare strategies, equity, and efficiency. Supported by the PNC-I.1 funding initiative, the deliverable addresses challenges in chronic disease management and preventive care through predictive modeling, population stratification, and tailored interventions, aligning with the goals of the National Recovery and Resilience Plan (PNRR).

A key component is the development of predictive models using clinical and administrative datasets, such as Electronic Medical Records (EMRs) and Electronic Health Records (EHRs). These models stratify populations based on risk factors, enabling equitable and personalized healthcare interventions. The emphasis on data validation and statistical reliability ensures these tools support improved diagnostic and therapeutic practices.

The Bari group leverages its “Research Data Lake” to integrate advanced analytics and population stratification for conditions like oncology, Type II diabetes, and nephrology. The group employs telemonitoring technologies to enhance care continuity, reduce hospital admissions, and improve patient outcomes. Their efforts focus on validating and refining stratification algorithms to align with local needs and expand research to broader chronic diseases and prevention pathways.

In Bologna, the focus is on deploying risk stratification tools like the Adjusted Clinical Groups (ACG) software to monitor healthcare needs and evaluate chronic care programs. The group integrates telemonitoring for rural patients with chronic conditions, demonstrating reductions in emergency visits. Training programs ensure effective adoption of these tools, supporting data-driven policy evaluation and healthcare improvements.

The Rome 1 group targets frail and hard-to-reach populations, such as multi-chronic patients and marginalized groups, to improve participation in vaccination and screening campaigns. Through sentiment analysis of public opinions and participatory communication strategies, the group tailors interventions to address barriers. Mapping and engaging local communities enable sustainable public health engagement and reduced disparities.

Deliverable S1.D5.2 exemplifies the transformative potential of digital health tools in addressing modern healthcare challenges. By integrating predictive models, telemonitoring, and community-based approaches, it fosters equitable, efficient, and resilient healthcare systems.