Remote Monitoring in Health and sports

Deliverable 7.2

Public summary report

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1. Introduction

1.1. Purpose of the document

This document contains a summary of the RM4HEALTH project to be shared with the public. The purpose of the public summary is to expose the project to a wider audience.

The summary consists of a concise description of the background, the aim, and the structure of the project so that it can easily be used to briefly introduce the project to interested parties. Consortium confidential information has been left out of the summary to avoid any use restrictions and make it as widely accessible as possible.

1.2. Related documents

No other deliverables are linked to this document.

2. Public Summary

Background

Remote monitoring in health and sport is becoming increasingly popular for continuous monitoring and diagnostic, especially driven by the COVID-19 pandemic. Furthermore, the ageing population and related increase in injuries and chronic diseases put considerable pressure on both the healthcare system and society, resulting in an unsustainable rise in healthcare costs. Each year over 6 million athletes and patients are caught by injuries and chronic diseases throughout the world according to the World Health Organization.

Wearable systems for remote monitoring provide a big promise in allowing individuals to continuously monitor changes in their vital signs and provide feedback to regain or maintain optimal health status. With remote monitoring, patients are continually monitored outside the medical care centres, either before hospitalization (e.g., for chronically ill persons) or afterwards (e.g., patients discharged after a clinical intervention or after admission for exacerbation of a chronic disease). Similarly, athletes are continually monitored outside the athletic training labs. Remote monitoring holds various advantages when compared to acute care monitoring. Patient well-being and comfort are increased compared to hospital care since they can stay in their preferred home environment and close to their relatives. Furthermore, any signs of clinical deterioration can be detected earlier, avoiding emergency admissions. For healthcare providers, better-informed decisions for clinical examinations or interventions that include hospitalization can be taken based on continuous, longer-term patient information. This increases their understanding of the patient and the likely effectiveness of the clinical interventions. In sports, athletes' condition and performance are better assessed compared to lab tests, as more frequent evaluations can be done with less obtrusive tests.

Monitoring a multitude of physiological parameters from patients and athletes in their normal daily life at home would add insights into their physical status that a lab or hospital environment cannot obtain, minimize the risk of injuries and subsequent treatment costs, and enhance the quality of life.

RM4HEALTH aims to accelerate innovation in remote monitoring in healthcare and sports by developing wearable solutions and open technology platforms to support emerging applications and technologies in continuously monitoring patients' vital signs. RM4HEALTH aims to enhance monitoring with a more comprehensive management ecosystem for patients and athletes by developing dedicated care and sports programs derived from population data tailored and individualized using AI-based digital twin models.

RM4HEALTH will create new wearable solutions for selected metrics (i.e., blood pressure, core body temperature) and make use of existing wearables to extract relevant data for further innovations in AI algorithms to turn physiological measurements into clinical insights, supporting the selected use cases. RM4HEALTH will advance remote monitoring platforms to provide partners with solutions for continuous data collection. There are currently no platforms on the market that allow academic and corporate researchers to perform continuous monitoring with a unified ecosystem of devices and interpretation algorithms. The RM4HEALTH platforms will allow for developing advanced algorithms and data models from wearable-collected data and connecting with Apps and dashboards for

particular use cases, patients, and athletes. Data-driven digital twins for patients and athletes will be created to continuously track their physiological conditions, develop care and training programs, and trigger alerts and recommendations to patients and their health providers or athletes and their coaches.

The Consortium

RM4HEALTH brings together an extensive consortium consisting of 23 partners from six countries (five European countries and Canada). The consortium is well-balanced, covering the complete supply chain including industry leaders in healthcare and sports, academia, technology suppliers, device manufacturers, clinical partners, and sports clubs. The total eligible costs are estimated at € 23M. The added value of this consortium is that it will cover a broad spectrum in the technical and market value chain, with direct access to patients and athletes.

3. Conclusions

We wrote a public summary to inform the public about the context and objectives of RM4HEALTH. The public summary will be made available through appropriate channels (Web, LinkedIn, Twitter, etc) to increase outreach. If required, the summary will be adapted during the project, but it is to be expected that possible modifications will not touch the core message of the project and will only concern marginal changes.