

Executive Digest

Uptake of digital solutions in remote areas

Topic: Uptake of digital solutions in remote areas

Relevance of this topic to Digital Health

The digital divide, a longstanding challenge in many regions of the European Union, has become increasingly pronounced in remote areas. These regions, often characterised by sparse populations, limited infrastructure, and geographical isolation, face unique barriers to accessing essential healthcare services. The integration of digital health solutions offers a promising avenue to bridge this divide and improve health outcomes for residents in these underserved communities.

Digital health technologies, such as telemedicine, electronic health records, and mobile health applications, have the potential to revolutionise healthcare delivery in remote areas. By enabling remote consultations, monitoring vital signs, and providing access to medical information, these solutions can reduce the need for lengthy travel to distant healthcare facilities, improve patient-provider communication, and enhance overall healthcare accessibility.

Moreover, digital health solutions can support the provision of preventive care and chronic disease management in remote areas. Telemedicine consultations can enable early detection and intervention for conditions such as diabetes, cardiovascular disease, and mental health disorders. Additionally, mobile health applications can promote healthy behaviours, such as physical activity and nutrition, and facilitate adherence to treatment plans.

By addressing the challenges of healthcare delivery in remote areas, digital health solutions can contribute to improving health equity and reducing health disparities across the European Union. By increasing access to essential healthcare services, improving the quality of care, and enhancing patient-provider communication, these solutions can help ensure that all citizens, regardless of their location, have the opportunity to live healthy and fulfilling lives.

Keywords

remote areas, digital divide, health equity, digital health, telemedicine

Current focus of policy, legislation, standards, emerging practices in this landscape

Policy and Legislation:

- National strategies: Many EU member states are developing national digital health strategies that prioritise the integration of digital solutions in remote areas. These strategies often include initiatives to improve broadband connectivity, support telemedicine services, and promote the adoption of electronic health records.

Standards:

- Interoperability standards: Establishing common standards for data exchange and communication between different healthcare systems and devices is crucial for ensuring the seamless integration of digital health solutions in remote areas. The EU is actively working to promote the adoption of interoperability standards, such as HL7 FHIR.
- Quality and safety standards: Ensuring the quality and safety of digital health technologies is paramount. This includes developing standards for the design, implementation, and evaluation of digital health solutions, as well as guidelines for data security and privacy protection.

Emerging practices:

- Telemedicine and remote patient monitoring: Telemedicine, which allows for remote consultations and monitoring of patients, is a rapidly growing area of digital health in remote areas. This technology can help to reduce the need for travel to distant healthcare facilities and improve access to specialised care.
- Mobile health applications: Mobile health apps are being developed to support a wide range of health-related activities, including disease management, medication adherence, and health education. These apps can be particularly useful in remote areas where access to healthcare professionals may be limited.
- Artificial Intelligence: Artificial intelligence is being applied in various areas of digital health, such as medical image analysis, disease diagnosis, and drug discovery. AI-powered solutions can help to improve the efficiency and accuracy of healthcare delivery in remote regions.

Implications for digital health uptake

The successful adoption of digital health solutions in remote areas requires a concerted effort from different stakeholders. These stakeholders can contribute to the wide and effective use of digital health technologies in remote communities by implementing the following action points:

Developers:

Executive Digest

- Ensure that digital health solutions are designed to be user-friendly and accessible to individuals with limited digital literacy skills.
- Develop solutions that can function effectively in areas with limited internet connectivity, such as offline capabilities or low-bandwidth requirements.
- Implement robust data privacy and security measures to protect user data and build trust.

Enabling Actors:

- Governments and healthcare organisations should invest in broadband infrastructure and digital health infrastructure to support the deployment of digital health solutions in remote areas.
- Offer training programs to healthcare providers and users on the effective use of digital health technologies.
- Foster collaboration between public and private sector stakeholders to accelerate the development and adoption of digital health solutions.

Payers and procurers:

- Conduct thorough cost-benefit analyses to evaluate the potential return on investment of digital health solutions in remote areas.
- Develop and implement innovative reimbursement models that support the adoption and sustainability of digital health services.
- Ensure that digital health solutions are interoperable with existing healthcare systems to facilitate data sharing and integration.

Users:

- Implement programs to improve digital literacy skills among residents in remote areas.
- Seek user feedback to identify areas for improvement and ensure that digital health solutions meet their needs.

Remaining gaps and issues

- **Infrastructure gaps:** Many remote regions still lack adequate broadband connectivity, which is essential for the effective functioning of digital health technologies. Investing in infrastructure development is crucial to address this issue.
- **Digital divide:** The digital divide, characterised by unequal access to digital technologies and services, persists in remote areas. Bridging this divide requires targeted interventions to ensure that all residents could benefit from digital health solutions.
- **Cultural and language barriers:** Cultural and language barriers can hinder the effective implementation and use of digital health solutions in remote areas. Tailoring these solutions to the specific needs and preferences of local communities is essential for their successful adoption.
- **Healthcare workforce capacity:** The availability of skilled healthcare professionals who can effectively utilise and support digital health technologies is a critical factor in their successful implementation. Investing in training and education is essential to address this issue.
- **Interoperability challenges:** Ensuring interoperability between different digital health systems and devices remains a challenge. Developing and adopting common standards is crucial for facilitating data exchange and integration.

Date of creation or latest update

Date: 09/10/2024

Lead authors: Karolina Mackiewicz, Natalia Allegretti

Legislative, regulatory, policy or standardisation instrument, or good practice
Title
CRANE project - Comprehensive Treatment of Chronic Patients in Remote Areas
Instrument status
Ongoing, June 2021-May 2025
Publisher or source
CRANE consortium - Coordinated by Region Västerbotten (Sweden)
URL or reference
https://crane-pcp.eu/ https://cordis.europa.eu/project/id/965277/results
Summary of the instrument
CRANE is an H2020 PRE-COMMERCIAL PROCUREMENT European project that aims to develop an integrated self-management model to improve chronic patient’s wellbeing through the European Health Data Space concept implementation
Implication for digital health stakeholders
<p>CRANE is exploiting the potential of health-related data and procuring the design of an all-in-one value-based service to create an integrated care model to improve chronic patient’s wellbeing through the implementation of the European Health Data Space concept.</p> <p>Before launching our Call for Tenders, CRANE got together with industry and stakeholders to ensure that there is sufficient understanding of the needs of CRANE, that CRANE’s approach was in scope of the industry capacities. CRANE launched its Call for Tenders in September 2022. In Phase 1 it invited 5 projects with a 50,000€ budget each for the development of a feasibility study. In Phase 2 each of the Three selected proposals from Phase 1 will get 500,000€ to develop a Prototype. Finally in Phase 3 Two suppliers will be selected with 1,45M€ for a Field Testing.</p> <p>CRANE will make a direct impact on patients with chronic conditions or at risk of it, health and social care systems, local supply chains and industry. Chronic patients in rural areas will have access to self-management to improve their wellbeing. The health and social care systems will optimise their resources and increase their capacity. Local supply chains will have access to innovative production and the European industry will be able to boost its solutions and join forces with the -difficult to access- public sector.</p>

Legislative, regulatory, policy or standardisation instrument, or good practice
Title
ROSIA project - Remote Rehabilitation Service for Isolated Areas
Instrument status
Ongoing. January 2021-June 2025
Publisher or source
ROSIA consortium coordinated by IACS (Instituto Aragonés de Ciencias de la Salud)
URL or reference
https://rosia-pcp.eu/ https://cordis.europa.eu/project/id/101017606/reporting
Summary of the instrument
ROSIA is the PCP project, and it aims to unlock the telerehabilitation market through the development of a comprehensive innovation ecosystem that enables the integration of patient self-management tools for tele-rehabilitation within integrated care pathways in public healthcare services.

ROSIA is ready to purchase the design of a technology-enabled all-in-one service, flexible enough to adapt to a large variety of European health-care systems, and which will allow the full development of ROSIA's model – complementing existing public resources with a public-private partnership. PCP – Pre-Commercial Procurement is a tool to stimulate innovation as it enables the public sector to steer the development of market solutions directly towards its needs.

Implication for digital health stakeholders

Healthcare systems in Europe face the combined challenge of limited resources and an increasing demand spurred by rising cases of chronic conditions. The situation is intensified in depopulated areas, where the proportion of elderly people is higher (anticipating the situation in urban areas in 20 years' time) and the distances to access healthcare are longer.

This situation creates a pressing need for a fundamental rethink of the way health services and systems are organised.

Reorganising rehabilitation services has been identified as an urgent need, due to the significant implications they have in people's lives (including the painful consequences of travelling from remote areas for every session) and the burden they place on the healthcare system.

ROSIA wants to pave the way for an extensive deployment of the self-care model for long-term conditions and disabilities by first focusing on rehabilitation. Supported self-care and self-management is a key component of rehabilitation. It enables patients to be as independent as they possibly can using their personal assets and capabilities. The public healthcare system should be aiming for patient-centred services to foster these qualities.

Redesigning rehabilitation services to better conform to patients' realities, needs and expectations is the most efficient way to warrant their ability to benefit from those services, regardless of where they live, and to improve, not only their health, but also their experience of the healthcare system.

ROSIA works towards making self-managed care through telerehabilitation possible with:

1/ Technology:

- Systems that provide support during the complete rehabilitation process (evaluation, exercise assignment, rehabilitation follow-ups), but also include motivation and coaching features. At present, solutions providing such functionalities could be labelled as disruptive technologies, as they are just appearing on the market, supported by high-tech.
- Data driven intervention to make digital support personalised and meaningful to the patient.

2/ A tailored integrated care pathway:

- Supporting the patient in the rehabilitation process, with a comprehensive approach based on a holistic vision of the patient's health status which is shared with a coordinated care team to provide the most appropriate care by the right care professional at the right time.
- Extending the care team to an enlarged community, including the family, informal carers, municipality service providers, third sector and voluntary organisations, and other relevant local entities.