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Study Visit n°2

Nouvelle-Aquitaine Region, France

Telemonitoring focused on multi-chronic patients: provisioning of integrated care

Partner n. PP07

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Context

Overview

- Aragón Health Department w/General Directorate of Healthcare & General Directorate of Digital Care and Infrastructures and SALUD define health strategies and coordinate resources for digital transformation.

Aragón is the leader of a Quadruple Helix in the territory, bringing together ***stakeholders*** *from Academia, Industry, civil society, social organisations and government entities, at local, regional, national and European Level.*

Context & Ecosystem

- 1.326.261 inhabitants in Aragon (Jan-2021)
- Number of ageing people 65-79: 191.988 inhabitan (Jan-21)
- Number of ageing people 80+: 97.615 inhabitants (J 21)
- Number of patients 65+ with long term chronic conditions: 70% (202.722 inhabitants)
- Demographic dispersion

https://www.rscn.eu/reference-site/servicio-aragones-de-salud-salud-departamento-de-sanidad-de-aragon-spain/

GOBIERNO DE ARAGON
Departamento de Sanidad
salud

Context

The Aragon Digital Health Strategy 2021 - 2027

The Health Department advances in the digital transformation of its services, evolving towards a new paradigm of value-based medicine.

Aragon criteria

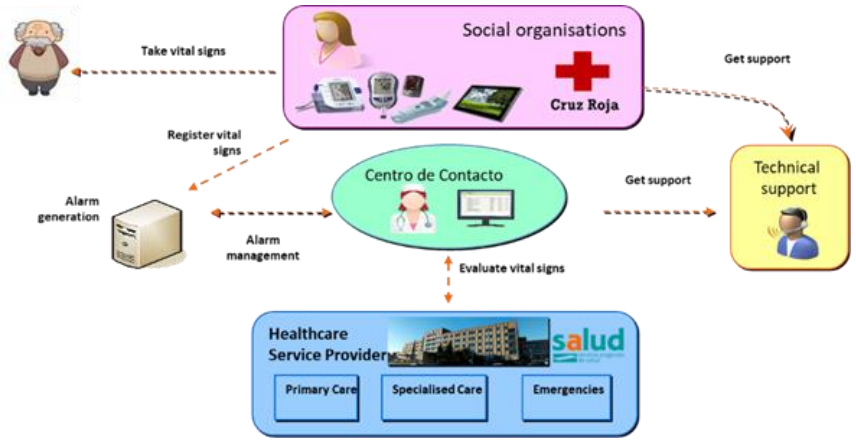
- Alignment with the Aragonese Strategy for Social and Economic Recovery, and other Aragonese strategies other national and international strategies (e.g. Agenda 2030)
- Ability to establish collaborative synergies with other Regions when necessary.
- Demographic perspective, tackling depopulation through cohesion policy instruments

Strategic lines:

- "Liquid" healthcare centres: Focusing on accessibility to the system by all users, improving accessibility to the health system, and offering information and continuous health services at citizens' homes. Data plays an important role in delivering healthcare services to all citizens on an inclusive and equal basis
- Smart Healthcare System: Introducing information systems that enhance the problem-solving capacity of the system and data analysis through the use of predictive models via Big Data analytical tools. Data will not only help to improve patient care but also to prevent and detect in early stages the onset of disease
- Personalized care: Improving the adaptability of diagnostic resources and preparing the system for the new era of personalized or precision medicine in routine clinical practice in the region gearing towards a more patient-centred technology approach through the application of cutting-edge technologies such as AI (artificial intelligence), Big Data, IoT (Internet of Things), nanotechnology, nanoelectronics or nanomanufacturing, augmented reality, contactless services, telemonitoring, 3D printers and cloud computing, all within a seamless environment..

Objective

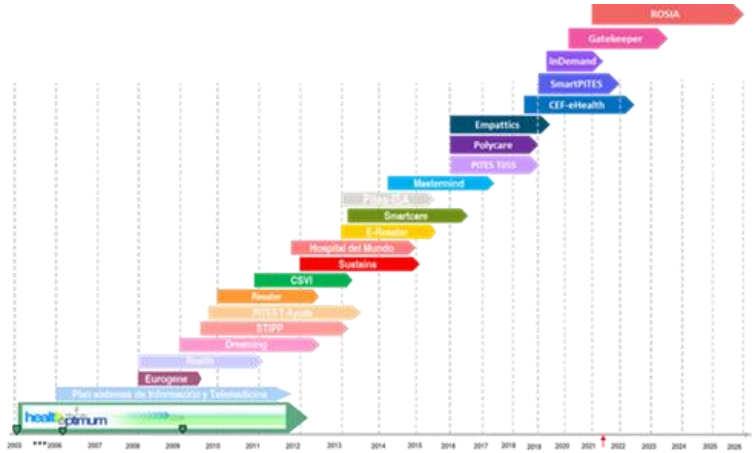
- Aims to provide integrated care to complex chronic patients taking into account their health needs and expectations via a collaborative platform with an ICT telemonitoring solution and preventive monitoring of vital signs.



Telemonitoring Service Model: Transfer of competences to citizens/ third sector with support of technology and with supervision/follow up of the health system

Content

- Results:
  - This best practice has proved useful in the rural areas, patient does not always have to travel to a hospital or healthcare centre, enhancing the feeling of security, satisfaction of users and quality of care.
  - What started as a small pilot in 2008 is today a more consolidated service. Such is the case, that Aragón together with another Spanish region, Galician are leading the Spanish Ministry of Health Telemonitoring Project to be rolled out in all of Spain, from 2024-2026.



Chronological telecare, telemedicine projects

Scope	Solution	Type of patients	Comments	Projects
Preventive	Telemonitoring at home	Chronic independent patients	Telecare and telemonitoring of vital signs of autonomous chronic patients in their homes.	DREAMING
Preventive	Telemonitoring at home	Chronic dependent patients	▪ Telemonitoring of chronically dependent patients in collaboration with volunteers from social organisations ▪ Hospitalization at home	▪ PITES ▪ PITES T-ASSIST
Preventive	Integrated care at social environment	Chronic patients	▪ With social participation & stakeholders. ▪ Telemonitoring in associative environments	▪ SMARTCARE ▪ GATEKEEPER
Therapeutic	Home hospitalization	Chronic patients (COPD, Heart failure, diabetes,		▪ SMARTCARE ▪ POLYCARE ▪ GATEKEEPER
Therapeutic	Early discharge from emergency rooms	Chronic patients (COPD, Heart failure, diabetes		▪ SMARTCARE ▪ GATEKEEPER
Therapeutic	COVID discharge	Chronic patients (COPD, Heart failure, diabetes		GATEKEEPER
Therapeutic	Follow up at hospitalization rooms	Chronic patients (COPD, Heart failure, diabetes,		▪ POLYCARE ▪ GATEKEEPER
Therapeutic	Follow up of	Mental health disorders (anxiety and depression)		MASTERMIND
Therapeutic	Rehabilitation plan of patients with mental health disorders	Mental Health	Integrated care with stakeholders	PPR
Therapeutic	Solutions of monitoring in adverse situations in the Pyrenees		▪ Monitoring in adverse conditions ▪ Health and telemedicine in rural environments. Inclusion of patients living in nursing homes.	▪ STIPP ▪ RESATER

Chronological different telemonitoring services roll-out

Resources needed

- Material/equipment resources: integrated care platform, telemonitoring platform, monitoring devices, servers
- Human resources: nurses, doctors, social workers, carers, family, peer volunteers
- Entities: day care centres, Red Cross, nursery homes, elderly social centres, patient associations
- Financial resources: 100.000€ platform (installation) + patient licensing + monitoring devices + platform support

Results achieved & impact

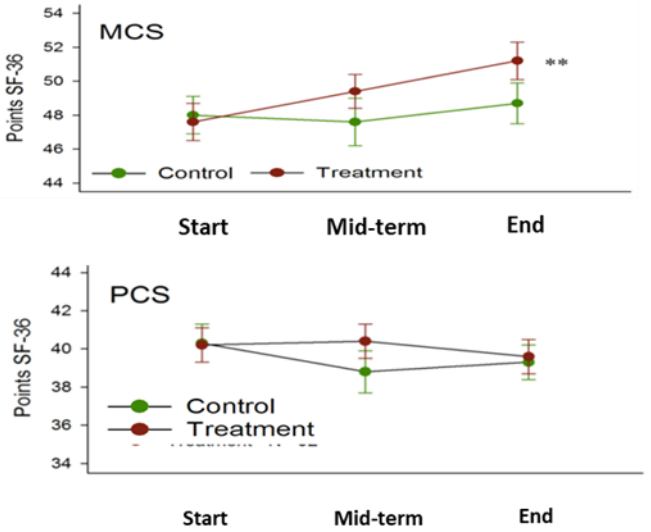
RESOLUTION RESULTS	
Resolution	Total
Resolved in Primary Care - Programmed	60%
Resolved in Primary Care – Urgent	32%
Resolved in Specialized Care – Programmed	3%
Resolved in Specialized Care – Urgent	5%

Resolution of telemonitoring alarms in assistance care levels.

- Clinical activity: Frequentation shift from specialised care to primary care and from emergencies to programmed activity.
- The healthcare systems shifts from reactive to proactive activity.

QoL results (in mental health)

- Trend of enhancement in depression
- No evidence of impact in anxiety
- Evidence of impact in prevention and early diagnose



SF36 results intervention-control groups

Results achieved & impact

- Big satisfaction from professionals, patients and carers.
- Call centre dimension: Automatic alarms permit to size up the call centre and its activity timeframe.
- 1100 chronic patients will consume 4h approx. of staff of call centre/day.

ALARMS			
	Deviation of measure	Action required	Type of Communication
Type 1	Slight	Not immediate	e-mail
Type 2	High	Immediate	SMS

GENERATED ALARMS	
Alarms	Total day / x 100 patients
Type 1	5.28
Type 2	0.44

- In sum, some figures regarding the challenge in achieving a sustainable business model:
  - DREAMING. Control group higher cost than Intervention Group (+30%) due to equipment required per patient
  - PITES. Between 16,5% overcost to 35.5% savings in ideal scenario (sharing of technology, empowered patients)
  - SMARTCARE. Budget transfer from healthcare sector to social care. Savings of 15% in healthcare system

Lessons learnt

- Key success factors
  - New services require time and effort not only from the organisation and professionals, but also from the patients and society as a whole.
  - Learning has shown that a defined systematic building block approach whereby small changes (technological, institutional, and organisational) gradually introduced in the foreseen new service is important
  - In every trial design we introduced something new, such as integrated care, new social entities, as part of the care delivery model, new pathologies, new sustainable service models in seamless manner to shift towards a more patient-centric and intuitive evidence-generation system
  - Questionnaires

- Difficulties encountered
  - Change management within the organisation, i.e., creating acceptance to embrace a new way of care delivery based on evidence.
  - Empowerment of patients to self-management of their chronic conditions requiring a holistic approach able to involve all society stakeholders (family, social services, professionals, etc.).

Scheduled monitoring by peer volunteers at a Elderly Social Centre in Barbastro

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Thank you!

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