TELECOACHING FOR CARDIOVASCULAR RISK FACTOR CONTROL IN THE ELDERLY

**MD PHD Stefan Busnatu,
Unversity of Medicine and Pharmacy Carol Davila,
Bucharest, Romania**

vCare
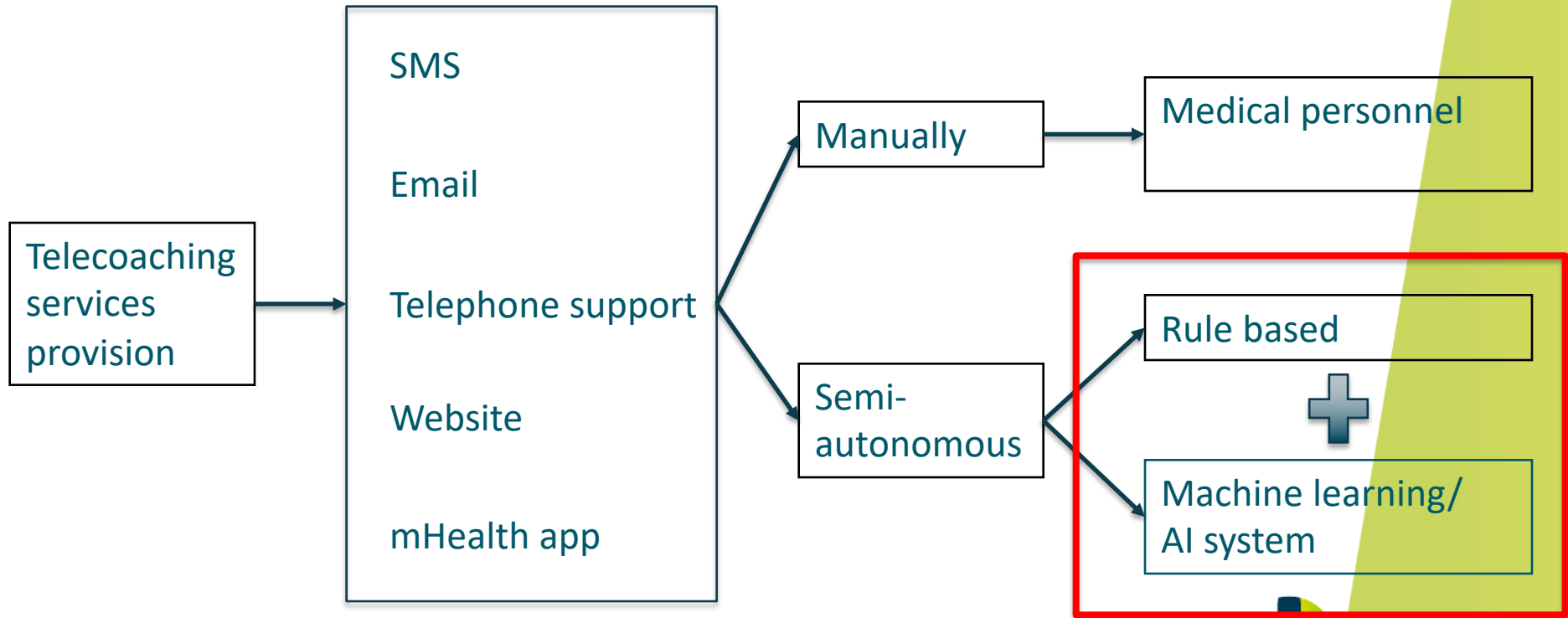VIRTUAL COACHING ACTIVITIES
FOR REHABILITATION IN ELDERLY

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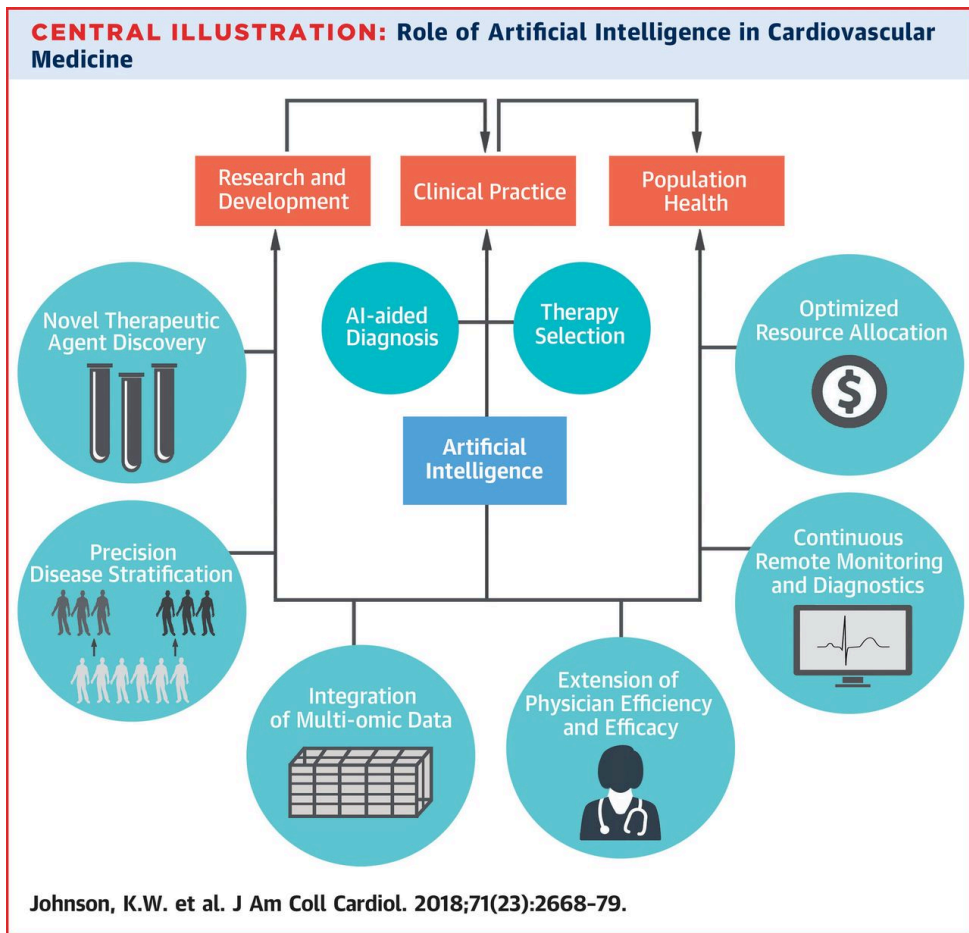# DIGITAL HEALTH ERA

Definitions:

- Telemonitoring- transfer of physiological data through transmission technologies
- Telecoaching - provision of advice at distance
- Social interaction
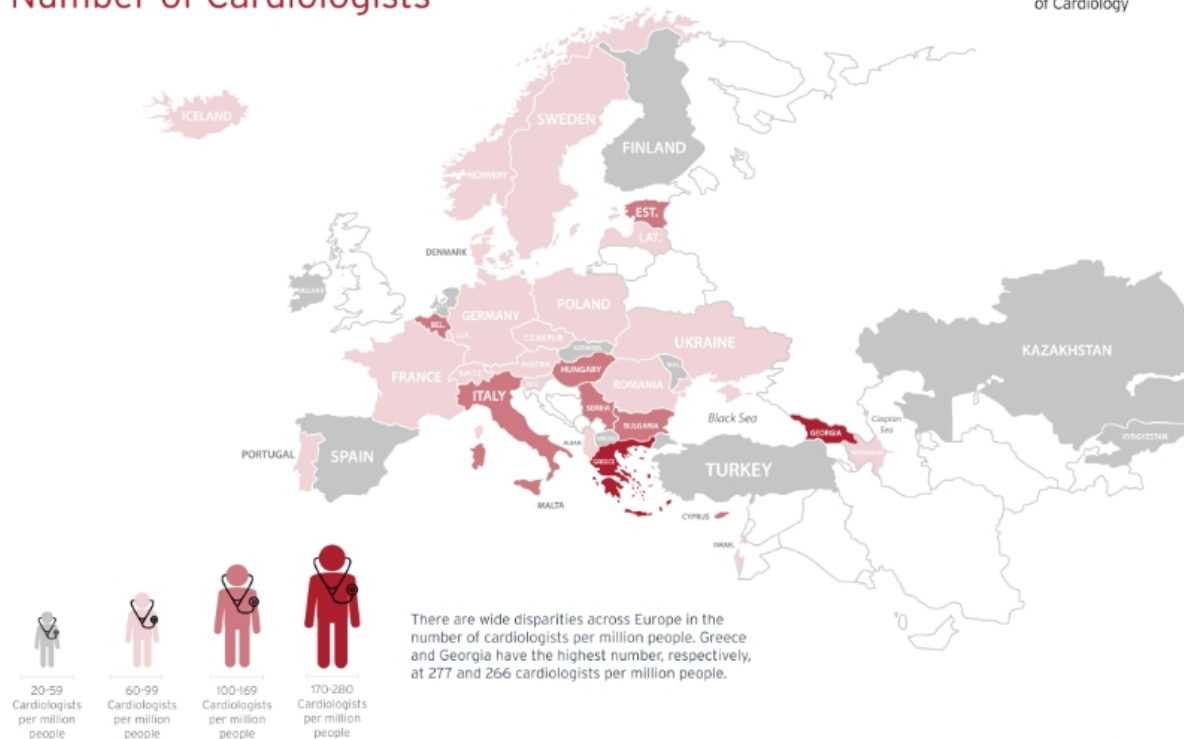- E-learning provision of medical educational information

DIGITAL HEALTH ERA

Telecoaching services provision →

| SMS |
| Email |
| Telephone support |
| Website |
| mHealth app |

→ Manually → Medical personnel

→ Semi-autonomous → Rule based ➕ Machine learning/ AI system

ROLE OF AI IN CVD

CENTRAL ILLUSTRATION: Role of Artificial Intelligence in Cardiovascular Medicine

Johnson, K.W. et al. J Am Coll Cardiol. 2018;71(23):2668–79.

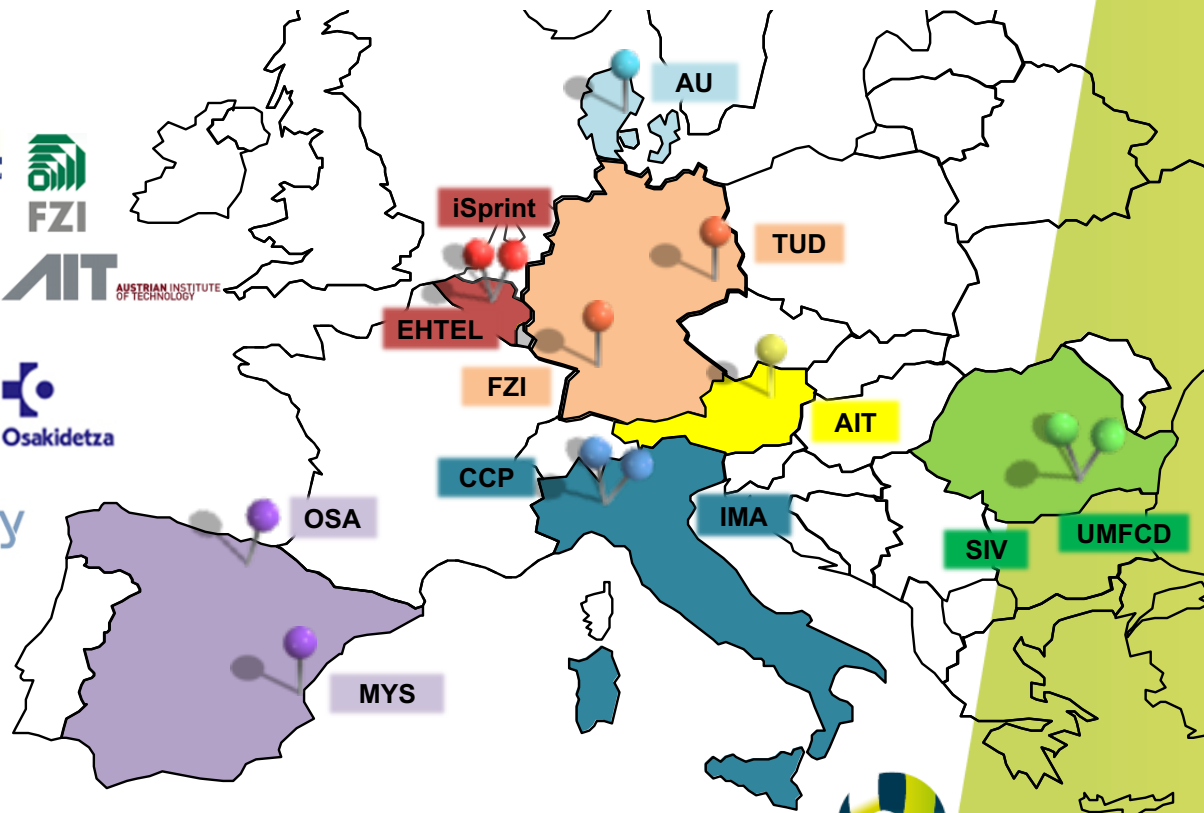# TELECOACHING IMPLEMENTATION BARRIERS

H2020 VCARE PROJECT

Virtual Coaching Activities for Rehabilitation in Elderly
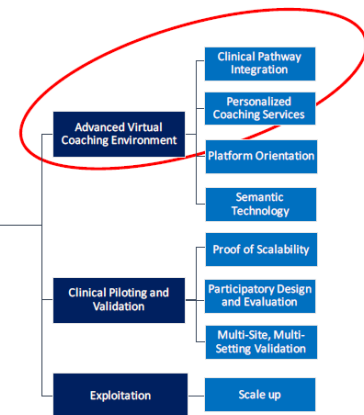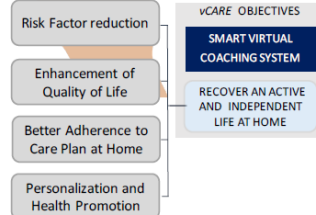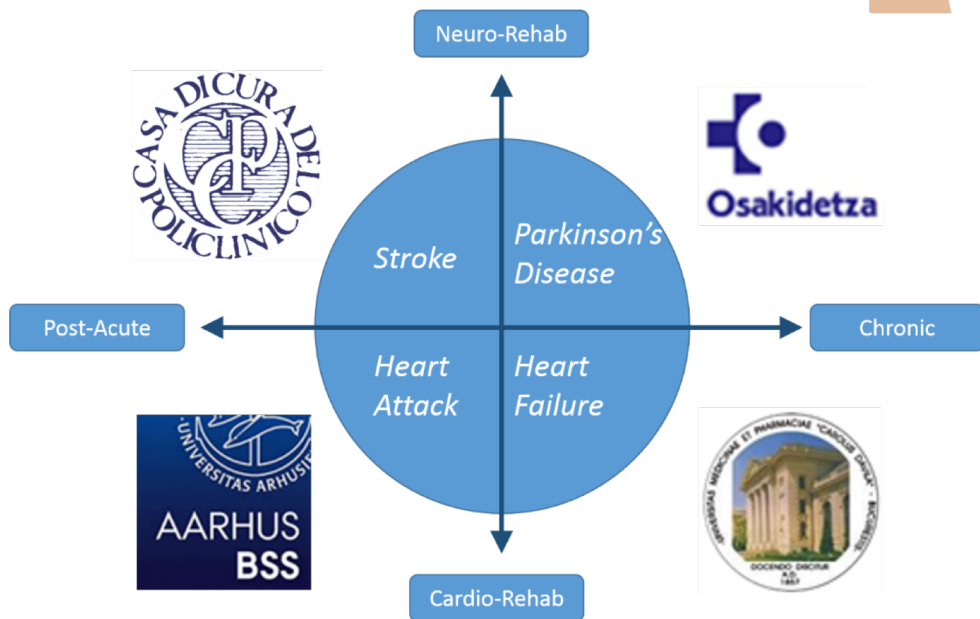Started 1 September 2017
Length 48 months

Funded by the European Union's Horizon 2020 Research and Innovation Programme under the Grant Agreement No. 769807

EUROPREVENT 2019- LISBON
11/04/2019

OBJECTIVES

Stroke
Parkinson's Disease
Heart Attack
Heart Failure

Neuro-Rehab

Post-Acute

Chronic

Cardio-Rehab

Risk Factor reduction

Enhancement of Quality of Life

Better Adherence to Care Plan at Home

Personalization and Health Promotion

vCARE OBJECTIVES

SMART VIRTUAL COACHING SYSTEM

RECOVER AN ACTIVE AND INDEPENDENT LIFE AT HOME

Advanced Virtual Coaching Environment

Clinical Pathway Integration

Personalized Coaching Services

Platform Orientation

Semantic Technology

Clinical Piloting and Validation

Proof of Scalability

Participatory Design and Evaluation

Multi-Site, Multi-Setting Validation

Exploitation

Scale up

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SPECIFIC VC FUNCTIONS

CARDIOVASCULAR FITNESS IMPROUVEMENT

MEDICATION ADHERENCE

WEIGHT CONTROL

SMOKING CESSATION

ALCHOOL CONSUMPTION CONTROL

ANXIETY AND DEPRESION

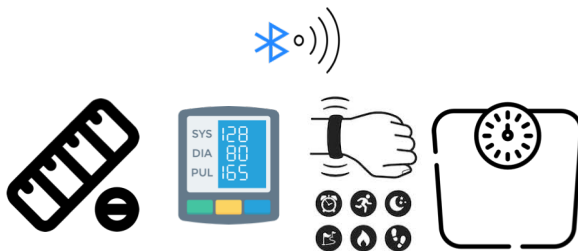PATIENT HEALTH EDUCATION

HOW WILL WE DO IT?

Feedback & Serious games

Virtual coach, machine learning and knowledge integration

Unambiguous location & fall detection

Activity and Health Monitoring

Contextualisation

ROLES

Medical team
- Participates at the configuration of the initial patient's profile
- Is notified in case of abnormal prolonged evolution or emergencies
- can update the patient profile, if changes are needed

Virtual Coach:
- reminds the patient daily to follow his rehabilitation plan –with dynamic adaptation depending on patients adherence
- monitors patient's activity by controlling risks (monitor hazards), detecting change in emotional state and in motor activities trends
- it collects information through verbal interactions, gives feedback to the patient on his/her performance and adapt some treatments automatically

Family members
are notified by the VC in case of lack of medication adherence, recurrent bad mood, not respecting the rehabilitation plan.

NEXT STEPS…

www.vcare-project.eu