Digital health as a solution to mitigate or prevent medical deserts
The "TreC" case in the Province of Trento, Italy

Lorenzo Gios [1], Francesca Perini [1], Giulia Malfatti [1], Andrea Nicolini [1], Stefano Forti [2], Olivia Balagna [3], Diego Conforti [3]

1 TrentinoSalute 4.0, Competence Center for Digital Health, Trento, Italy;
2 Fondazione Bruno Kessler, Trento, Italy;
3 Provincia Autonoma di Trento, Trento, Italy

Between challenges and opportunities
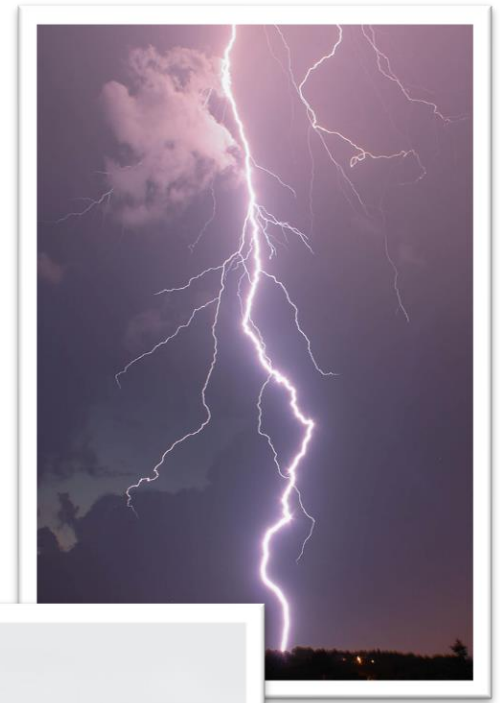
The "perfect storm" in public health
- Increase in healthcare costs
- Growing chronic disease burden
- Shortage of physicians / healthcare professionals
- Critical situation particularly evident in rural areas

New opportunities
- Increase in [potential] use of technology

Requirements
- Strategy and planning
- Cross-contamination, public-driven approach

Digital health approach in the Province of Trento (IT)

Public-driven approach to promote digital health initiatives in the Province of Trento

TrentinoSalute4.0 as strategical alliance among:
- the Autonomous Province of Trento (PAT) as decision/policy-maker;
- the local Healthcare Trust (APSS) as health service provider
- the Bruno Kessler Foundation (FBK) as internationally-known research institute in the area of technological innovation
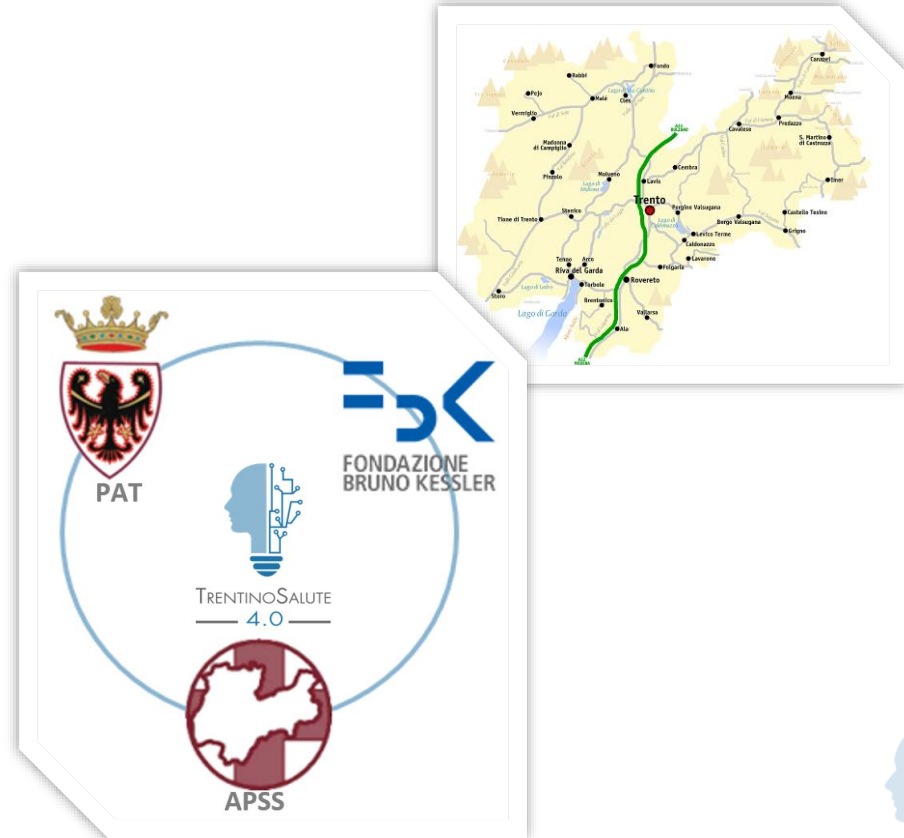
One system, one platform, multiple e-health services

TreC (*Cartella Clinica del Cittadino / Citizens Clinical Record*) as a unique digital health platform

- Web Portal: 240.000 users

- Mobile App: 100.000 users

Note: almost the 50% of the population (age>=18 y.o.) in the Province of Trento uses TreC as a tool for interacting with the provincial Healthcare System

Online services
→ *Access to healthcare data*
→ *Televisits*
→ *Booking appointments*
→ *Account management*
→ *Payments*

Ecosystem treC+

Citizens' empowerment

App prescription and personalised medicine

Clinical records
Allergies
Health data
Lab data
Symptoms
Lifestyles
Telemonitoring
Telemedicine
Vaccinations

TreC Cardiology
TreC Diabetes
TreC Onco
TreC Pediatrics
TreC Ophthalmology
Google Fit

104
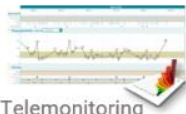
Secure Access

Personal Health Record Prevention

Personalised medicine

Virtual coach AI

TreC platforms

Mobile App for patients

- Incorporating recommendations and virtual coach assistance
- Enabling to record in a mobile diary disease and health-related information
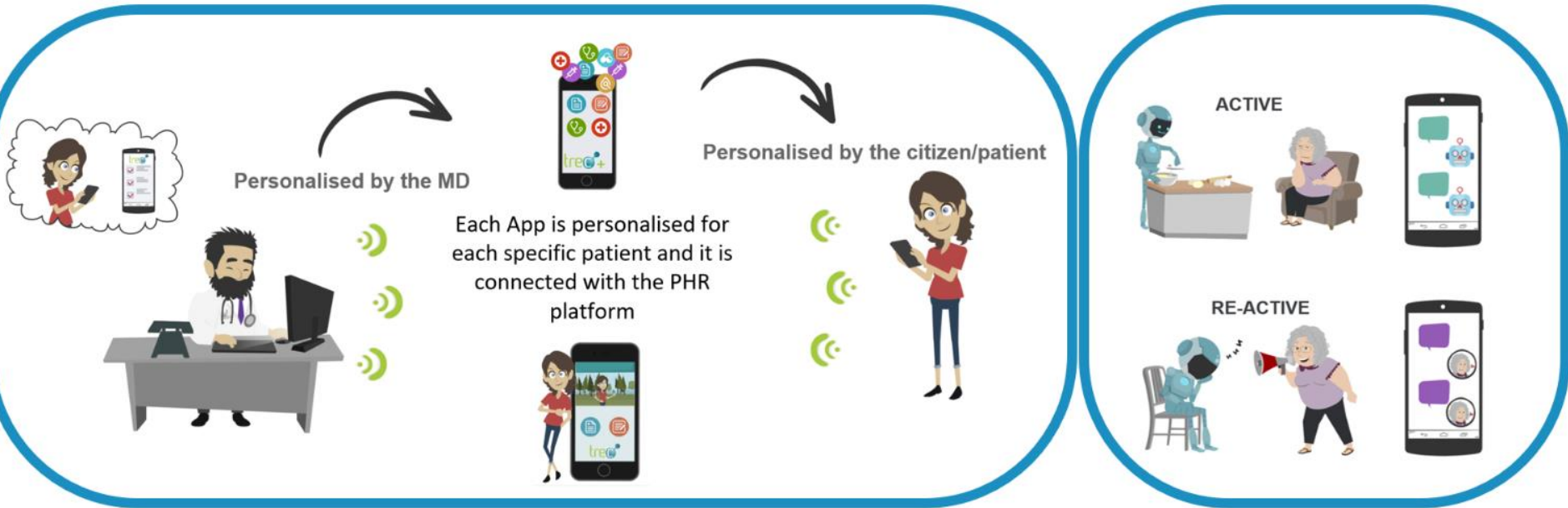- Enabling and facilitating contacts (chat, tele-visits)

Medical dashboard

- Enabling telemedicine interventions (including remote-control and monitoring of patients' status)

App is prescribed as standard part of the routine practice

DYNAMIC PERSONALISATION

TASKS PRE TELE VISIT

TELE VISIT PRESCRIPTION

TELE VISIT

PATIENT TAKEN IN CHARGE

APP PRESCRIPTION

MONITORING AND ADHERENCE

TASKS POST TELE VISIT

DIGITAL REFERRALS

Promoting a personalized patient-centered approach

Personalised by the MD

Each App is personalised for each specific patient and it is connected with the PHR platform

Personalised by the citizen/patient
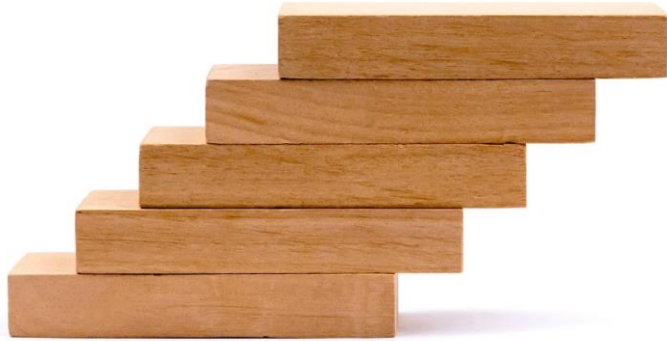
ACTIVE

RE-ACTIVE

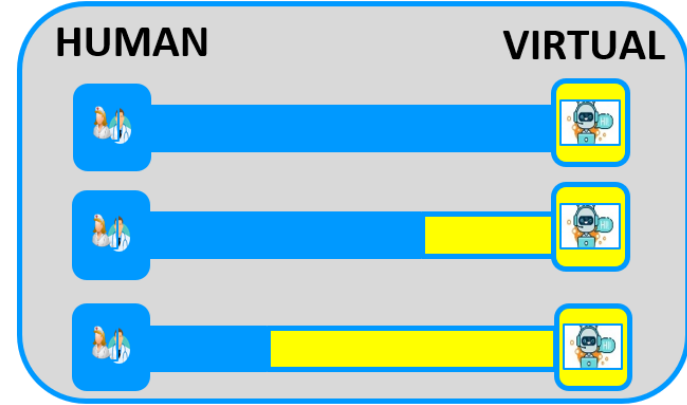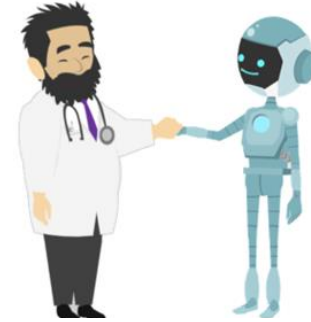tasks' reminders

periodical questionnaires

therapeutic adherence
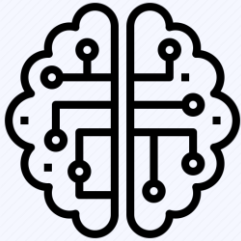
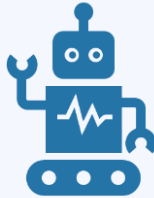# Promoting a (tech-enabled) stepped care approach

High complexity

Low complexity
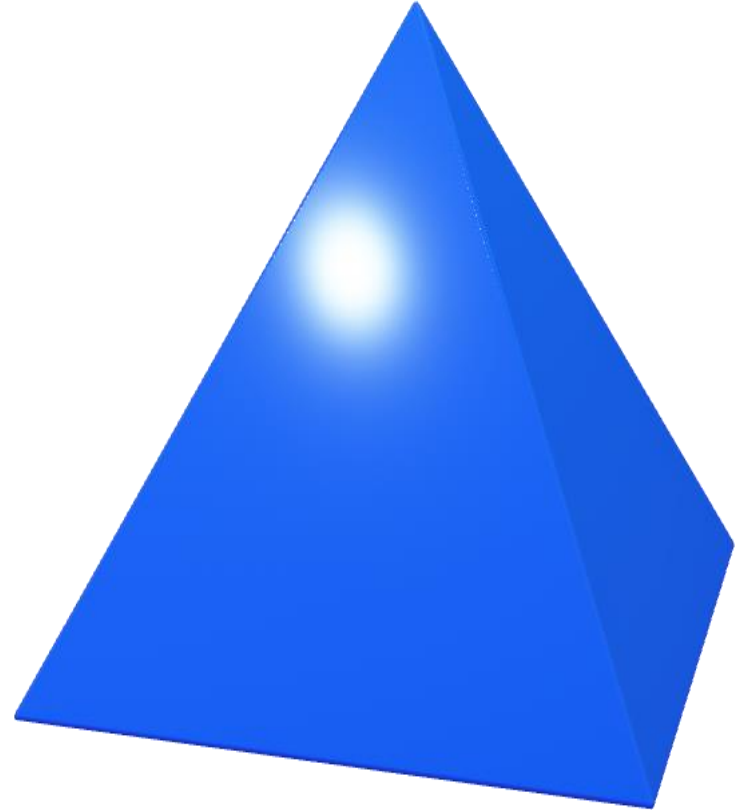
HUMAN   VIRTUAL

Toward an (AI/tech-enabled) healthcare model

AI

Virtual Coach

Thank you

Lorenzo Gios, Ph.D.
lgios@fbk.eu

**TrentinoSalute4.0
Competence Centre for Digital Health
Province of Trento, Italy**