



WEBINAR

"TECHNOLOGY IN HEALTH IN PANDEMIC AND POST-PANDEMIC **COVID-19 CONTEXT**"

"Digital Transformation in the Health sector and the relevance of Innovation HUBs"































H-INNOVA: Health INNOVAtion HUB: Vision

















fostering innovation in Health involving Hospitals, Universities,

Research Centers and reference companies/organizations in an

integrated ecosystem.





















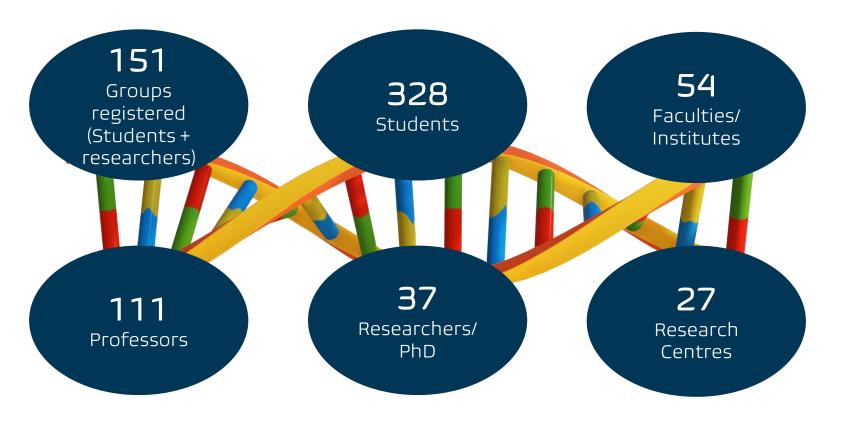




H-INNOVA Health INNOVAtion Award – 2nd Edition statistics



Call for projects - statistics



Europe USA Brazil

Total participants 476

Total institutions 81





Innovation HUBs – A Road Map to INNOVATION



Innovation HUBS like H-INNOVA constitute a road map to foster applied INNOVATION

Mindset: Innovative technological solutions to improve <u>effectiveness</u> and <u>efficiency</u> on health and healthcare







Open Innovation



Knowledge transfer

Innovation HUBs – <u>A Road Map to INNOVATION</u>





Collaborative Ecosystem



Open Innovation



Knowledge transfer



A road that leads to

<u>Digital Transformation</u>

in Health and

Healthcare





H-INNOVA: Health INNOVATION HUB Health Data Lake – Drivers and Objectives



Health Data Lake

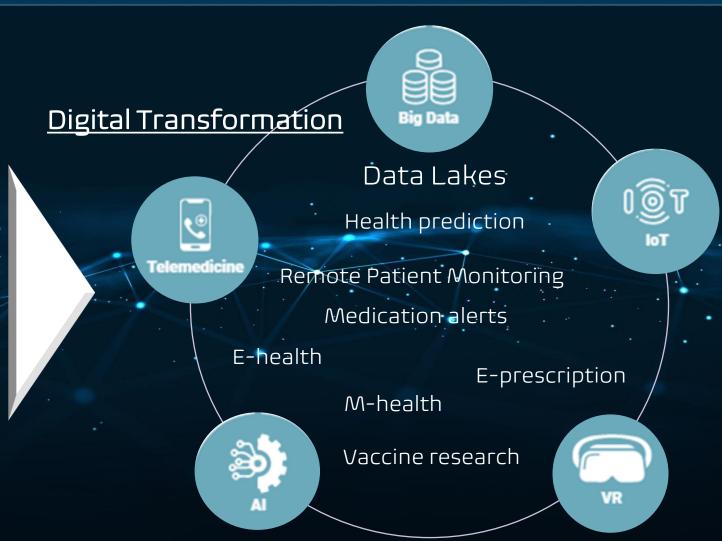


H-INNOVA: Health INNOVAtion HUB Digital Transformation in Health



In their approach to <u>Digital</u>
<u>Transformation</u>, organizations need to:

- Rethink their <u>business model</u>
- Rethink products, services and solutions
- Rethink processes and operations
- Rethink the <u>relationship</u> with the users/customers/patients





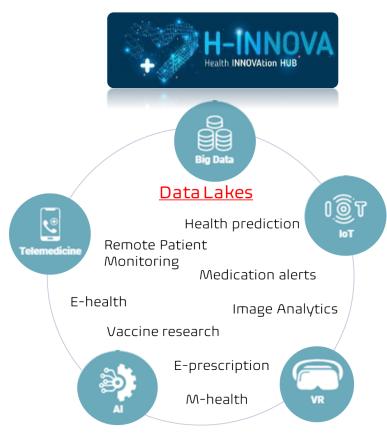
H-INNOVA: Health INNOVAtion HUB Digital Transformation in Health



The Digital Transformation shift/trends in healthcare

PAST

- Lower focus on quality results and fragmented customer experience
- Difficult to cope with <u>increasing</u> <u>health expenditures</u>
- Reduced flexibility of workforces and installed capacity
- Input oriented
- Cost factor



FUTURE

- <u>Tech based healthcare</u> for increased quality and <u>customer/patient experience</u>
 - New jobs creation and economic growth related with innovation
 - Health tourism
 - More flexible IT driven workforces and installed capacity
 - Outcome oriented
 - Differentiation factor



H-INNOVA: Health INNOVAtion HUB Madeira Data Lake









Data Providers

DATA VARIABLES

• Labs

• Etc

Clinical data
Genomic data
Omics&biomarker
Demographics
Life styles
Treatments
Imaging
Outcomes

Data Lake Platform

DATA CLEANING AND GDPR

- Anonymization
- Security
- Data Quality
 Evaluation
- Data Harmonization
- Data ready for analysis

Big data&analytics



OUTPUTS/PROJECTS

- Policy guidelines
- Patient journey
- Disesase knowledge
- Precision medicine
- Improved healthcare practice
- Proof of concept
 Digital Health
 projects

Outcomes



H-INNOVA: Health INNOVAtion HUB Madeira Data Lake





HCM aims to be an international reference in terms of innovation in health



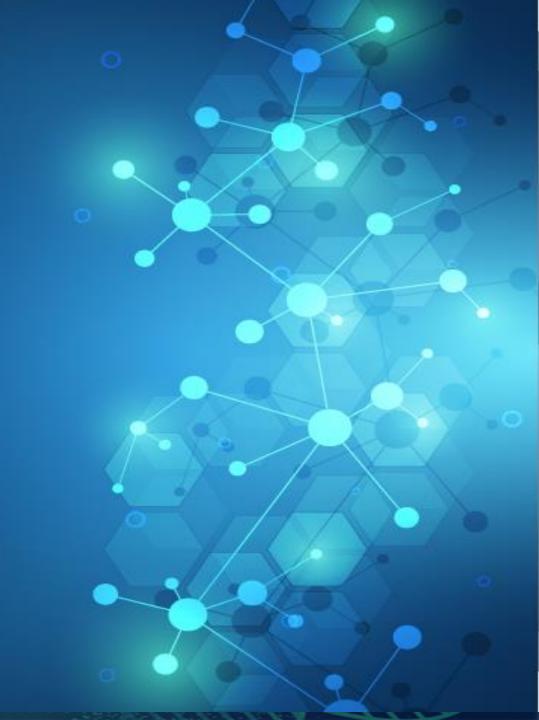






Some figures

and
challenges
resulting from
COVID-19



Covid-19 context Impact and consequences



1. Pressure on health systems

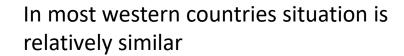
In Portugal at December 2020 compared to 2019:

- Less **1.2 million** hospital specialty consultations
- Less 760 thousand surgeries
- Less 1,8 million episodes in hospital emergency services

Premature death related to late diagnosis of diseases

The pressure on health systems will tend to increase in the coming times

The health and healthcare expenditures will tend to increase







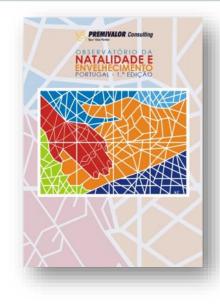
Questionnaire on the impact of the COVID-19 pandemic carried out by PremiValor Consulting



2. Citizens' Mental and Physical Health

451 questionnaires (maximum error of 4.61% considering a 95% confidence Interval)

Time line: From December 5th, 2020 to January 21st, 2021.



Some results of the study:



46% of respondents reported that their mental health had worsened or worsened significantly



69% of respondents who reported having been diagnosed with at least one chronic disease before the start of the COVID-19 pandemic, did not reschedule their appointments (own initiative or lack of response from carer/health service provider)

Questionnaire on the impact of the COVID-19 pandemic carried out by PremiValor Consulting



2. Citizens` Mental and Physical Health (cont.)



36% of respondents refered that the quality of their sleep has decreased



53% report to feel more anxiety



27% began to **feel alone**, which was not the case before the pandemic situation



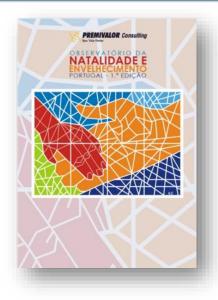
15% of respondents stated that they do not intend to take one of the vaccines for COVID-19



86% stopped doing or significantly reduced social activities (interaction with friends, etc.)



52% Failed to do or significantly **reduced physical activity**



Childbirth and Natural Balance PORTUGAL - 2020



3. A major demographic challenge – Portugal – Europe

Childbirth in 2020



In 2020, **84,426** children were born

A decrease of 2.5% (less 2.153 children) compared to 2019

Natural balance of Population

The increase in the number of deaths and the decrease in the number of live births resulted in a **strong reduction of the natural population balance** from -25,214 in 2019 to **-38,932** in 2020.



Portugal drops the birth rate by **five years**





Recovery and Resilience Plan



"The Recovery and Resilience Facility is a central element in the European response to the COVID-19 pandemic."





- Execution period up to **2026**
- Compreheends the implementation of a set of reforms and investments that will allow to resume sustained economic growth

Recovery and Resilience Plan - Timetable: Financing of Action Measures, Economic and Social Investment



16,644 million euros of financing, distributed by



13,944 million euros of grants (84%)

and

2,700 million <u>loans</u> (16%)

2021 2022 2023 2024 2025 2026 2027 2028 2029

PT 2020

11,2 mil M€ (3,7 mil M€/ano)

NEXT GENERATION EU

REACT EU

2 mil M€ (700 M€ / ano)

Plano de Recuperação e Resiliência

13,9 mil M€ subvenções + 2,7 mil M€ empréstimos (2,3 mil M / ano + 450 M€ / ano)

Desenvolvimento Rural + Fundo Transição Justa

0,5 mil M€ (83 M€ / ano)

TOTAL

16,4 mil M€ subvenções + 2,7 mil M€ empréstimos (2,7 mil M€ / ano + 450 M€ / ano)

OUADRO FINANCEIRO PLURIANUAL 2021 - 2027

33,6 mil M€ (3,7 mil M€ / ano)

PT 2020 + NEXT GENERATION EU + QUADRO FINANCEIRO PLURIANUAL 2021 - 2027

61,2 mil M€ em subvenções (6,8 mil M€ / ano)

ORÇAMENTOS DE ESTADO

Fundos Nacionais



Recovery and Resilience Facility C1 - National Health Service - Portugal





REFORÇAR A CAPACIDADE DO SERVIÇO NACIONAL DE SAÚDE (SNS)

REFORMAS

- Reforma dos cuidados de saúde primários
- Reforma da saúde mental
- Conclusão da Reforma do modelo de governação dos hospitais públicos

INVESTIMENTOS

Cuidados de Sa	úde Primários com mais respostas	467 M€
Cultidados de Sa	due r midi ios com mais respostas	

 Rede Nacional de Cuidados Continuados Integrados e Rede Nacional de Cuidados Paliativos

88 M€

180 ME

89 ME

300 ME

15 M€

30 M€

10 ME

 Conclusão da Reforma da Saúde Mental e Implementação da Estratégia para as Demências

Equipamentos dos Hospitais do Seixal, sintra e Lisboa

Fortalecimento do Servi
ço Regional de Sa

úde da RAM

Transição Digital da Saúde

Digitalização da Saúde na RAM

Hospital Digital da Região Autónoma dos Açores

Sistema Universal de Apoio à Vida Ativa

Digital Transition of Health 300 M €

Digital transformation of Health in Madeira – 15 M €



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