Synergies across the EU funding programmes managed by the European Health and Digital Executive Agency (HaDEA)

HNN 3.0

20 JUNE 2023

HYBRID EVENT Online & at the ISS - Italian National Institute of Heal

European

Ministero della Salute

Promession ProMIS

NCP4

The European experiences of the Istituto Superiore di Sanità in Health and Digital sectors

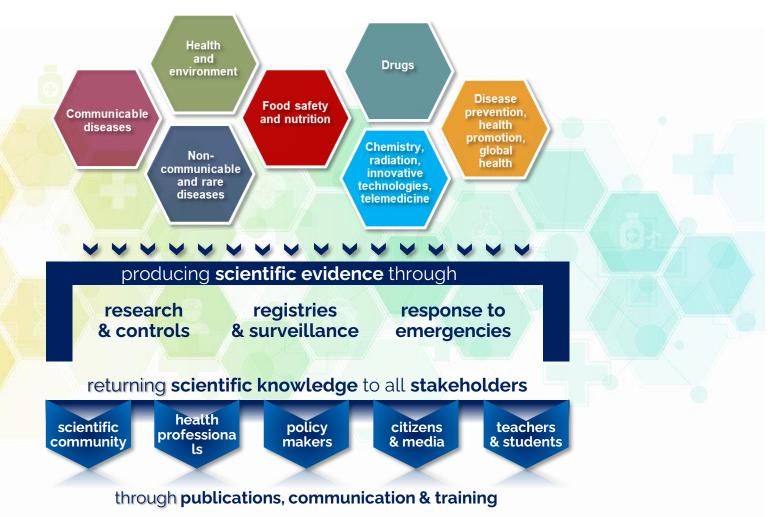
Anna Ceccarelli, Research Coordination and Support Service

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ISS a constant commitment to public health in 7 strategic research areas...

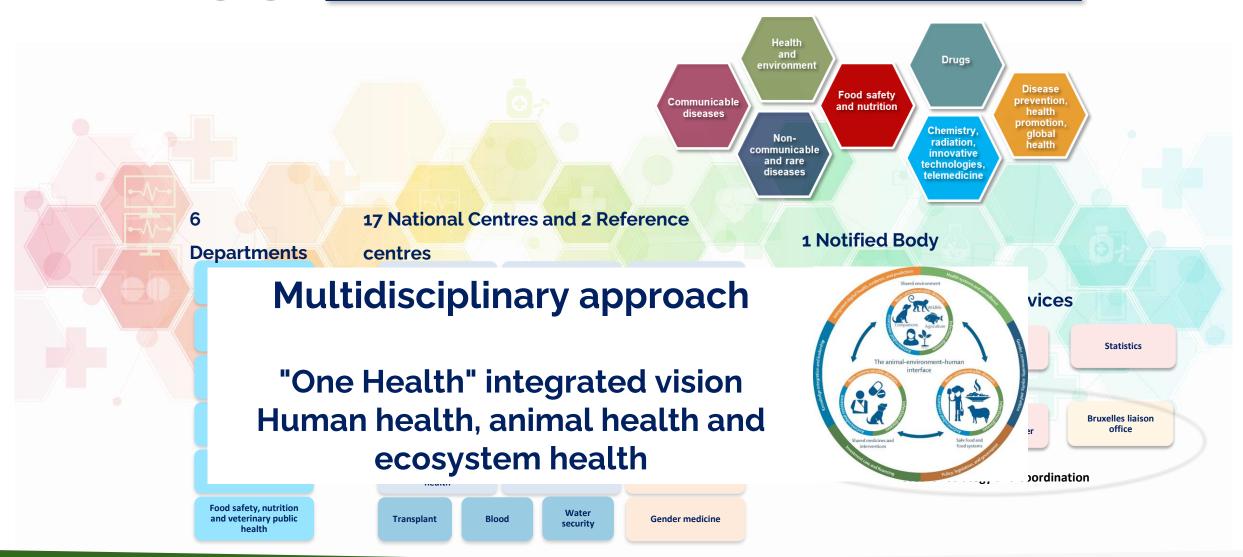
ISS is the main biomedical and public health research institute Italy, and the leading in technical and scientific body of Italian National Health the







ISS <u>7 strategic research areas</u>

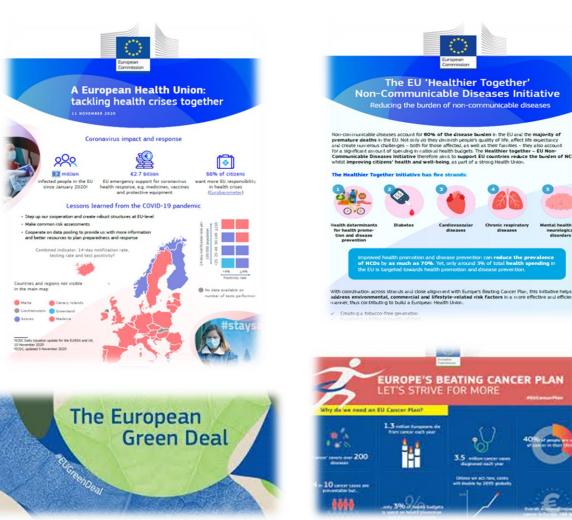


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Synergies with EU health initiatives

- The ISS strategy and governance is in synergy with European Union priorities supporting health.
- ISS actively participates, including with coordination roles, in actions promoted by the European Union in support of its priorities:
 - ✓EU health working groups with its experts;
 - ✓ Joint Actions funded by the EU4Health programme;
 - ✓ European research and innovation projects and partnerships funded by Horizon Europe:
 - ✓ Projects and initiatives funded by the DIGITAL programme.





Participation in EU Programmes

EU4HEALTH

- 13 actions under WP 2021-2022
 1 as coordinator
- 8 proposals (Joint Actions) submitted under WP 2022-2023
 1 as coordinator

HORIZON EUROPE

- 17 projects under WP 2021-2022
 - 1 as coordinator
- 17 proposals submitted under WP 2023 (first semester)

DIGITAL

• 1 project

CERVEUROPEAN DEFENCEEURATOM• 1 project (as
coordinator)• 1 project• 1 project
(PIANOFORTE)



EU4HEALTH: overview of participation

Work Programme 2021

CRISIS PREPAREDNESS (CP) 3 actions

DISEASE PREVENTION (DP) 4 actions (1 as coordinator) HEALTH SYSTEMS AND HEALTHCARE WORKFORCE (HS) 4 actions

Work Programme 2022







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EU4HEALTH 2021: crisis preparedness

1.1 SUPPORT ACTION TO MITIGATE SHORTAGES OF MEDICINES AND IMPROVE THE SECURITY OF SUPPLY INCLUDING OF COVID-19 THERAPEUTICS

EU4H-2021-JA-06: Direct grants to Member States' authorities: availability of medicines, shortages and security of supply

Action	Field of science
CHESSMEN CHESSMEN	Short supply of medicines; Public health; Medical care delivery; European Network

1.2. COMMUNICABLE DISEASES – SURVEILLANCE AND EARLY DETECTION

Action	Field of science		
EU4H-2021-JA-13: Direct grants to Member States' authorities: Union and national surveillance systems	Pandemic preparedness; Law; Cross-border threats; ECDC framework; Surveillance; transferability of knowledge; Capacity building		
EU4H-2021-PJ-20 Action grant to support a HERA laboratory network	Pandemic preparedness; HERA Lab netwoek; Medical countermesasures; One Health; Epidemiology; intelligence; Surveillance		



EU4HEALTH 2021: disease prevention

2.1. HEALTH PROMOTION AND PREVENTION OF NON-COMMUNICABLE DISEASES AND RELATED RISK FACTORS

EU4H-2021-JA-08: Direct grants to Member States' authorities: implementation of best practices and research results on prevention of non-communicable diseases and risk factors

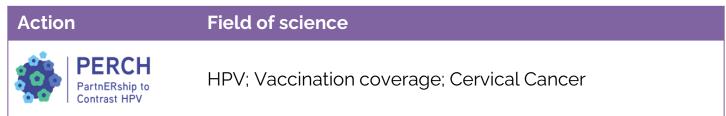
Actions	Field of science
CARE 4 DIABETES	Type 2 diabetes; Lifestyle treatment; Transfer of good practices;
Joint Action	Pilot actions; Intensive care programme; After care programme



EU4HEALTH 2021: disease prevention

2.2. SAVING LIVES THROUGH SUSTAINABLE CANCER PREVENTION

EU4H-2021-JA-02: Direct grant to Member States' authorities: support to assist Member States to roll out large-scale human papillomavirus vaccination campaigns (Coordinated by ISS)



2.4. CANCER: ENSURING ACCESS TO HIGH STANDARD CANCER CARE DIAGNOSIS AND TREATMENT

EU4H-2021-PJ-15: Action grants for 'Cancer Diagnostic and Treatment for All' including 'Genomic for Public Health

Action	Field of science
can.heal	Genomics; Public health research; Cancer; Next Generation Sequencing; Pathways





EU4HEALTH 2021: health systems and health workforce

3.3. STRENGTHENING THE IMPLEMENTATION OF THE LEGISLATION ON BLOOD, TISSUES AND CELLS AND ORGANS AND COOPERATION BETWEEN NATIONAL AUTHORITIES AND PROFESSIONAL SECTOR ASSOCIATIONS

EU4H-2021-PJ-05: Action grants on substances of human origin (SoHO) – increase resilience, ensure continuity of supply and access to safe and high quality therapies, in particular in times of

crisis

Actions	Field of science
BRAVEST	Transplantation; Quality; Safety; Donation
SUPPLY	Plasma; PDMP; Covid-19; Donor; Strategic indipendence; SoHo; Best practice
Secality	Blood; Tissues; Cells; Accessibility; Sufficiency; Harmonisation; Accreditation; Technical assistance





EU4HEALTH 2021: health systems and health workforce

3.3. STRENGTHENING THE IMPLEMENTATION OF THE LEGISLATION ON BLOOD, TISSUES AND CELLS AND ORGANS AND COOPERATION BETWEEN NATIONAL AUTHORITIES AND PROFESSIONAL SECTOR ASSOCIATIONS

EU4H-2021-PJ-17: Action grants to organise and collect data to understand the safety, quality and efficacy of therapies applied in the field of assisted reproduction and therapies based on haematopoietic stem cells

Action	Field of science
EuroTraCTOR	Clinical data; European registry; Quality; Donor/Patient safety; Efficacy; Cellular therapies; haematopoietic stem cell transplantation



EU4HEALTH 2022: health promotion and disease prevention

2.2. ADDRESSING MENTAL HEALTH CHALLENGES

EU4H-2022-PJ-03: Call for proposals on promoting mental health

Action	Field of science
Icehearts Europe	Mental health; Sport; Health; Youth



HORIZON EUROPE: overview of participation

PILLAR I. EXCELLENT SCIENCE

Research infrastructures: 1 project

PILLAR II. GLOBAL CHALLENGES AND EU INDUSTRIAL COMPETITIVENESS

Cluster Health: 13 projects (including 3 EU Parnerships)

Cluster Civil Security for Society: 1 project

Cluster Food, Bioeconomy Natural Resources, Agriculture and Environment: 1 project

Cluster Climate, Energy and Mobility: 1 project



Overview of participation in Cluster Health

Destination 2. Living and working in a healthpromoting environment

- 1 Project coordinated
- 4 Projects as Beneficiaries
- 1 EU Partnership as Italian node

Destination 3. Tackling diseases and reducing disease burden

- 2 projects as Beneficiary
- 1 project as Affiliated Entity
- 1 EU Partnership as Affiliated Entity (ItaCRIN)

Destination 4. Ensuring access to innovative, sustainable and high-quality health care

• 1 EU Partnership as Affiliated Entity in support to Coordinator

Destination 5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society

• 1 project as Beneficiary

Destination 6. Maintaining an innovative, sustainable and globally competitive health industry

• 1 project as Beneficiary



HORIZON EUROPE: Cluster Health

D	estination 2. Living and working in a health-promoting environment
Project	Field of science
COORDINATOR	Artificial intelligence; Dementia; Pollution
Blue Adapt	Public health; Climatic changes; Decision support tools
CLIMOS	Ontology; Big Data; Climatic changes; Zoonosis
	Data science; Air pollution engineering; Sensors; Pollution; Machine learning
NextGEM	Electromagnetism; Radio frequency; Law
	Public health; Crisis management; Chemicals (EU Partnership)



HORIZON EUROPE: Cluster Health (cont)

	Destination 3. Tackling diseases and reducing disease burden
Project	Field of science
BE READY	Infectious diseases; Pandemic preparedness; Public health
TOLIFE	Artificial intelligence; Pneumology; sensors
	Infectious diseases; Bacterial and viral respiratory pathogens; Vaccines
ERA4Health Partnership	Public health; Cardiovascular diseases; Nanomedicine; Nutrition; Clinical trials (EU Partnership)



HORIZON EUROPE: Cluster Health (cont)

	Destination 4. Ensuring access to innovative, sustainable and high-quality health care
Project	Field of science
transforming health and care systems	Public health; sustainability; Policy dialogue; Priority setting; Capacity buiding; Good practice transferability (EU Partnership)
	Destination 5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society
Project	Field of science
LEOPARD	Organ transplantation; Artificial intelligence
Dest	tination 6. Maintaining an innovative, sustainable and globally competitive health industry
Project	Field of science
	Mhealth; Law; Quality

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HORIZON EUROPE: other clusters

	Cluster Civil Security for Society
Project	Field of science
曫 S U N R I S E	Access control; Pandemics; Coronaviruses; Climatic changes; Machine learning
	Cluster Food, Bioeconomy Natural Resources, Agriculture and Environment
Project	Field of science
ÖCoDíet	Social inequalities; Nutrition; Machine learning
	Cluster Climate, Energy and Mobility
Project	Field of science
HEALTHY SAILING	Pandemics; Coronaviruses; Naval engineering



The European experiences of the Istituto Superiore di Sanità in Health and Digital sectors

Digital Technologies in support of Innovation

Mauro Grigioni

Director of National Center for Technology Innovation in Public Health

Synergies across the EU funding programmes managed by the European Health and Digital Executive Agency (HaDEA)

20 JUNE 2023

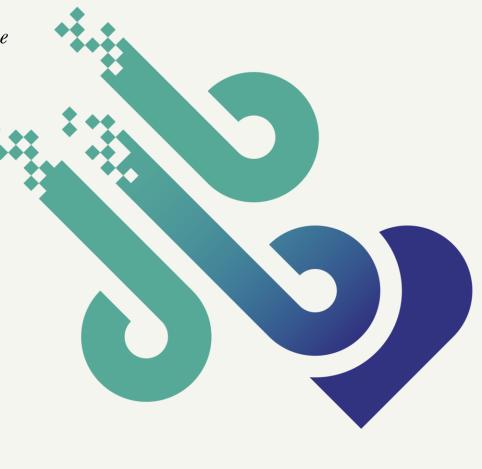
YBRID EVENT



"Synergies across the EU Funding Programmes managed by the European Health and Digital Executive Agency (HaDEA)"

A toolkit for dynaMic health Impact analysiS to predicT disability-Related costs in the Aging population based on 3 case studies of steeL-industry exposed areas in europe





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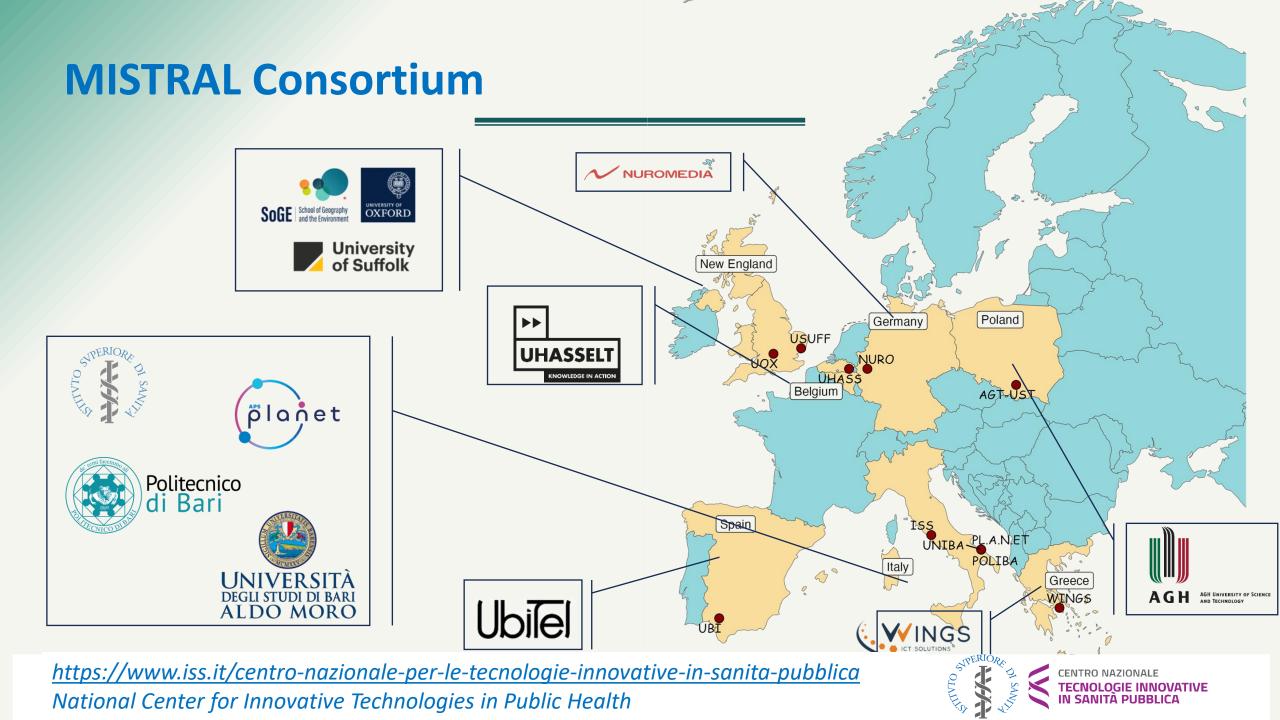


MISTRAL Aim

Development of a **web-based platform** interfaced with an immersive visualization dashboard capable of handling all health impact assessment (HIA) tools, allowing access to deterministic data (case studies of three European cities impacted by pollution) and predictive models based on machine learning, simulating "in-silico" scenarios of intervention with health protection policies

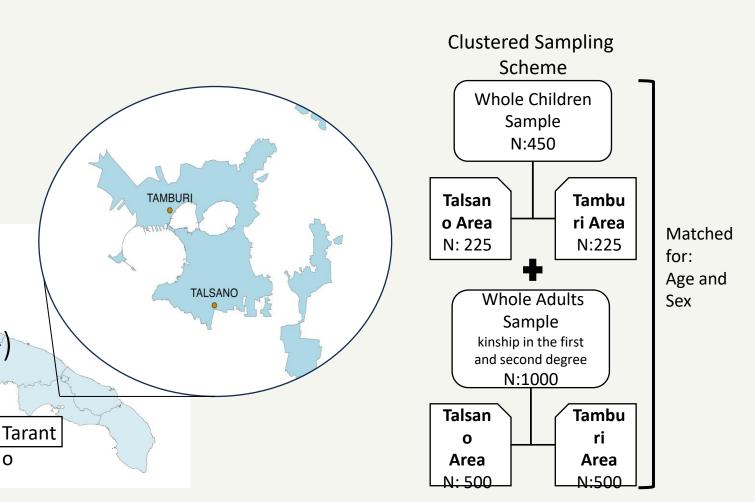






MISTRAL Zephyr Study

To create Al-driven multidimensional risk scores to predict QALY and black carbon concentration in urine samples. The model will come from crosssectional survey data on three different age-stratified populations (4-15, 16-60 and 60+) exposed to pollutants in three different countries.



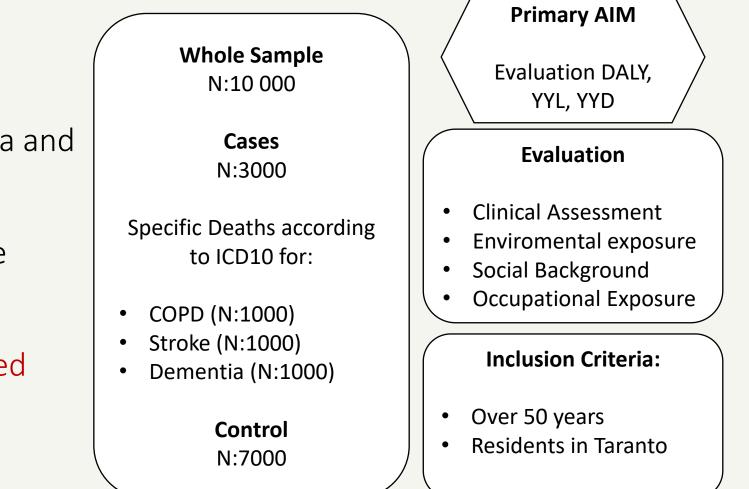
https://www.iss.it/centro-nazionale-per-le-tecnologie-innovative-in-sanita-pubblica National Center for Innovative Technologies in Public Health

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MISTRAL Tramontana Study

To test, validate, and calibrate multidimensional risk scores generated on cross-sectional data and other mortality-related health measures (e.g., DALYs) in a retrospective cohort study, in the general populations of the three countries (Italy-Taranto, Poland-Rybnik, Belgium-Hasselt) observed over the past 10 years





- To develop interactive and immersive dashboards to manage models and data using counterfactual explainable Al architectures,
- Enabling policy makers to create simulated target scenarios in terms of health economic outcomes





MISTRAL Aim in detail

The MISTRAL aim is:

- to create an electronic tool, based on AI prediction and classification algorithms,
- to model the health and economic impact of non-communicable diseases with a high disability impact (CHD, Dementia, COPD, and Stroke),
- using big data from different age populations and individual sources,
- recording lifestyle, socio-economic status, environmental and geographical conditions, and health status
- in areas of high pollution exposure (Steel Industry).
- To support the data exploration and sensemaking,
- Immersive Analytics will be adopted to promote collaboration among groups of dedicated experts,
- implementing expertise with sophisticated data analysis tools



Clustering in EU

EU funded Environment and Health Research and promoted the implementation of the **Methods for assEssing healTh-related costs of Environmental stressORs (METEOR)** Cluster consisting of the 5 projects resulting from the Horizon Europe call HORIZON-HLTH-2022-ENVHLTH-04-01

to **optimize synergies**,

avoid overlaps and

increase the impact of the projects





METEOR Cluster

Projects

BEST-COST

SCI (lead), VITO, LMU, DTU, TAI, THL, CSTB, SpF, RIVM, NIPH, EM, UP, EHNet, CHAIN, STPH, IHME (USA)

MARCHES

AU (lead), UMY, UTARTU, CU, MENON, ISG, ISP, BSC, GEUS, EERC, NIBIO

UBDPOLICY

ISGlobal (lead), UU, STPH, LIN, HEAL, UCAM

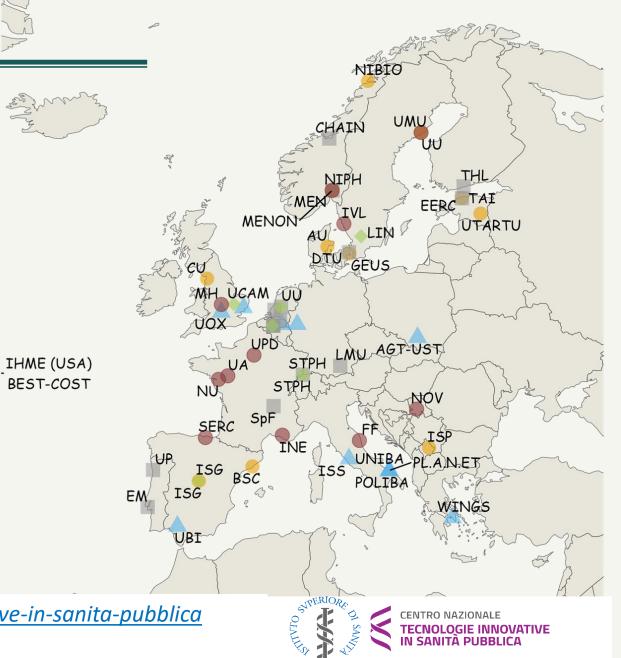


MISTRAL

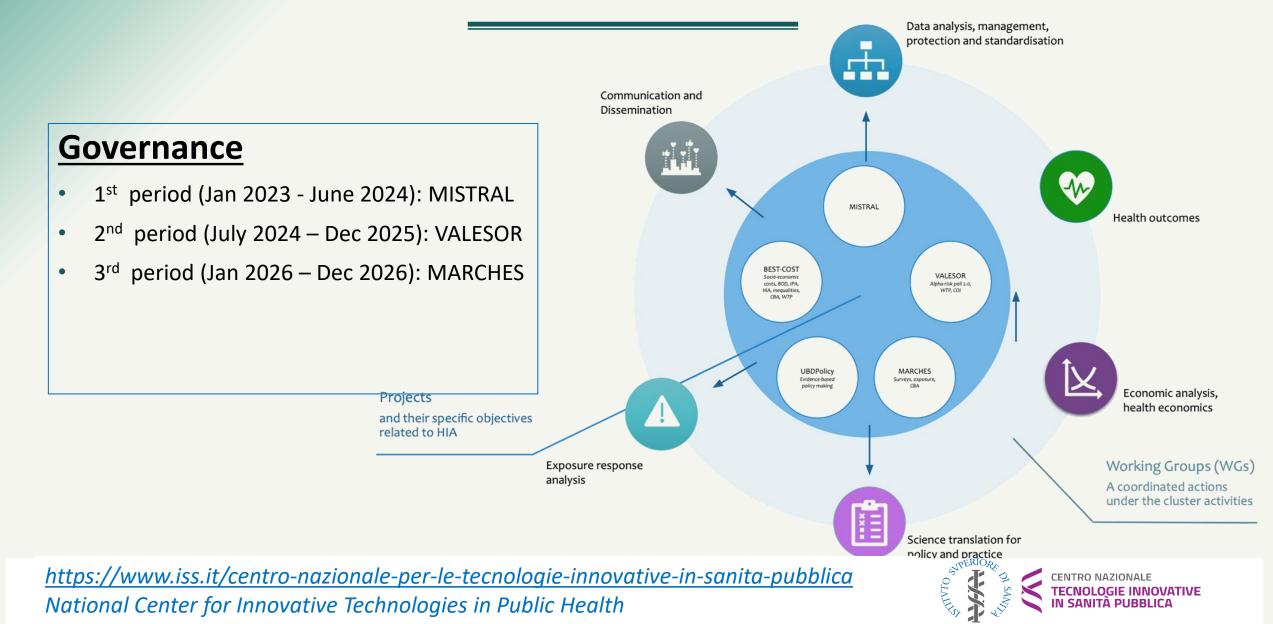
ISS (lead), PL.A.N.ET, UNIBA, POLIBA, USUFF, UHASS, AGH-UST, UOXF, UBI, NURO, WINGS

VALESOR

UA (Lead), NU, IVL, INE, MEN, UPD, UU, SERC, MH, FF, NOV



METEOR Working Groups



Label2enable

Title: Adopting CEN-ISO/TS 82304-2 and a trusted EU mHealth label for a single market that enables patients, citizens, health professionals, systems and authorities to benefit from a healthy supply of useful apps.

Duration: June 2022 – May 2024 Instrument: Horizon Europe Type: Coordination and Support Action Grant Agreement number: 101057522 Budget: 1,999.957.50 EUR Partners:





Label2Enable operates within the context of the EU policy Digital Health and Care

TRANSFORMATION OF HEALTH AND CARE IN THE DIGITAL SINGLE MARKET - Hamessing the potential of data to empower citizens and build a healthier society

European health challenges

- 88 Ageing population and chronic diseases putting pressure on health budgets
- 8 Unequal guality and access to healthcare services
- 88 Shortage of health professionals

Potential of digital applications and data to improve health

- Sefficient and integrated healthcare systems
- No. Personalised health research, diagnosis and treatment
- Prevention and citizen-centred health services

What EU citizens expect...



80% agree To provide feedback on quality of treatments

Support European Commission:

Secure access and exchange of health data Ambition:

Citizens securely access their health data and health providers (doctors, pharmacies...) can exchange them across the EU.



- eHealth Digital Service Infrastructure will deliver initial cross-border services (patient summaries and ePrescriptions) and cooperation between participating countries will be strengthened. Proposals to extend scope of eHealth cross-border services to additional cases, e.g. full electronic health records. - Recommended exchange format for interoperability of existing electronic health records in Europe.



treatment

(data, infrastructure, expertise...) allowing targeted and faster research, diagnosis and

- Voluntary collaboration mechanisms for health research and clinical practice (starting with "one million genomes by 2022" target). - Specifications for secure access and exchange of health data. Pilot actions on rare diseases, infectious diseases and impact data.

Digital tools and data for citizen empowerment and person-centred healthcare

Ambition:

Citizens can monitor their health, adapt their lifestyle and interact with their doctors and carers (receiving and providing feedback)

health, also by SMEs, with common principles and certification. - Support demand uptake of innovative digital-based providers, with exchange of practices and technical assistance. digital-based solutions for health, including EU funding.





Choosing a 'good' health app is difficult

The sheer number of health apps makes choosing them confusing

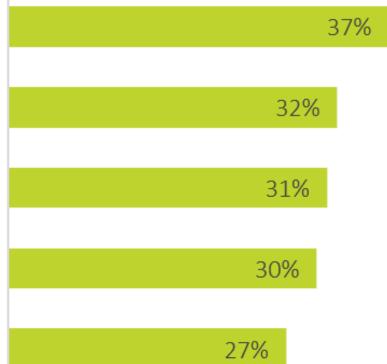
I am not sure health apps will help me

I prefer face-to-face consultations with doctor/nurse

I know of no health apps relevant to me

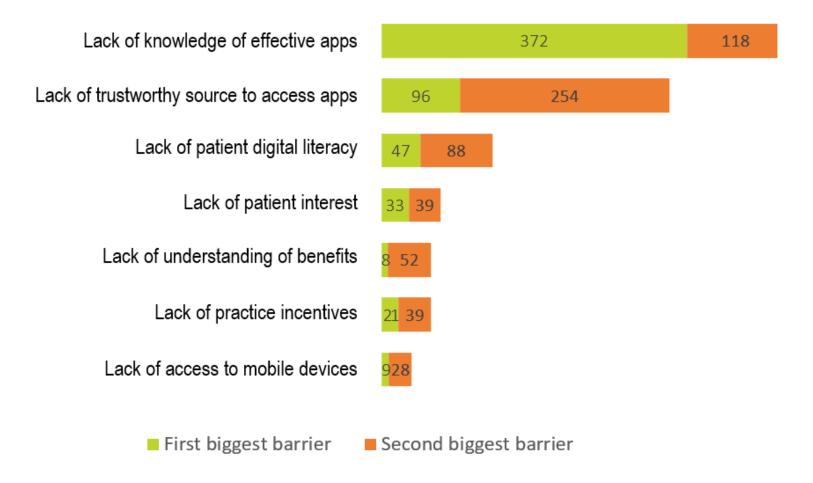
I am suspicious of health apps, because I don't know who makes them

Get-ehealth.eu (2015) What do patients and carers need in health apps – but are not getting? Global survey of 1,120 patients and carers





Choosing a 'good' health app is difficult



Byambasuren et al (2019) Current knowledge and adoption of mobile health apps among Australian General Practitioners: Survey study



EU policy context

The EU moves towards a common transparent assessment of health apps: Label2Enable: Horizon Europe project creates EU certification scheme CEN-ISO/TS 82304-2

- The Green Paper on mobile health (2014) addresses the potential benefits and risks of health apps, questioning how to verify or ensure the efficacy of health apps (e.g. certification schemes) and how to better inform users on the quality and safety of these apps
- The Communication on enabling the digital transformation of health and care in the Digital Single Market (2018) highlights "digital tools and data for citizen empowerment and person-centred care" as a key priority and proposes **common principles and certification** to facilitate supply of these tools, also by Small and Medium-sized Enterprises
- CEN-ISO/TS 82304-2:2021 (health and wellness apps quality and reliability), an assignment from the European Commission to the European Committee for Standardization (CEN), International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), delivers a common health app assessment framework and label
- The Proposal for a Regulation on the European Health Data Space (2022) calls for voluntary labelling of wellness apps (Article 31) and a cascading effect in medical devices that aim to be interoperable with Electronic Health Record systems



L2E: CEN-ISO/TS 82304-2:2021 helps choose apps



Main AIM: framework CEN-ISO/TS 82304-2:2021 experimentation on stakeholder to assess App quality (wellness & Health)

Comprehensive For wellness and medical device apps, not duplicating notified bodies

Evidence-informed EU energy level recognised and used by 85% EU consumers

Inclusive Label tested by people with low health literacy

Informative Displayed as a score – accompanying report provides more details

Proportionate At most 81 questions, of which at most 67 score-impacting yes/no questions

Testable Yes-answers require evidence to be assessed by accredited app assessors

Relevant Founded in a Delphi study with 83 experts from 8 stakeholder groups *Global Quality Indicator*

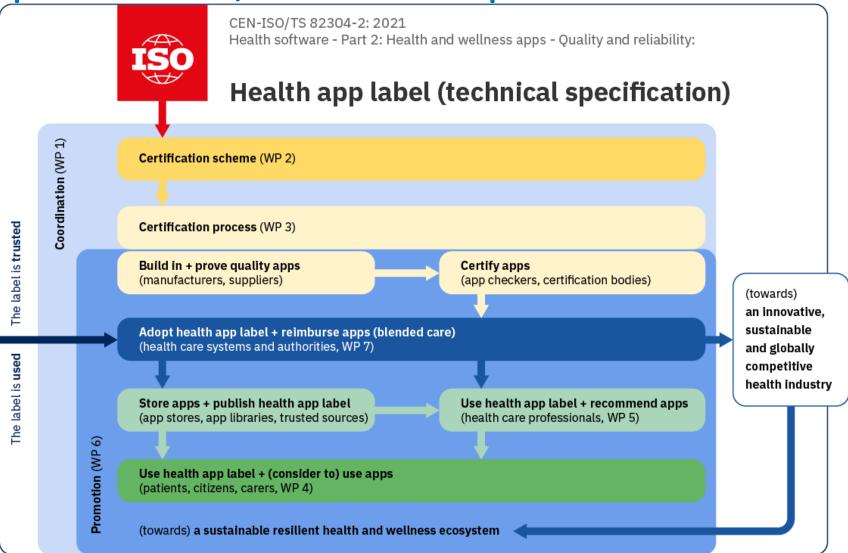


Who can benefit from CEN-ISO/TS 82304-2:2021?





L2E: Project pillars: trust, use and adoption





Label2enable

Project pillars: trust, use and adoption

TRUST Test handbook for accredited health app assessors

Co-create the trusted EU certification scheme (handbook for accredited health app assessment):

- Test scheme with 24 manufacturers and 5 app assessment organisations for consistency and efficiency
- Align assessment methods and pass/fail with EU legislation, EU values and stakeholder trust
- Analyse business models for app assessment and existing label legislations for applicability

USE Addressing citizens' and health care professionals' needs

Co-create the communication citizens and health care professionals need:

- Survey whose recommendations on health apps citizens trust and what health professionals need to recommend health apps
- Test how to introduce the label with people with limited health literacy
- Propose level of detail health app quality report
- Test label display in app stores, app libraries and trusted sources

ADOPTION Promoting uptake by health care authorities and systems

Co-create a single market (cross country recognition of EU certification scheme):

- Involve relevant stakeholders through various channels
- Document 'use stories' of pilots with CEN-ISO/TS 82304-2 in Italy, Catalonia, the Netherlands, Norway, ..
- Explore with health insurers and health technology assessment bodies how the ISO assessment framework can help in decision-making on reimbursement of health apps





Mission: Facilitate active collaboration of EU critical Infrastructure



Improving critical infrastructures through collaboration, strategy and technology

SUNRISE aims to ensure greater availability, reliability, and continuity of critical infrastructures including transport, energy, water, and healthcare to safeguard Europe's lifeline services in pandemics and other major threats. ISS CI: Covid – 19 Surveillance by GIS Appliction for Wastewater plants network in Italy used to find Virus genomic copies and Variants



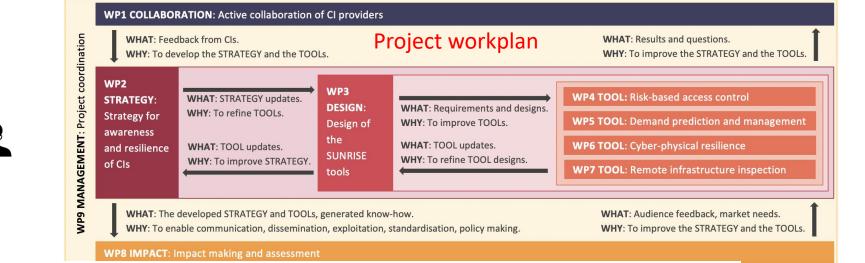
Project SUNRISE

Partner	Country	Partner	Country	Partner	Country	
ATOS (C)	ES	Ministry Infrastr	SI	Trieste Transport	IT	
INTRASOFT INT.	LU	Univ. Med. Cent	SI	CAFC (Water Op)	IT	
XLAB	SI	Teleko Slovenije	SI	Elec Coor Center	RS	
UPM	ES	ELES (Electr. Op.)	SI	Munic Jerusalem	IL	
INSIEL	IT	Sloven. Railway	SI	Port Maritime	FR	
SQUAREDEV	BE	S.Railway Infrastr	SI	Bordeaux		
IMA	CZ	Inst Traffic Trans	SI	Estonian Supply	EE	
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Project SUNRISE OBJECTIVES:

- Facilitate active collaboration among CIs within and across European borders, within and across different sectors, between public and private stakeholders
- Identify pandemic-specific vital services and CIs in Europe, their interactions and dependencies, the risks and cascading effects among them, and effective countermeasures at European level.
- Develop a comprehensive strategy and a set of mature technologies for CI resilience and business continuity in a pandemic.
- Pilot the new strategy and technologies in real-world conditions across Europe.
- Enhance knowledge, awareness, and capacities for unity and resilience in Europe.





TEF Health

Testing and Experimentation Facilities for Health AI and Robotics

GERMANY

TEF-Healt

(Promote services for SME)



<u>https://www.iss.it/centro-nazionale-per-le-tecnologie-innovative-in-sanita-pubblica</u> National Center for Innovative Technologies in Public Health



SLOVAKIA

TEF-Health Testing and Experimentation Facility for Health Al and Robotics



DIGITAL

TEF-Health develops a reference testing and experimentation facility (TEF) with a threefold Objective:

- (1) Carrying out tests and experiments of AI solutions in real or realistic environments;
- (2) Implementing evaluation activities to facilitate market access for trustworthy intelligent technologies considering regulatory requirements (certification, standardization, code of conduct), and ensuring easy access to these resources (link with digital innovation hubs); and (3) Optimizing investments by capitalizing on past investments.

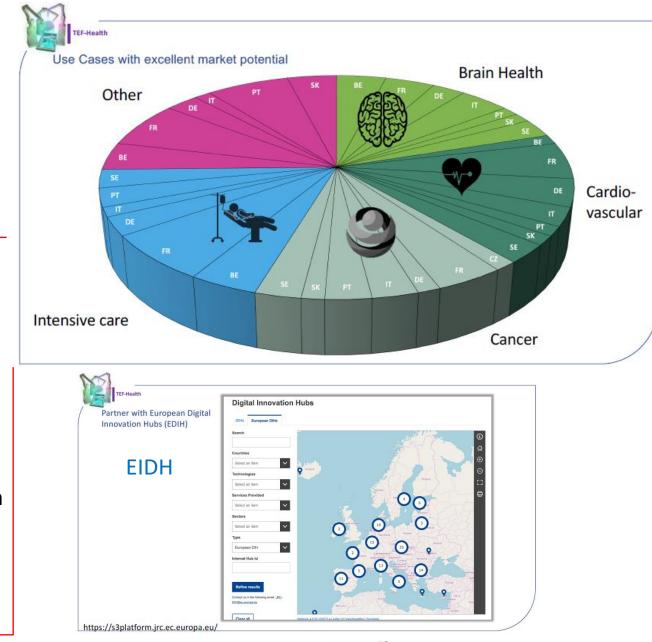
TEF-Health will generate Impact by increasing effectiveness, resilience, sustainability of health systems, reduce inequalities; and ensure compliance with legal, ethical, quality and interoperability standards.



TEF Health

Outcome and KPIs

- Foster state of the art AI and robotics in healthcare
- KPIs:
 - Number of TEF users served (target: N500, 80% SMEs)
 Percentage of cross boarder participation (target: 70%)
 - Number of solutions tested (target: N500)
 - At least started CE marking procedure or certification (target 50%=N250)
 - Brought to market (target 2% = N5)
 - Adopted by health providers (target 2% = N5)
 - Added value for end users





TEF Health: WPs

