



 **ROPHET**

a PeRsOnalized Prevention roadmap  
for the future HEaLthcare

# PROPHEt Results: The Strategic Research and Innovation Agenda (SRIA) and Roadmap on Personalized Prevention

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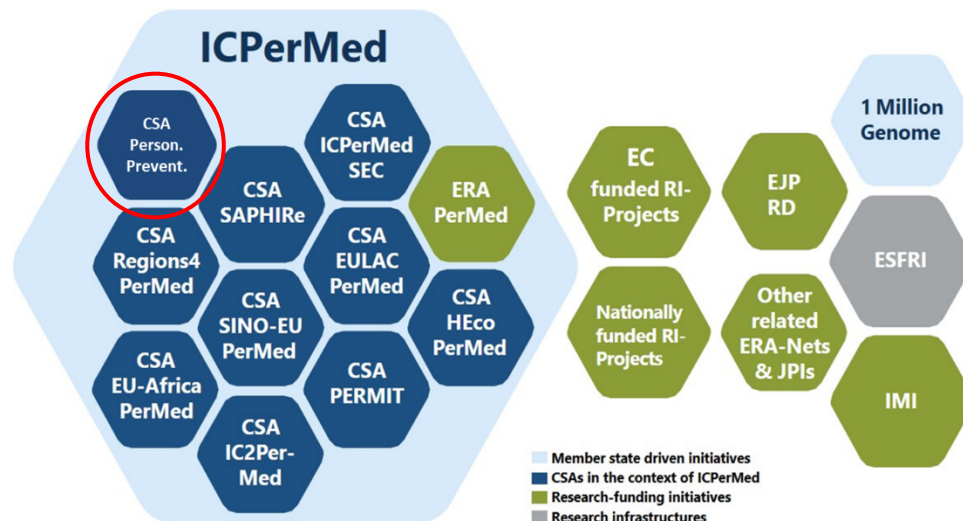
PROPHEt is funded by the European Commission under the Horizon Europe research and innovation programme under Grant Agreement N°101057721

The overall objective of PROPHET is **co-create with stakeholders a Personalized Prevention Roadmap related to a Strategic Research and Innovation Agenda (SRIA) for the future healthcare, in order to support the definition and implementation of innovative, sustainable and high-quality personalized strategies that are effective in preventing chronic diseases.**

The Project “A PeRsOnalized Prevention roadmap for the future HEalThcare (PROPHET)” has received funding from the European Union’s Horizon Europe programme (Grant Agreement n. 101057721)



Funded by the European Union



- European Union: Horizon - CSA Staying Healthy (2021) (HORIZON-HLTH-2021-STAYHLTH01)
- Consortium: 18 partners
- Starting Date : September 1st, 2022
- Duration : 48 months



# PROPHET Definition of Personalized Prevention

OPEN

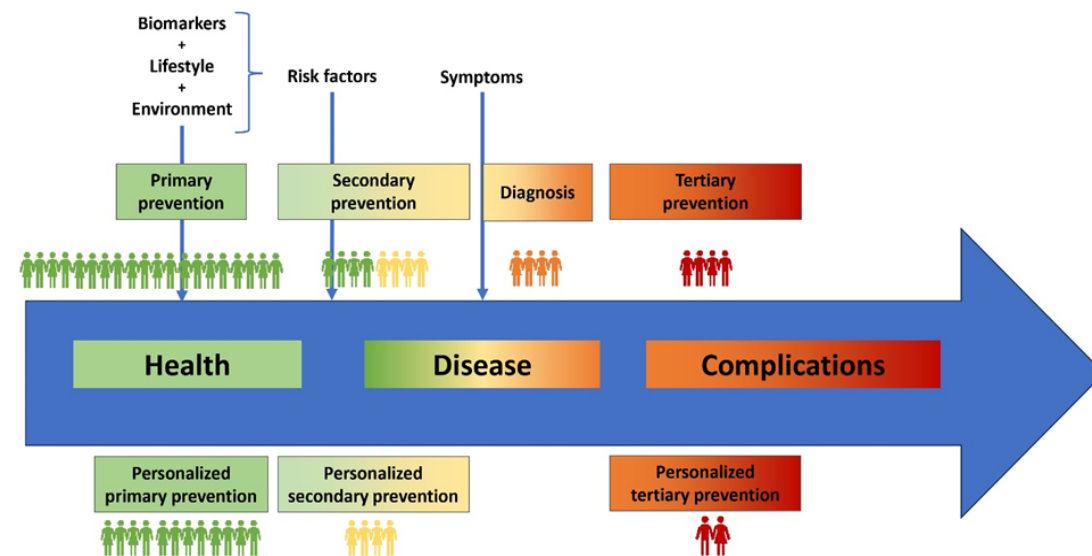
Editorial 387

## The PROPHET project paves the way for personalized prevention in the future healthcare

Roberta Pastorino<sup>a</sup>, Angelo Maria Pezzullo<sup>a</sup>, Tommaso Osti<sup>a</sup>, Roza Adany<sup>b</sup>, Pascal Borry<sup>c</sup>, Floris Barnhoorn<sup>d</sup>, Eva Fadil<sup>e</sup>, Mark Kroese<sup>f</sup>, Andres Metspalu<sup>g</sup>, Beatriz Perez-Gomez<sup>h,i</sup>, Markus Perola<sup>l</sup>, Daniela Quaggia<sup>k</sup>, Serena Scollen<sup>l</sup>, Mahsa Shabani<sup>m</sup>, Stefan Swartling Peterson<sup>n</sup>, Carla van El<sup>o</sup>, Astrid Vicente<sup>p</sup> and Stefania Boccia<sup>a,q</sup>

European Journal of Cancer Prevention 2024, 33:387–389

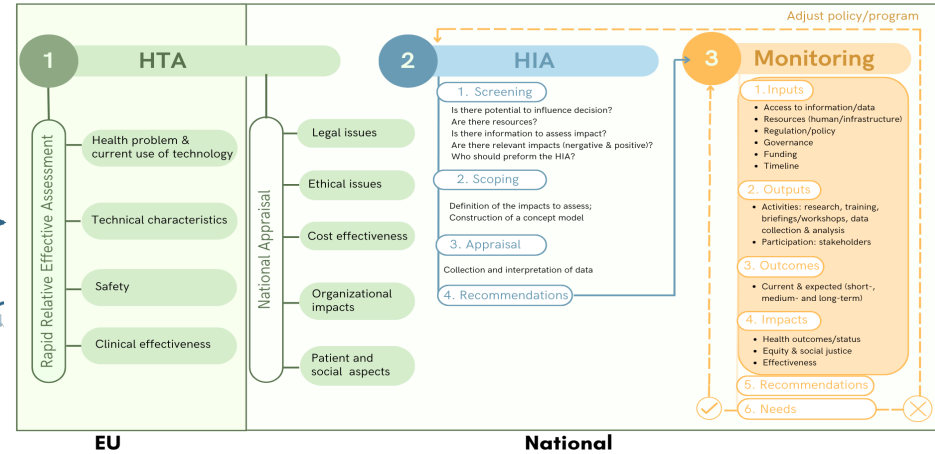
UK, <sup>m</sup>Department of Criminology, Criminal Law and Social Law, University of



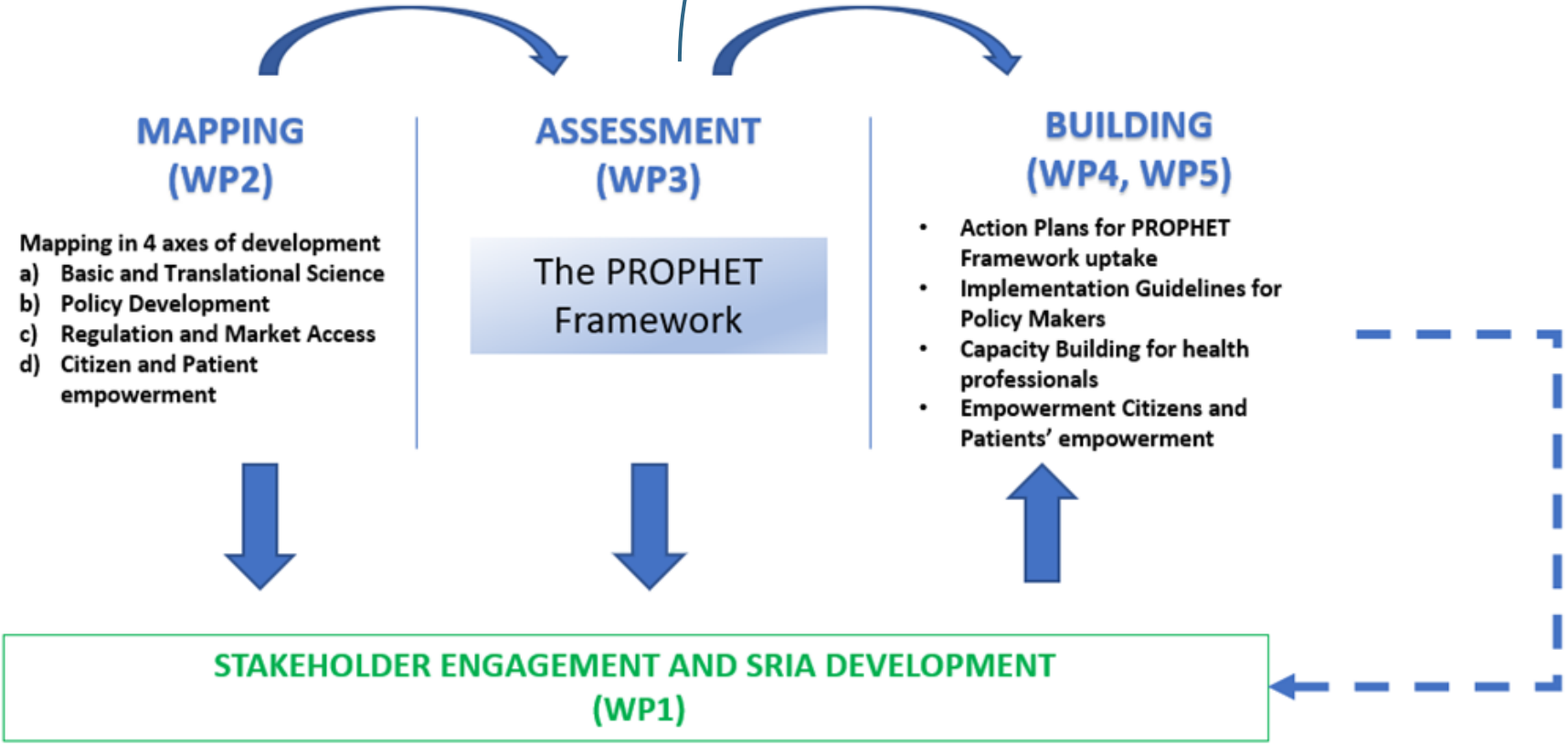
*“Personalised prevention aims to prevent onset, progression and recurrence of diseases through the adoption of targeted interventions that consider the biological information\*, environmental and behavioural characteristics, socio-economic and cultural context of individuals. This should be timely, effective and equitable in order to maintain the best possible balance in lifetime health trajectory”, Pastorino et al. Eur J Cancer Prev 2024*



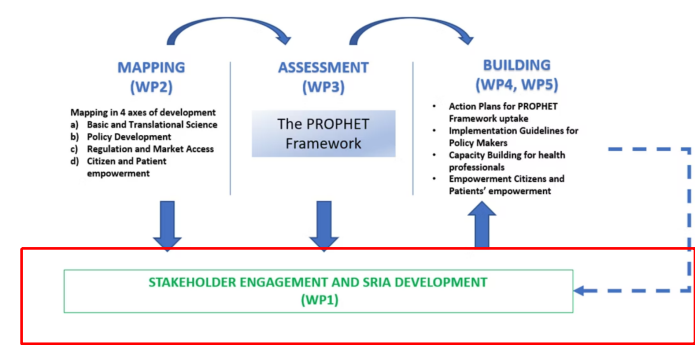
Mapping Results



## PROPHET Methodology



# The development of the SRIA



The **Strategic Research and Innovation Agenda** is the strategic document whose primary objective is to guide research, innovation, and policies toward the adoption of sustainable and highly effective personalized approaches aimed at the prevention of chronic diseases

### Concept paper on SRIA

Check out the new **PROPHET Publication** "Concept paper on Strategic Research and Innovation Agenda (SRIA)"

**October 2023**

### SRIA first version

**PROPHET Stakeholder Session in Stockholm**

On October 1 2024, PROPHET hosted first workshop with stakeholders using the "World Café" format, bringing together a diverse group of stakeholders to address the nine challenges highlighted in the draft SRIA. The SRIA identified nine major challenges, along with specific objectives and concrete actions to address them, including assigned

**October 2024**

Public  
Consultation

**And in between**

- 5 rounds of internal revisions
- A workshop on Pharmacogenomics

**October 2025**

### SRIA final version

**Stakeholder Session during the PROPHET workshop: Join us!**

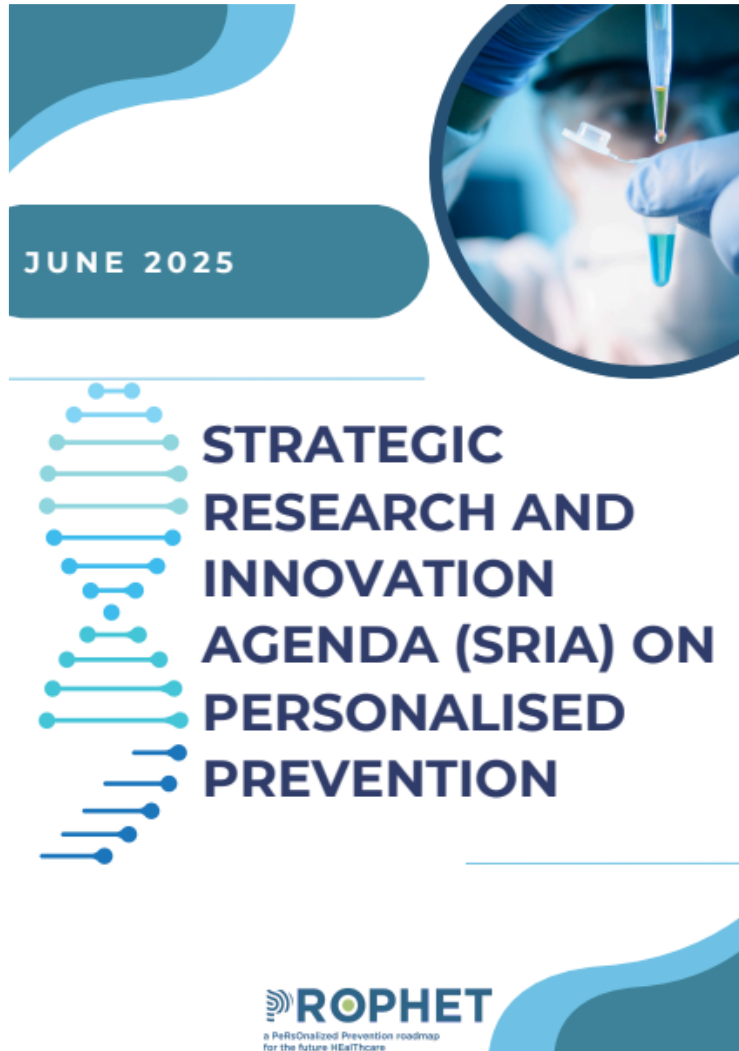
Don't miss the upcoming Stakeholder Session organised in the framework of PROPHET, taking place on 6 October 2025, from 15.30 to 18.00, in Amsterdam (The Netherlands). It is also possible to follow it online. The workshop will include group discussions and presentations and the primary aim of this session is to

**October 2025**

### SRIA and Roadmap presentation

**March 2026**

# Results – The PROPHET SRIA




- The SRIA of PROPHET defines **10 challenges** on the scientific, ethical, societal, organizational, policy dimensions around personalized prevention.
- Every challenge identifies the **current status, gaps, and priorities** and **implementation, and considerations**
- While the SRIA acknowledges the importance of diverse domains in defining personalised interventions, it **mainly concentrates on the development related to the omics sciences** and among these, **genomics that represents the most mature field** in terms of real-world application and available evidence and thus provides the primary examples on which PROPHET has built its considerations of clinical utility and implementability, albeit acknowledging existing limitations

Challenge 1 : The broad scope of promotion and prevention	Challenge 6 : Health Professionals and Policy Makers involvement
Challenge 2: Continuous evidence synthesis system supporting personalised prevention	Challenge 7: Regulatory aspects and synergy with private sector
Challenge 3: The PROPHET Framework implementation	Challenge 8: Access, Equity and Coverage
Challenge 4: Data collection & integration, & Data Infrastructure	Challenge 9: Ethical, Legal, Social Issues (ELSI)
Challenge 5: Community Engagement and trust	Challenge 10: Changing behaviour

# The need of a Roadmap

To address the SRIA challenges, PROPHET has developed a Roadmap for personalized prevention, which is part of the actions outlined in the **Europe's Beating Cancer Plan 2021–2025**.

Europe's Beating Cancer Plan: Implementation Roadmap  14

ACTION	2021	2022	2023	2024	2025
30.4 SAMIRA: Equal access to modern technology and interventions	EU support for implementation of <a href="#">Council Directive 2013/59</a> Euratom's requirements for medical equipment		Cover radiation technology in cancer plans	Publication of study results and guidance document (Q2-Q3 2024)	
30.5 SAMIRA: EU research and innovation support	Research roadmap development (Ongoing <a href="#">EURAMED Roc-n-roll</a> project)		Research roadmap delivered	Roadmap implementation	
31.1 Set up Horizon Europe Partnership on Personalised Medicine	Preparatory actions	Call launched under Horizon Europe	<a href="#">Partnership on Personalised Medicine</a> launched	Yearly calls launch, projects	
31.2 Roadmap to personalised prevention	Call launched	Start of development, first project launched under Horizon Europe		Launch of first call for multinational research projects (Q1)	
32.1 Launch 'Genomic for Public Health' project	Call launched	Preparatory work on EU Cancer and Public Health Genomics platform Project <a href="#">CAN.HEAL</a> launched in November		Project ongoing	Platform operation
32.2 <a href="#">1+ Million Genomes Initiative</a>	Technical proof-of-concept, call publication for data infrastructure deployment	<a href="#">Genomic Data Infrastructure (GDI)</a> deployment project launched under Digital Europe, catalogue of genomic datasets legal/ethical analysis	Data integration and quality guidelines, data access governance, further development towards sustainability and scale-up, technical readiness of a group of more mature countries		Further expansion to at least 16 countries to operate the data platform by 2025



**Europe's beating cancer plan**

#EUCancerPlan #HealthUnion



# Results – The PROPHET Roadmap

The **Roadmap** translates the SRIA *challenges* into a **concrete actions**, defining timelines, responsible actors and measurable outcomes

- **Goal** → the strategic objective to be achieved
- **Actions** → steps to reach the goal, organised by timeline
- **Responsible actors** → who should take action  
(EU/National/Regional)
- **Obstacles / Enablers** → barriers to overcome and conditions that can facilitate progress
- **Outcomes** → expected results and impact
- **Other EU initiatives with the same objective** → to synergise
- **Funding Sources** (EU, National, regional/Public, Private, other)
- **Output Indicators** → how to measure progress



# SRIA and Roadmap Fact-sheets

**SRIA**



**Roadmap**



# The Roadmap: Challenge 1

## 1 The broad scope of promotion and prevention

**ciber | ESP**  
CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED  
Epidemiología y Salud Pública



### *Gaps*

- Healthcare systems still oriented toward treatment rather than prevention
- Weak coordination between healthcare and other sectors
- Fragmented and non-continuous preventive interventions



### *Objectives and priority actions*

1. Strengthen governance of health determinants across sectors
2. Balance awareness and investments between prevention and care



Launch territorial pilot projects integrating health, labour, education, and environment

Implement funding programmes for research to generate evidence and demonstrate value of prevention

# The Roadmap: Challenges 2-3

2

## Continuous evidence synthesis system supporting personalized prevention



### Gaps

- Limited availability of evidence on clinical utility and cost-effectiveness
- Lack of standardized criteria and frameworks to evaluate and categorize evidence



### Objectives and priority actions

1. Establish a common Standard for assessing the clinical utility of omics-based approach
  2. Guarantee the availability of high-quality and up-to-date curated evidence to support PP
- 
1. Develop an evidence classification framework on clinical utility to tier the evidences
  2. Create an evidence curation team to manage and maintain a database under the guidance of an expert panel

3

## The PROPHET Framework implementation



### Gaps

- Lack of shared criteria for assessing the impact of personalized preventive strategies

### Objectives and priority actions

1. Create a network in support of the implementation of evidence-based personalized prevention approaches
- 
- Engage Ministries and national institutes to be enrolled as partners in the network; Agree on the Network's scope & goals

# The Roadmap: Challenge 4

4

## Data collection, integration and infrastructure



### Gaps

- Data are collected in heterogeneous and non-interoperable systems
- Regulatory and organizational barriers limit data sharing across institutions and Countries



### Objectives and priority actions

1. Standardize data structures across research and healthcare sectors
2. Enhance data discovery, accessibility and quality of genomic and health data.



Develop and implement harmonized standards for genomic, clinical, and wearable data, in collaboration with scientific communities

Implement metadata standards and data cataloguing practices to make datasets more transparent and easier to find

# The Roadmap: Challenges 5-6

5

## Community engagement and trust



### Gaps

- Low health, 'omics and digital literacy levels, hindering understanding and participation

### Objectives and priority actions

1. Prioritise and improve community engagement



Identify relevant communities that could play a key role in promoting personalized prevention

6

## Health professionals and policy makers involvement



### Gaps

- Insufficient training of healthcare professionals and limited translation of evidence into policies

### Objectives and priority actions

1. Appropriate training of non-genetic health care professionals for efficient stratification in primary and secondary prevention where relevant



Develop and implement personalized prevention training for non-genetic health care professional

# The Roadmap: Challenges 7-8

7

## Regulatory aspects and synergy with private sector



### Gaps

- Regulatory heterogeneity and fragmented public-private collaborations across the EU

### Objectives and priority actions

1. Promote innovation in personalised prevention by leveraging the technological expertise of private sector partners



Encourage private-sector engagement through incentives for example tax benefits, funding opportunities, and exclusive research collaborations

8

## Access, equity and coverage



### Gaps

- Territorial inequalities in access to services and limited involvement of vulnerable populations

### Objectives and priority actions

1. Ensuring sustained investment in prevention programmes



Implement funding programmes for patient/citizens involvement in research to ensure equity and accessibility of prevention to all

# The Roadmap: Challenge 9

9

## Ethical, legal and social issues (ELSI)



### *Gaps*

- Non-uniform application of the GDPR across countries for data sharing
- Risk of discrimination related to genetic and socio-economic information

### *Objectives and priority actions*

1. Strengthen public trust and prevent discrimination in personalised prevention
2. Ensure data protection and responsible use of health data



Implement safeguards against misuse, promote inclusive communication strategies

Implement regulations on data sharing, standardise data formats

# The Roadmap: Challenge 10

10

## Changing behavior



### Gaps

- Risk communication alone is insufficient, with temporary or absent effects
- Psychological and socio-economic barriers limit the adoption of healthy lifestyles
- Limited investment in continuous behavioral support pathways



### Objectives and priority actions

1. More research is needed on acceptability, ethics and effectiveness of information and health-related pharmacogenomics and lifestyle-related advice based on genetic susceptibility
2. Personalized prevention should target non-affected family members of affected individuals



Research on acceptability, ethics and effectiveness of information and health-related choices on pharmacogenomics and lifestyle-related advice based on genetic susceptibility

Develop strategies/ tools respecting confidentiality to inform family members

# What's next? PROPHET Building Phase

*SRIA and the Roadmap define not only what to do, but also how to do it*

The PROPHET project is now entering the **building phase**, in which the recommendations of the SRIA and the Roadmap will be translated into **practical implementation** within healthcare systems.

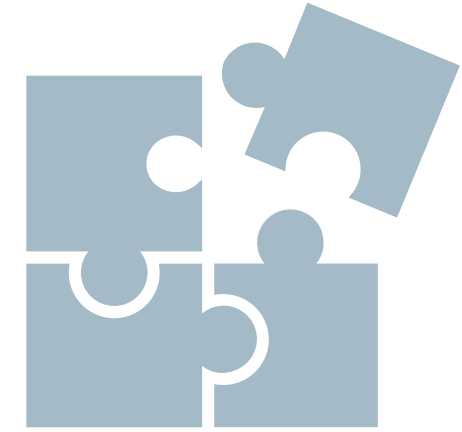
National Action Plans will be developed to test the adoption of the PROPHET framework in **Countries with different healthcare systems**, such as Italy, in order to assess **feasibility, transferability and sustainability** in real-world settings

Building on the SRIA and the Roadmap, a European Implementation Guidance for the use of the PROPHET framework, will be produced to support decision-makers in making personalized prevention a **stable component of public health strategies**

*Action Plans results **inform** European Implementation Guidance*



*Personalized prevention does not replace traditional prevention at community level, rather it complements it*



- It is not a technological issue, but one of **organization and culture**
- The **PROPHET** project provides a **structured guide** to support European healthcare systems in this transition.
- The current challenges aim to ensure that implementation of personalized prevention is **equitable, sustainable and shared**, to **safeguard population health and well-being**



a PeRsOnalized Prevention roadmap  
for the future HEalThcare

The Project “A  
PeRsOnalized  
Prevention roadmap  
for the future  
HEalThcare  
(PROPHET)” has  
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Horizon Europe  
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101057721)



Rome, kick-off meeting, 21-23 September, 2022

Thanks for the attention

