

# The ICPerMed Vision for 2030

How can personalised approaches pave the way to next-generation medicine?

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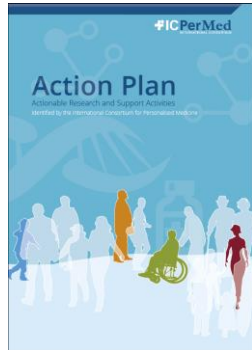
## Context – what is changing in health?

- **Technology:** digital revolution in health; access to and linking of large databases; “omics” technologies; novel computational approaches for analysis and interpretation of complex data;
- **Approach to healthcare:** focus on patient, through extensive individual profiling; drive towards prevention and early intervention;
- **Sustainability of healthcare systems:** increased costs and complexity; better use of resources through prevention, early diagnosis and improved therapeutic efficacy;
- **Societal expectations:** more informed and engaged citizens and patients; expectation of improved health-related quality of life.

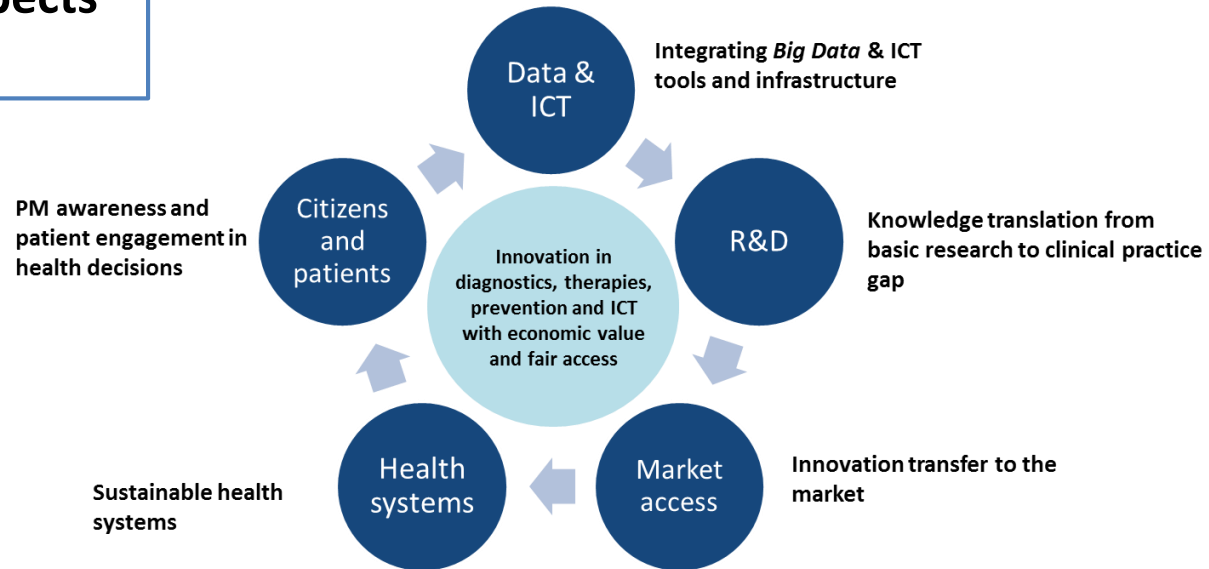
**What will PM look like in 2030? Where do we want to get and what is the path to get there?**

# How personalised approaches pave the way to next generation medicine – a Vision for 2030

**PM challenge topics - all aspects along the value chain**



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# ICPerMed Vision for 2030 – how PM will lead to the next generation of healthcare

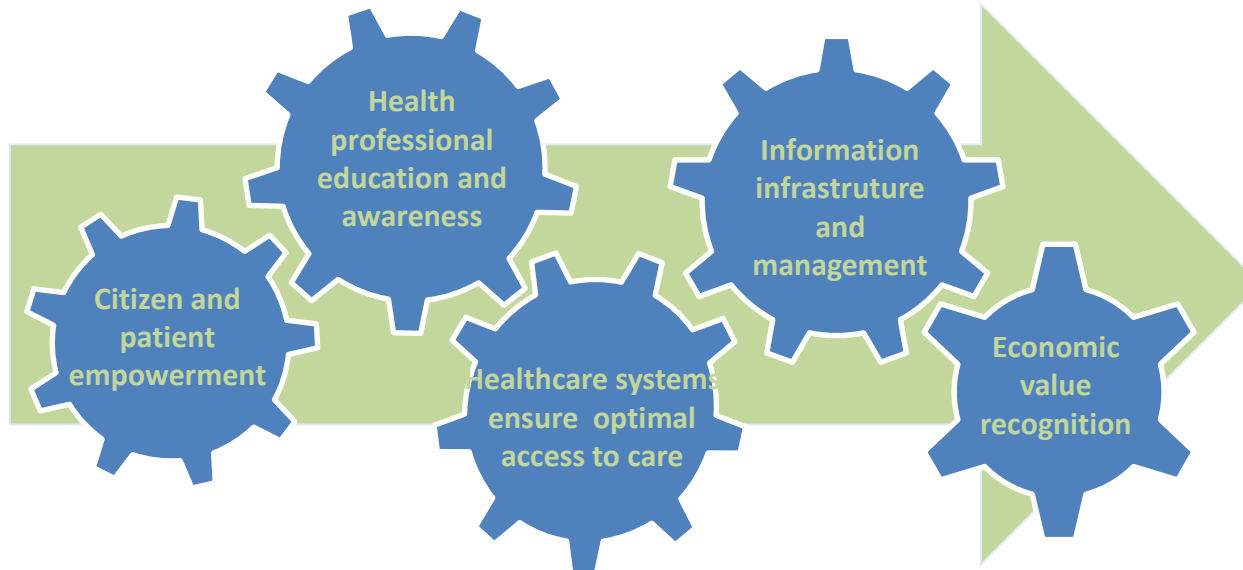
## Premises:

- PM will be implemented as a **medical practice** centred on the **individual's characteristics**, leading to **improved effectiveness** in diagnostics, treatment and prevention, added **economic value** and **equitable access** for all citizens.
- ICPeMed Vision for 2030 is aligned with the **3<sup>rd</sup> Sustainable Development Goal** of the United Nations: **a vision for good health and well-being** for all at all ages, **promoting healthy life styles, preventive measures and modern, efficient health care for everyone.**
- **Advancement** of the biomedical, social and economic **sciences**, together with technological development, is the **driving force for PM implementation;**

# ICPerMed: Developing a vision for the future

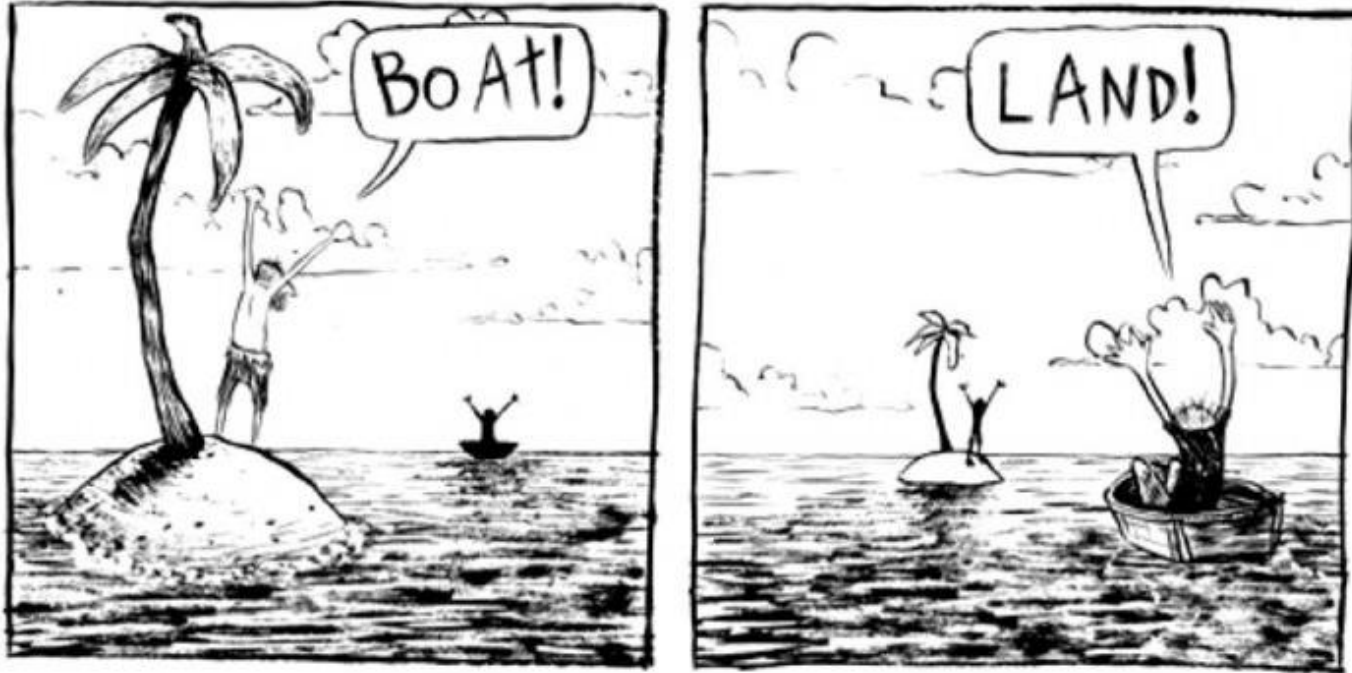


## ICPerMed Vision – five perspectives



**PERSONALISED  
MEDICINE 2030**

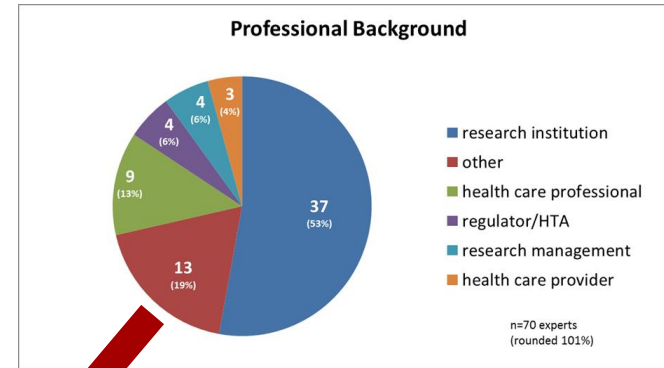
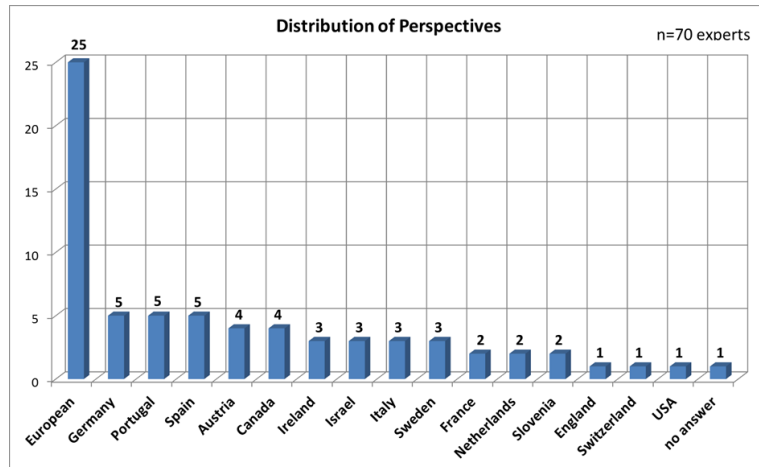
## ICPerMed Vision – five perspectives



**Ask the experts!**

# Vision 2030 – Expert survey

- 97 experts invited, 72% completed the survey
- 99% fully completed



Organisation	quantity
<b>Patient organisations:</b>	
Non-profit patient organization	x1
Patient organization	x1
President patient organization	x1
Research institution and patient association	x1
<b>Other:</b>	
Health care policy	x1
Intergovernmental organisation	x1
International association, not for profit	x1
IT	x1
Non for profit	x1
Patient health policy consultant	x1
Payer	x1
University - research and education - training	x1
Policy advise	x1





# ICPerMed Vision 2030

Perspective 1: Informed, empowered, engaged, and responsible citizens

Perspective 2: Informed, empowered, engaged, and responsible health providers

Perspective 3: Healthcare systems that enable personally tailored health promotion, prevention, diagnosis, and treatment for the benefit of citizens and patients

Perspective 4: Availability and optimal use of health-related information for optimised treatment, care, prevention, and research

Perspective 5: Economic value by establishing the next generation of medicine

DATA &  
TECHNOLOGY

INTERSECTORIAL  
SYNERGIES

HEALTH SYSTEM  
REFORMS

EDUCATION  
& LITERACY

# ICPerMed Vision for 2030 – five perspectives



## Perspective 1: Informed, empowered, engaged and responsible citizens

- Health-related data is controlled by the citizen, including input, monitoring and access;
- Easily accessible, reliable, and understandable sources of health information are available.



## Perspective 2: Informed, empowered, engaged and responsible health providers

- The safe, responsible, and optimal use of health information and research results for PM is routine in the clinic.
- PM requires clinical decisions by multidisciplinary teams that integrate novel health-related professions.
- The education of healthcare professionals has adopted the interdisciplinary aspects of PM.
- Clinicians and researchers work closely to support the rapid development and implementation of PM solutions.

# ICPerMed Vision for 2030 – five perspectives



**Perspective 3: Healthcare systems enable personally tailored and optimised health promotion, prevention, diagnosis and treatment for the benefit of patients**

- Equitable access to PM services for all citizens is a reality.
- PM services are optimised in terms of effectiveness and equity.
- Allocation of resources within healthcare systems is consistent with societal values.
- Secure health data flow from citizens and healthcare systems to regulatory authorities and research is in place.



**Perspective 4: Available health related information for optimised treatment, care, prevention and research**

- Personal data in Electronic Health Records (EHRs) is used by healthcare providers and researchers for more efficient PM.
- Harmonised solutions to ensure data privacy, safety, and security are applied in health-data management.
- Optimised treatment and prevention based on personal data benefit citizens, while minimising costs and risks.

## ICPerMed Vision for 2030 – five perspectives



### **Perspective 5: Economic value by establishing the next generation of medicine**

- A reasonable balance between investment, profit, and shared-benefit for the citizen is a reality for PM.
- Appropriate business concepts and models are in place for PM.
- Telemedicine and mobile solutions promote PM and are of economic value.
- New jobs in healthcare systems are created.



# ICPerMed Vision for 2030 – Crucial pillars for implementation

## DATA & TECHNOLOGY

- **Digital technology ubiquitous enabler of society** – attitudes will change
- EHR + wearable devices – **continuous real time tracking and monitoring** of health
- **Genomic risk estimates complemented by other omics** and other information improve prevention;
- **Artificial Intelligence** for integration of multilevel data; requires **interoperability and harmonization** embedded in healthcare; novel **clinical decision tools**
- **Innovative and flexible** approaches to **ICT** – data management, access, protection and safety, QC and harmonization, sharing

## INTERSECTORIAL SYNERGIES

- **Clinics to research to clinics** – clinics as a rich source of information for research and fast assimilation of research results in the clinics
- Integration of life-style, behavior, socio-economic status, environmental exposure with biomarkers – importance of policies of **other sectors in health**
- **Private sector** – PM driver of innovation and fast technological development aligned with benefits for citizens; novel business opportunities and models

# ICPerMed Vision for 2030 – Crucial pillars for implementation

## HEALTH SYSTEM REFORMS

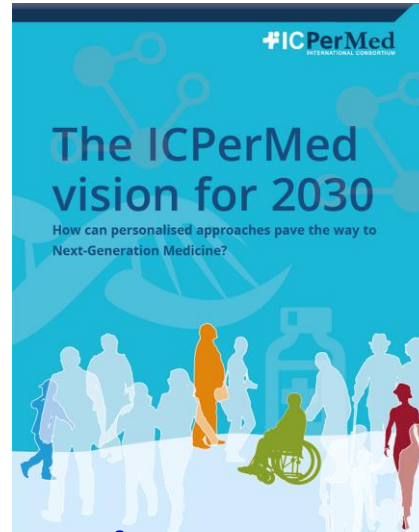
- Shift from **treatment to risk definition** – health promotion and disease prevention strategies reflected in health systems organization
- **Economic sustainability with a societal perspective** – ethics, equity and societal benefits; adequate reimbursement models
- Value of **public ownership of data** for PM benefits
- Need of investment in **tech infrastructure**
- Networking and data sharing platforms facilitate synergies
- **Novel professions, novel working models**

## EDUCATION & LITERACY

- **Value of multidisciplinary** in clinical decisions
- **Health professionals life long education** – digital literacy, interpretation of biological information, data analysis; non-clinical professionals with knowledge about healthcare
- **Citizen literacy** on PM including ethical issues, regulatory issues and data control
- Informed **healthcare managers and policy makers** promote evidence-based policy frameworks to address efficacy, equity and ethics underlying PM approaches



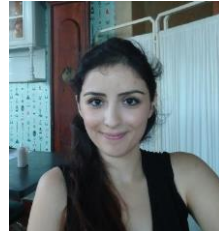
**PM is not so much a paradigm change but the evolution of medicine in a technology, data and information-rich era**



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## ICPerMed Vision 2030 – acknowledgments

- Experts
- ICPerMed Secretariat and Executive Committee
- Writing group:



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**Katja Kuhlmann, Jan-Ingvar Jonsson, Mairead O'Driscoll, Malin Eklund, Wolfgang Ballensiefen**

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## ICPerMed aims:

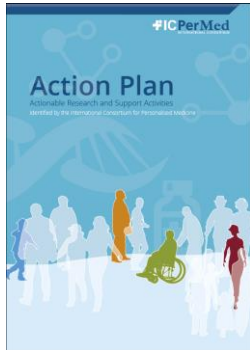
- Establish **ICPerMed members as global leaders** in personalised medicine research
- Support the **personalised medicine science base** through a coordinated approach to **research**
- Support research to investigate **the benefits** of personalised medicine to **citizens** and **healthcare systems**
- Pave the way for personalised medicine approaches for **citizens**

**Platform to support Coordination, Sharing, Collaboration**  
Strategies, Funding, Information, Best Practices

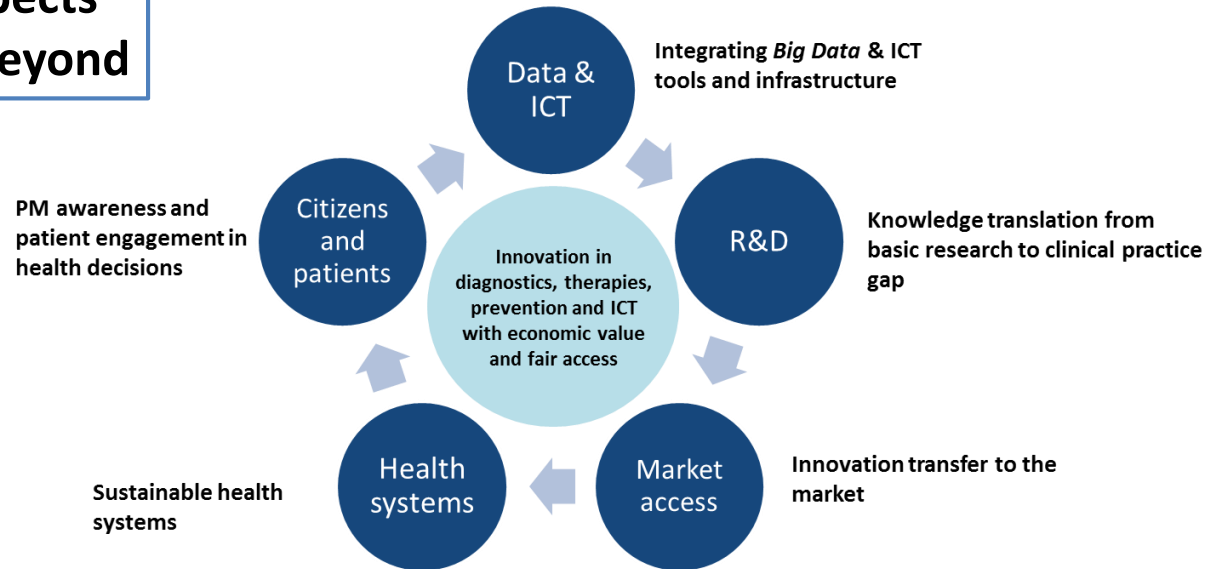


# How personalised approaches pave the way to next generation medicine – a Vision for 2030

**PM challenge topics - all aspects along the value chain and beyond**



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# ICPerMed family and related initiatives

