

The ICPerMed Vision for 2030

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

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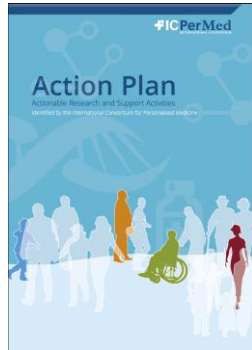
Context – what is changing in health?

- **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.

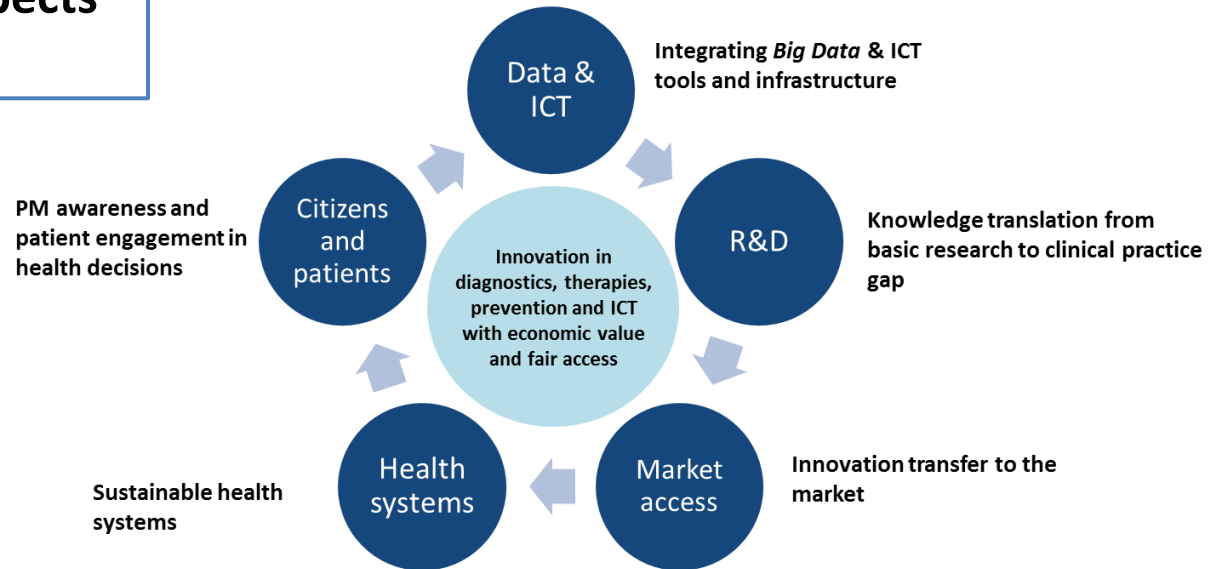
What will PM look like in 2030? Where do we want to get and what is the path to get there?

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

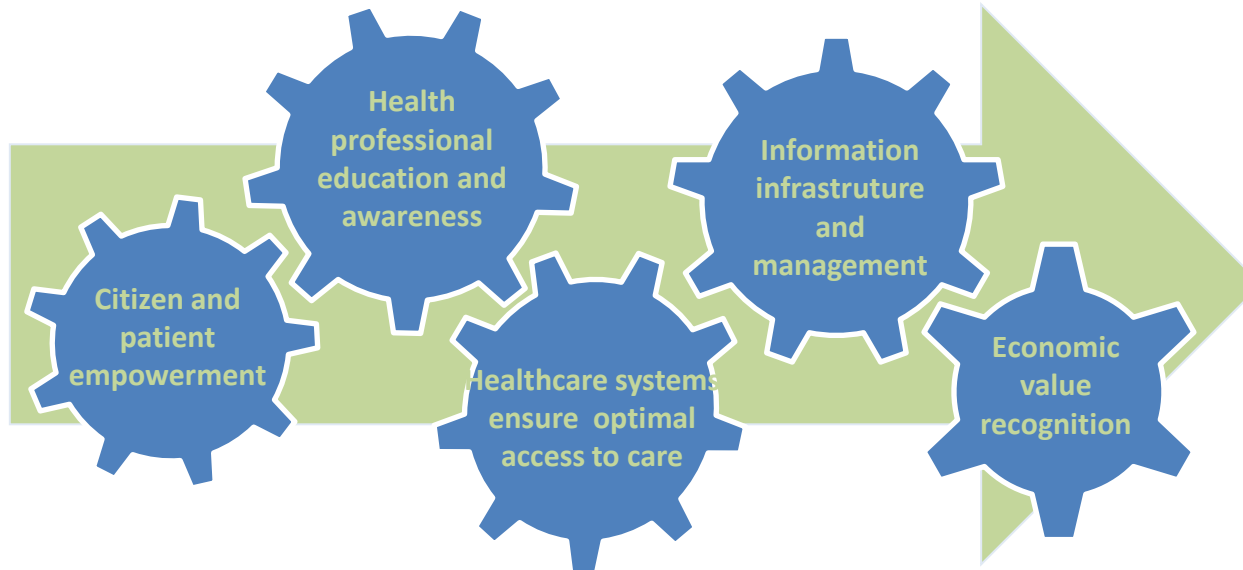
Premises:

- 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 **3rd 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

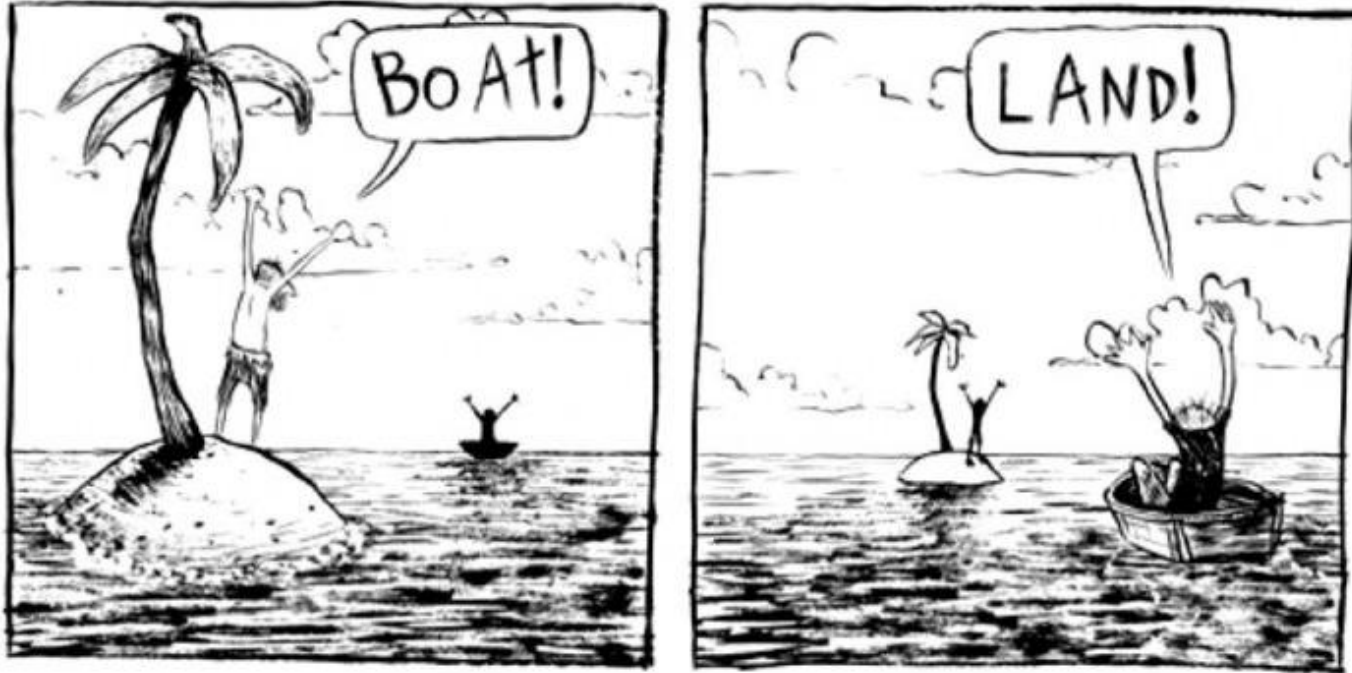


ICPerMed Vision – five perspectives



**PERSONALISED
MEDICINE 2030**

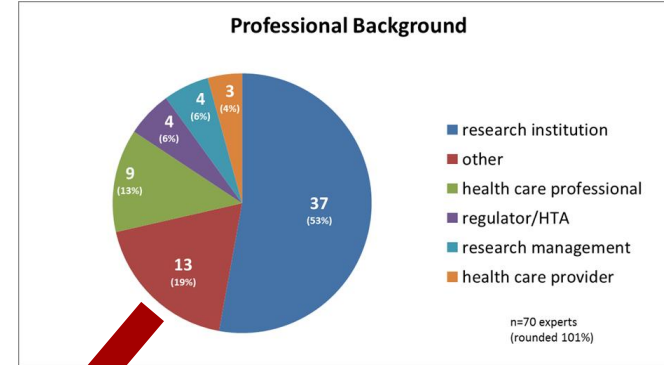
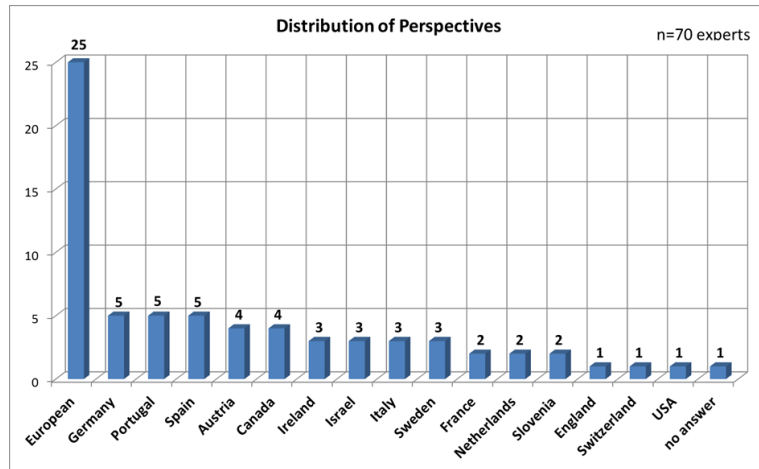
ICPerMed Vision – five perspectives



Ask the experts!

Vision 2030 – Expert survey

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



Organisation	quantity
Patient organisations:	
Non-profit patient organization	x1
Patient organization	x1
President patient organization	x1
Research institution and patient association	x1
Other:	
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

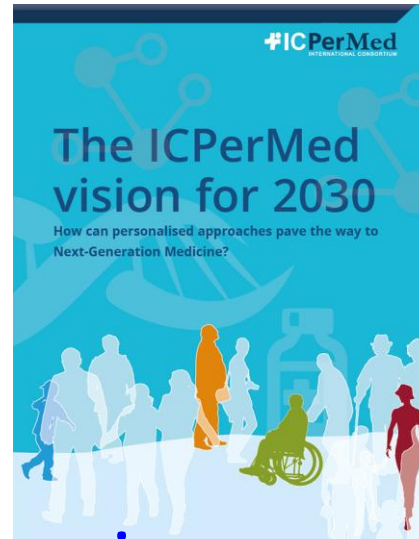
HEALTH SYSTEM REFORMS

- 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

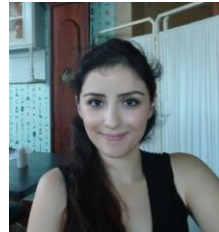
PM is not so much a paradigm change but the evolution of medicine in a technology, data and information-rich era



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ICPerMed Vision 2030 – acknowledgments

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