

## How Personalised Medicine has transformed healthcare by 2030 – The ICPerMed vision

Personalised Medicine (PM) represents an exciting opportunity to improve the future of individualised healthcare, holding many promises for disease prevention and treatment of citizens. There are high expectations for the future that can only be fulfilled when changes occur not only in the health providers' and patients' behavior but furthermore in healthcare systems as such.

The International Consortium for Personalised Medicine (ICPerMed) outlined a vision of how PM will lead to the next generation of healthcare by 2030, therewith asserting PM 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**. The ICPerMed vision aligns with the goals of the **UN 2030 Agenda for Sustainable Development**, which sets out a vision for Good Health and Well Being, promoting healthy life styles, preventive measures and modern, efficient healthcare for everyone. Therefore five perspectives are outlined:

1. Informed, empowered, engaged and responsible **citizens** have control over their health-related data and can access reliable and understandable sources of medical information easily.
2. Informed, empowered and engaged **health providers** with well-educated multidisciplinary teams keep up with the rapid development in PM solutions and use health information and research results safely and responsibly.
3. **Healthcare systems** enable personally tailored and optimised health promotion, prevention, diagnosis and treatment for the benefit of patients by giving equitable access to PM services to all citizens. Thereby the secure health data flow between all involved actors is in place.
4. **Available health related information** for optimised treatment, care, prevention and research is provided when needed. Data privacy, safety, and security are applied in health-data management. Optimised treatment and prevention based on personalised profiles benefit citizens and patients, while minimising costs and risks.
5. **Economic value** is established by innovative medicine, being based on appropriate business concepts, creating new jobs in healthcare systems and taking into account telemedicine and mobile solutions.

In addition, four pillars are decisive for the successful implementation of PM research: 1) data and technology; 2) inter-sectoral synergies; 3) healthcare systems reforms; 4) education and literacy.

It is crucial that policymakers optimise healthcare systems to reflect these changes. The focus needs to shift from treatment to assessing the risk of becoming ill, personalised health promotion and therapy as well as disease prevention strategies. Additionally, in the area of data and technology, international state-of-the-art standards addressing data security, accessibility, storage, and curation are needed as a basis for PM solutions. If policymakers fail to implement the outlined perspectives into practice, they risk that citizens will not receive health care that is equitable and commensurate with the state of research. Furthermore, they will miss the opportunity to create new jobs in the health sector. The ICPerMed vision here was supported by consulting European and international experts, covering key sectors, who fed back on the opportunities and challenges and highlighted specific concerns and possible solutions.

 [The ICPerMed vision was published in its full detail as a white paper, available online.](#)

ICPerMed supports coordinated research directed at the progressive implementation of PM, and has previously developed an Action Plan, defining research activities to stimulate PM adoption in healthcare. Leveraging the Action Plan, ICPerMed members have been successful in establishing PM research and healthcare programs and actions in their own countries and regions. The European Commission already supports many initiatives consistent with the presented vision and, together with ICPerMed, is committed to expanding its efforts globally. The perspectives and transversal issues can further orientate policy makers and guide the healthcare community when planning future programs and activities for PM implementation. ICPerMed will continue to act as a communication platform for existing and future initiatives and organisations related to PM, paving the way towards this vision of PM in 2030.