



# The International Consortium for Personalised Medicine

Monika Frenzel, ANR

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## ICPerMed – an international consortium

- over 30 European and international partners
- representing ministries, funding agencies and the European Commission (EC)
- International consortium model

Aim: to coordinate and foster **research** to develop and evaluate personalised medicine approaches

## ICPerMed Vision Statement:

- Establish **Europe as a global leader** 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**

Research as driver of personalised medicine

## What is Personalised Medicine?

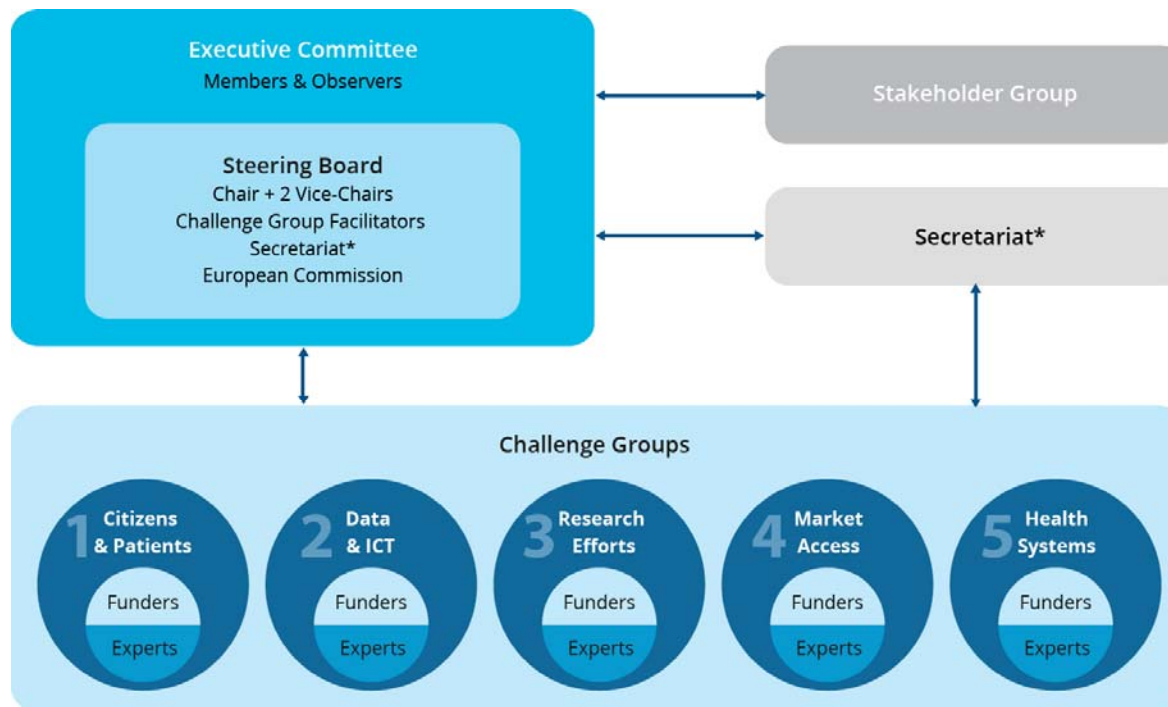
- Why does it happen that a treatment for a certain disease works very well for one person, but poorly or not at all for the next person?
- What does our genetic profile tell us about chances and risks for our health?
- Going even further, how can molecular, clinical or lifestyle data support preventing, diagnosing or treating disease?

## Personalised Medicine – A definition

*PM [ ] “refers to a medical model using  
Characterisation of individuals’ phenotypes and genotypes  
(e.g. **molecular profiling, medical imaging, lifestyle data**)  
for tailoring the right **therapeutic** strategy for the right  
person at the right time,  
and/or to determine the **predisposition** to disease  
and/or to deliver timely and targeted **prevention**”.*

According to: Horizon 2020 and  
European Council Conclusions on personalised medicine for patients (2015/C 421/03)

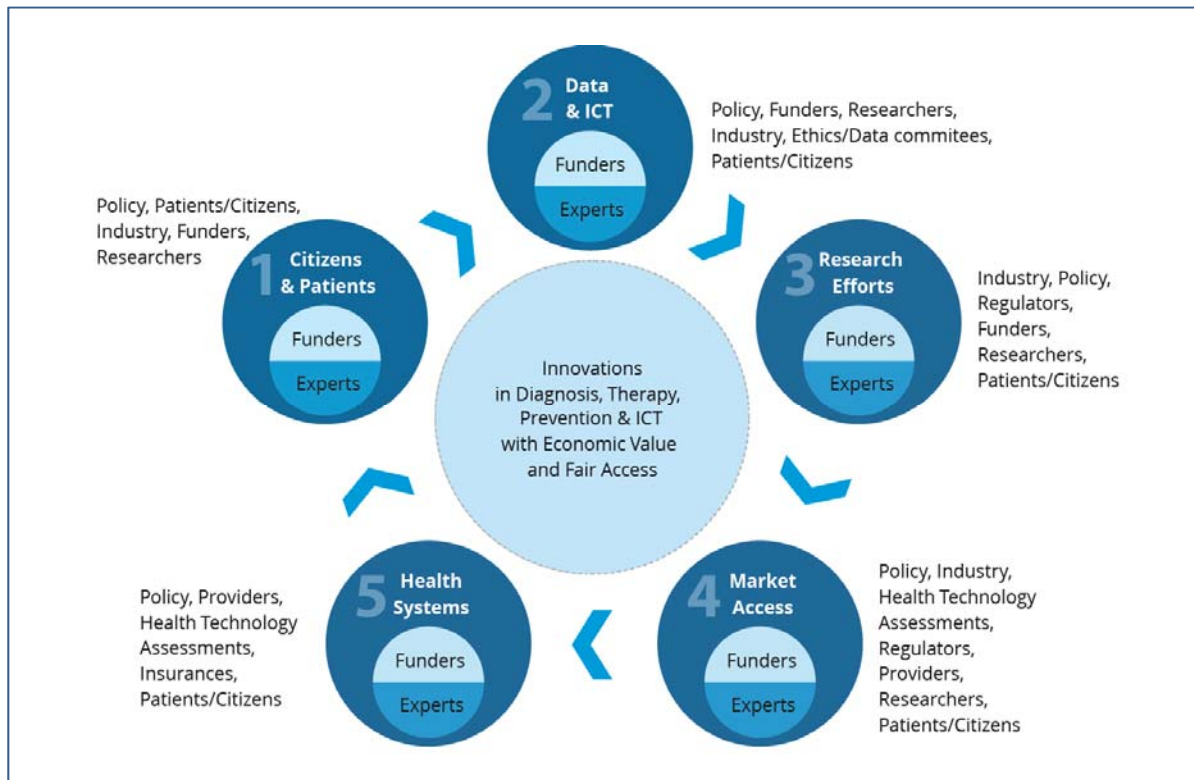
# ICPerMed Governance



\* The Secretariat is a Coordination and Support action funded by the European Union's Horizon 2020 research and innovation programme under grant agreement no. 731366.



# ICPerMed Challenge Groups



Whole healthcare value chain and beyond

1. Citizens and Patients
2. Data & ICT
3. Research Efforts
4. Market Access
5. Health Systems

**Funders & Experts**

# ICPerMed – Development of Action Plan



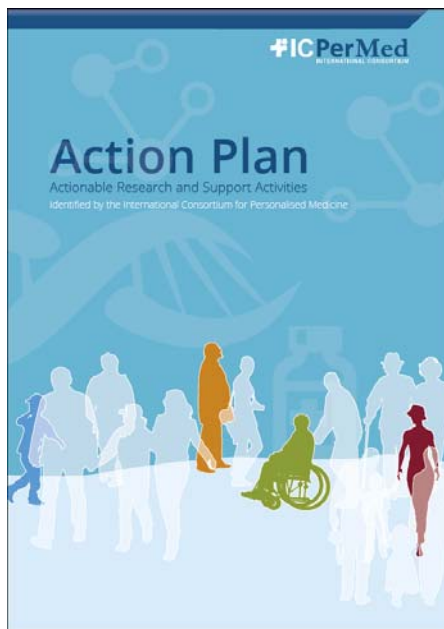


## Goal of ICPerMed: Implementation of the Action Plan

- The resulting Action Plan sets out a discrete set of activities which will form the **basis of the work programme for ICPerMed member organisations over the next two years.**
- It will also feed into the proposed European Research Area Network on personalised medicine (**ERA PerMed**), which should start its work by the end of 2017.

#ERA PerMed

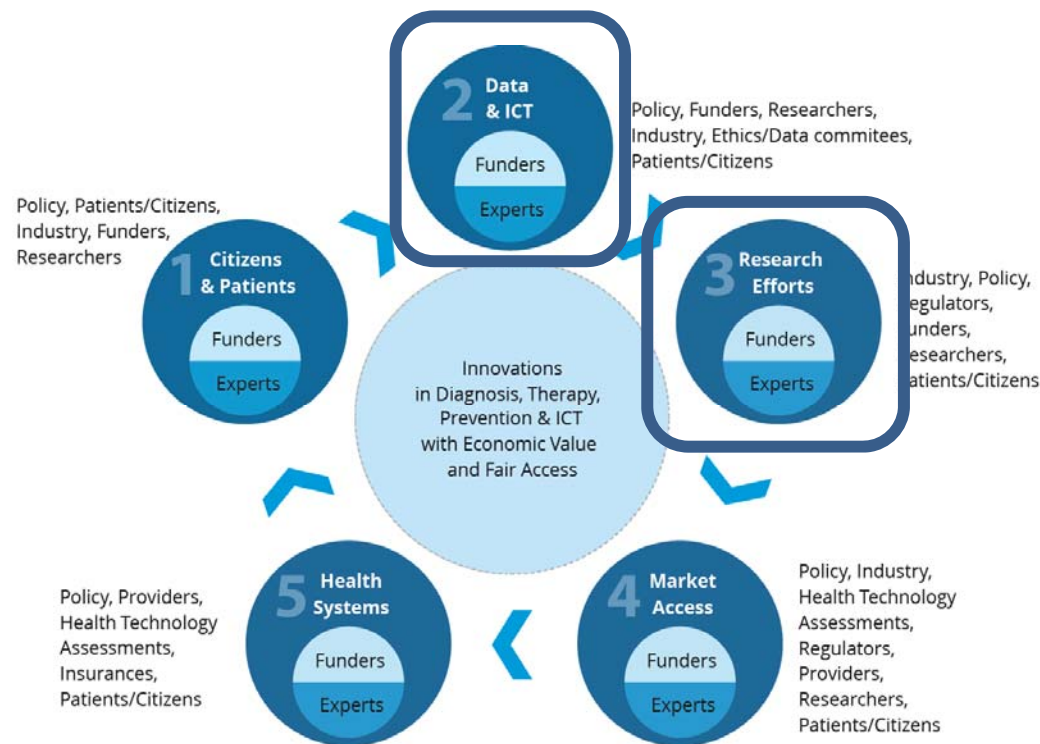
## ICPerMed Action Plan



- Actionable Research and support activities
- Will feed into national and European strategic discussion of research funders

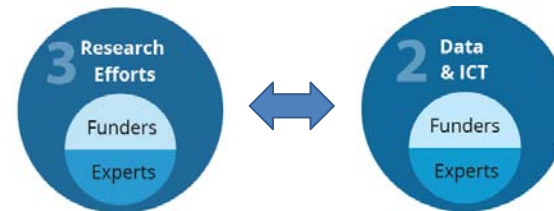
Released in March 2017

## How can we improve the translation of basic research results into clinical research and beyond?



- Challenge 3: Translating basic to clinical research and beyond
- Challenge 2: Integration big data and ICT solutions

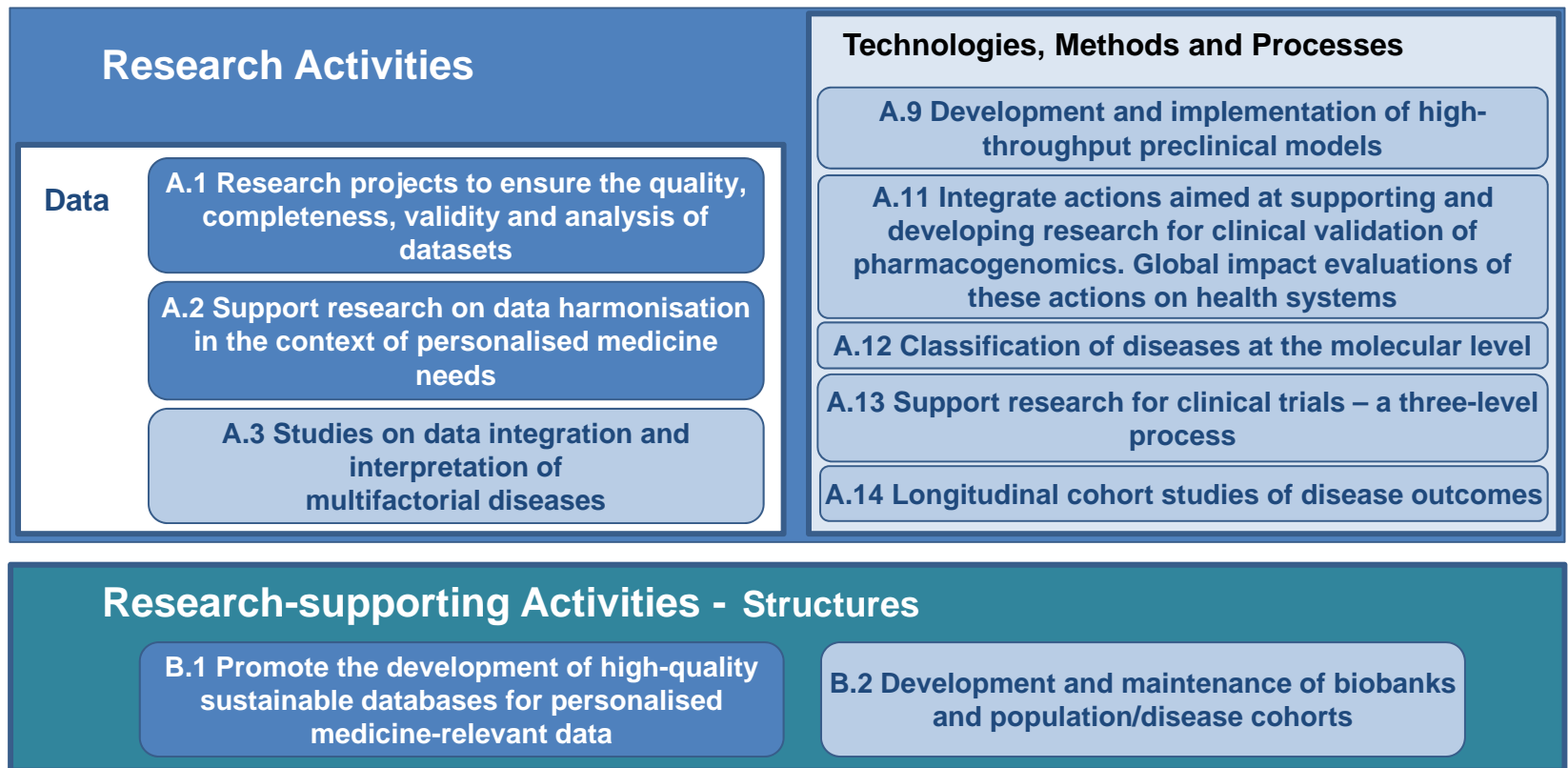
## Translating basic to clinical research and beyond...



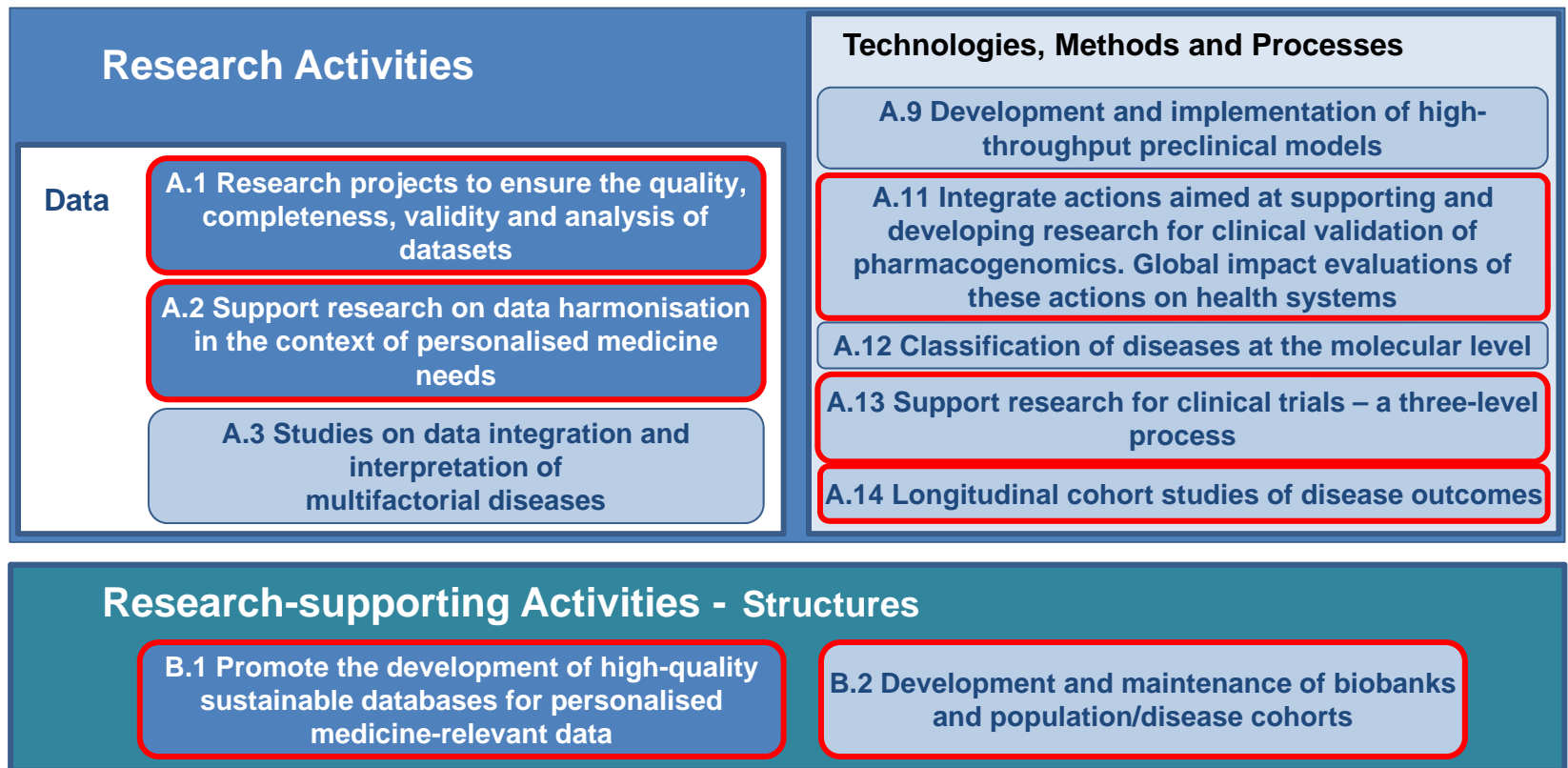
*Consultation of experts in the field of PM:*  
**Identification of potential joint actions in PM that are need to be guided by validated research questions and activities.**

**Extract of this collection and list of research activities and research-supporting activities that are deemed to be “ready for action”.**  
 → Often overlap of actions with other challenges

# Translating basic to clinical research and beyond...



# Translating basic to clinical research and beyond...



# Translating basic to clinical research and beyond...

## Data

### A.3 Studies on data integration and interpretation of multifactorial diseases

Studies on data integration and interpretation of multifactorial diseases that focus on personalised medicine approaches should be supported. These should utilise various datasets – e.g. public data as well as data derived from clinical studies, medical records, etc. and include different forms of mathematical frameworks. Thus, these studies aim to provide successful examples of feasible systems medicine approaches that should result in potential diagnostics or therapeutic candidates for personalised medicine. **Those candidates should reach the level for further preclinical validation (animal, cell culture, etc.) and thus the results can be the basis for future proof of concept studies.**



## Technologies, Methods and Processes

### A.9 Development and implementation of high-throughput preclinical models

Research is needed to develop and implement high-throughput preclinical models including e.g. **animal models**, cell culture models, etc. to **validate hypotheses generated from population, clinical and molecular studies**. The study findings should lead to **functional test models** and tools to understand the phenotypical and functional effects of genomic, epigenomic and metabolomic variation more rapidly and efficiently.

### A.12 Classification of diseases at the molecular level

Actualised classification of diseases at the molecular level is necessary for a successful implementation of personalised medicine. It is necessary to **characterise pathogenic mechanisms at the molecular level**, and **validate them at preclinical and clinical levels**, allowing translation to the diseases level. In parallel, **biomarkers for diagnosis, prognosis, molecular classification and therapeutic response** should be **identified and characterised in animal, preclinical and clinical studies**. Identification of these pathogenic mechanisms and biomarkers will allow further study on modulation effects and lead to recognition of possible new drug targets.

## Database and Partnering tool

- Database on Programs in Personalised Medicine (online 2018).
  - Identification of “Hot Spot” and “White Spots”
  - Open for the interested public (e.g. researchers, patient organizations, etc.)
- Partnering tool
  - <https://partnering.pt-dlr.de/ICPerMed>
  - “...facilitating networking among universities, research and patient organizations, SMEs, industry and all other stakeholders interested in personalised medicine.”



More information about ICPerMed:

[ICPerMed@dlr.de](mailto:ICPerMed@dlr.de)

[www.icpermed.eu](http://www.icpermed.eu)

