HORIZON EUROPE

Investing to shape our future

EU research & innovation activities

HealthyCloud General Assembly
6 October 2023 dissemination event

Arjon Van Hengel. Deputy Head of unit

RTD.D2 unit: Health Innovations & Ecosystems
DG Research & Innovation
European Commission

European Commission

HORIZON EUROPE

EURATOM

SPECIFIC PROGRAMME: EUROPEAN DEFENCE FUND

Exclusive focus on defence research & development

- Research actions
- Development actions

SPECIFIC PROGRAMME IMPLEMENTING HORIZON EUROPE & EIT*

Exclusive focus on civil applications

Pillar I
EXCELLENT SCIENCE

- European Research Council
- Marie Skłodowska-Curie
- Research Infrastructures

Pillar II - €53.5 billion
GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS

Clusters

- Health – €8.25 billion
- Culture, Creativity & Inclusive Society
- Civil Security for Society
- Digital, Industry & Space
- Climate, Energy & Mobility
- Food, Bioeconomy, Natural Resources, Agriculture & Environment

Joint Research Centre

Pillar III
INNOVATIVE EUROPE

- European Innovation Council
- European Innovation Ecosystems
- European Institute of Innovation & Technology*

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

- Widening participation & spreading excellence
- Reforming & Enhancing the European R&I system

EURATOM

- Fusion
- Fission
- Joint Research Center (JRC)

* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

European Commission

Horizon Europe – Cluster 1 „Health“

Strategic Plan 2021-24 (link) → **6 Expected Impacts**

Work Programme 2021-22 (link) → **6 “Destinations”**

1. Staying healthy in a rapidly changing society
2. Living and working in a health-promoting environment
3. Tackling diseases & reducing disease burden
4. Ensuring access to innovative, sustainable & high-quality healthcare
5. **Unlocking the full potential of new tools, technologies and digital solutions for a healthy society**
6. Maintaining an innovative, sustainable & globally competitive health industry

European Commission

HealthyCloud CSA: – Health Research & Innovation Cloud
(01-03-2021 to 30-11-2023)

European Commission workshop – March 2018

Expert opinion paper: 'Towards a European health research and innovation cloud (HRIC)'
Genome Med **12**, 18 (2020).

OPINION Open Access

Towards a European health research and innovation cloud (HRIC)

F. M. Aarestrup[1], A. Albeyatti[2,3], W. J. Armitage[4], C. Auffray[5*], L. Augello[6], R. Balling[7], N. Benhabiles[8*], G. Bertolini[9], J. G. Bjaalie[10], M. Black[11], N. Blomberg[12*], P. Bogaert[13], M. Bubak[14], B. Claerhout[15], L. Clarke[16], B. De Meulder[5], G. D'Errico[17], A. Di Meglio[18], N. Forgo[19], C. Gans-Combe[20], A. E. Gray[21], I. Gut[22], A. Gyllenberg[23], G. Hemmrich-Stanisak[24], L. Hjorth[25], Y. Ioannidis[26], S. Jarmalaite[27], A. Kel[28], F. Kherif[29], J. O. Korbel[30*], C. Larue[31], M. Laszlo[32], A. Maas[33], L. Magalhaes[34], I. Manneh-Vangramberen[35], E. Morley-Fletcher[36,37], C. Ohmann[38], P. Oksvold[39], N. P. Oxtoby[40], I. Perseil[41], V. Pezoulas[42], O. Riess[43], H. Riper[44], J. Roca[45], P. Rosenstiel[24], P. Sabatier[46], F. Sanz[47], M. Tayeb[2,3], G. Thomassen[48], J. Van Bussel[49], M. Van den Bulcke[49] and H. Van Oyen[14,50]

Recommendations

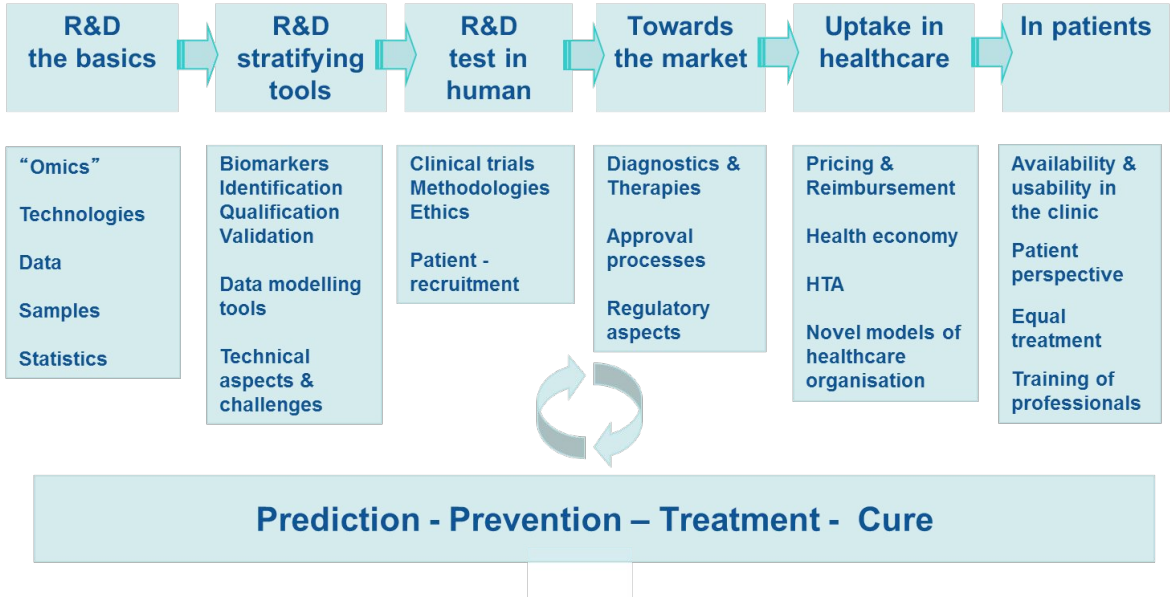
- Provide and foster standards, good practices, and guidelines necessary to establish the European HRIC
- Develop and certify the infrastructure and services required for operation of the HRIC
- Enable the HRIC to operate within an ethical and legal framework that is adequate for health systems
- Establish a proper environment for the training of a new generation of data and medical scientists
- Fund public and private initiatives for the development of the HRIC through EU Framework Programmes (e.g. Horizon 2020 and Horizon Europe).

European Commission

European research on Personalised Medicine

2011

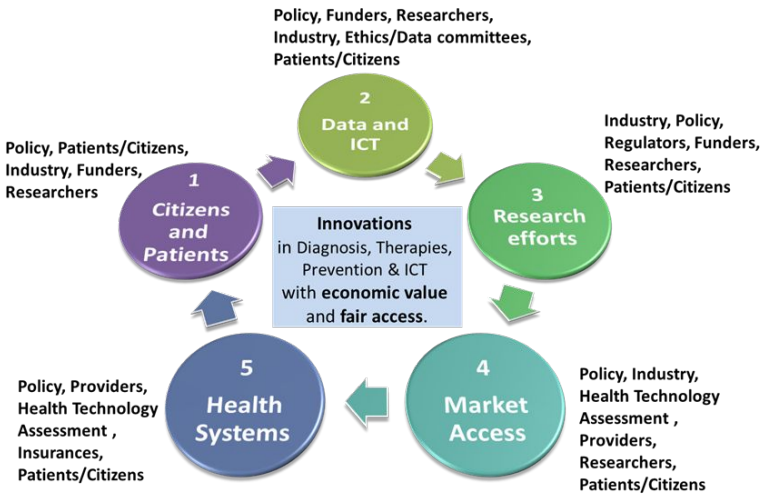
The framework for Personalised Medicine



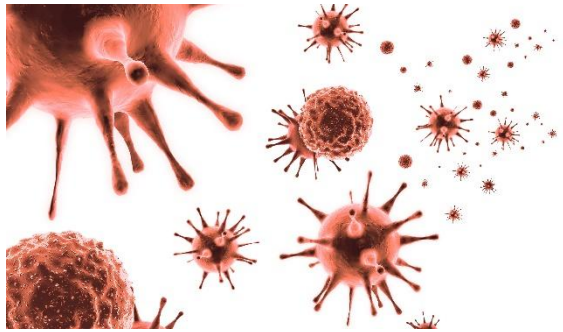
ICPerMed
INTERNATIONAL CONSORTIUM

2017

Circle of the five Challenges



The power of health data



The ERAvsCorona Action Plan (April 2020)
10 actions including:
Establish a Research data sharing platform for SARS-CoV-2 and coronavirus-related information exchange

COVID-19 Data Portal

The European COVID-19 Data Platform (Open Access)

Joint effort by the European Commission, EMBL-EBI, the ELIXIR research infrastructure, EU Member States and other partners

Real World Data collection

e.g. via cohort research to collect data on SARS-CoV-2 infected and non-infected individuals of all ages and conditions and on patient care.

RCHESTRA

European Commission

ESFRI European Infrastructures

Imaging facilities

- **EUROBIOIMAGING – Imaging facilities**

Biological Resource Centres

- **BBMRI - Biobanks and Biomolecular Resources**
- **EMBRC - Marine biology resources**
- **EU-OPENSCREEN - Chemical libraries**
- **INFRAFRONTIER - Mouse archives and clinics**
- **MIRRI – Microbial resources**

Genomics and proteomics facilities

- **INSTRUCT - Structural biology facilities**

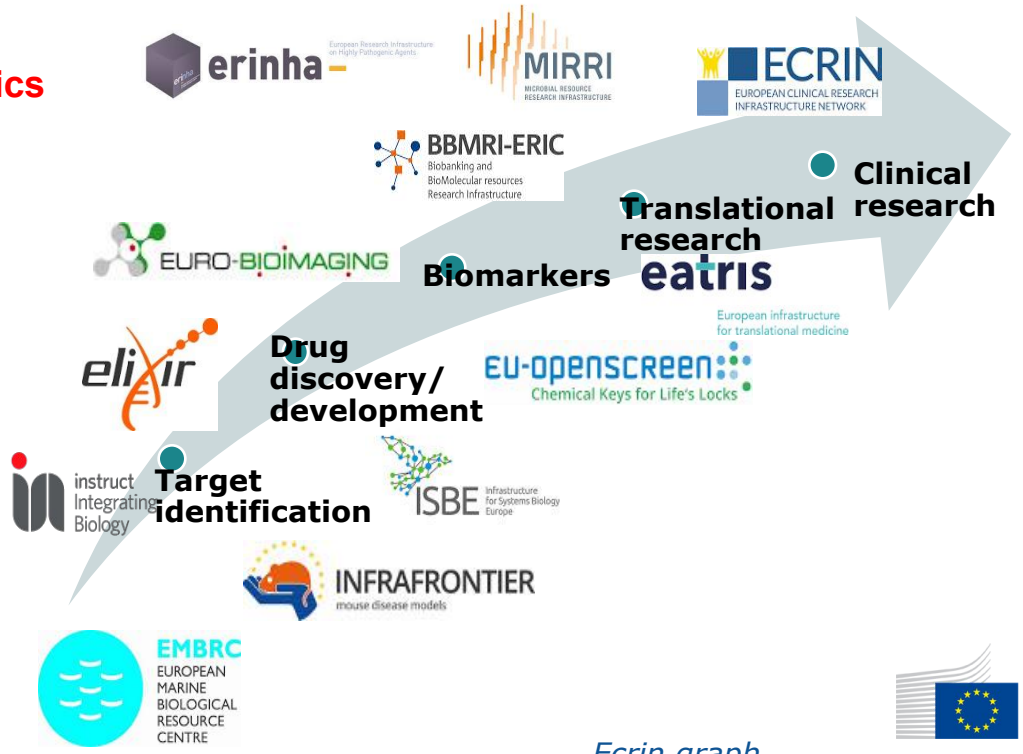
Bioinformatics resources

- **ELIXIR – Data repositories**
- **ISBE – Infrastructure for systems biology**

Medical research facilities

- **EATRIS - Translational research facilities**
- **ECRIN - Clinical trials support**
- **ERINHA - High-security labs**

Wide spectrum of research, discovery and development on health challenges



Ecrin graph

European Commission

EOSC as part of the European Research Area

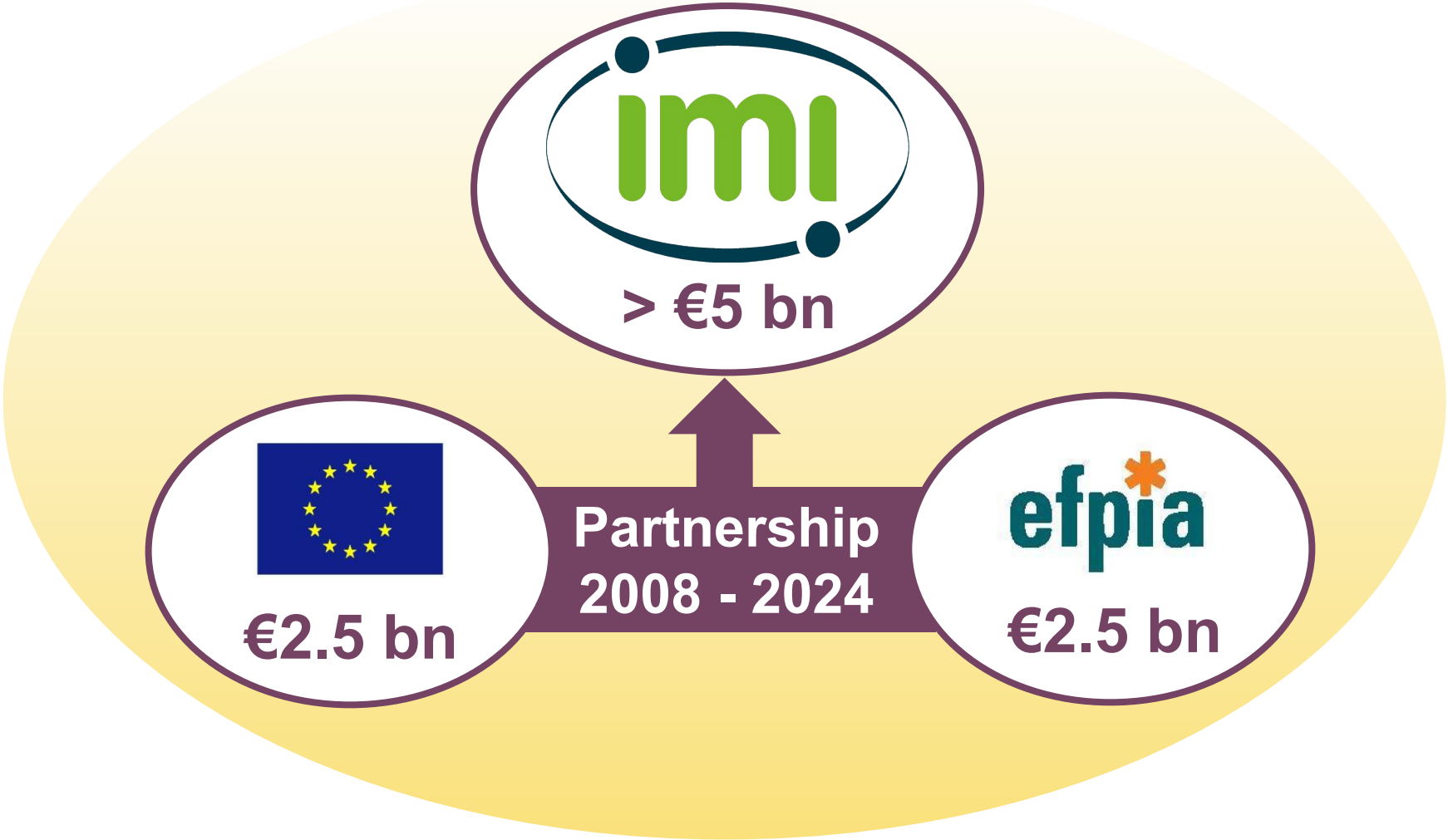
ERA Priority Area: "*Deepening a truly functioning internal market for knowledge*"

ERA Policy Agenda priority action: "***Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the European Open Science Cloud***"

Synergies with other ERA priority actions:

- Data legislative framework for research
- Research Infrastructures
- Green/digital transition
- Reform of Research Assessment
- International cooperation
- etc.

Innovative Medicines Initiative
Europe's partnership for health



imi innovative medicines initiative

Introducing the Innovative Health Initiative - IHI

innovative health initiative

IHI vision: contribute to societal challenges through ...

- **Ensure healthy lives** [UN SDG #3]
- **Sustainable industry & innovation** [UN SDG #9]
- **European policy for health and well-being** [WHO Health 2020]

- Translate knowledge into innovations*
- Innovation addressing public health needs**
- Competitive EU health industry***

- Understand health determinants and disease areas
- Knowledge generation and sharing via joint publications
- People-centred, integrated health care solutions
- Improved clinical guidelines
- Health care data management, integration, AI

- Multi-stakeholder involvement
- Cross-sector collaboration
- Engagement with regulators
- Agility of processes

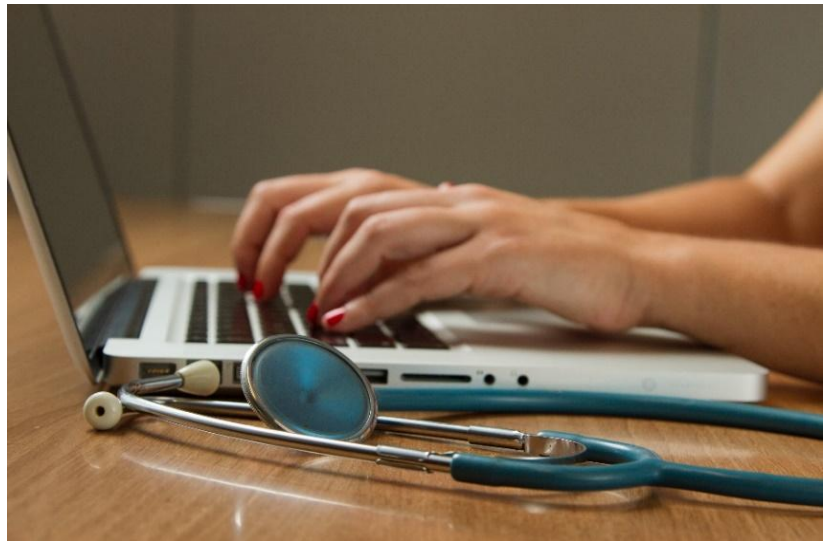
* **IHI General Objective 1:** Contribute toward the creation of an EU-wide health research and innovation ecosystem that facilitates translation of scientific knowledge into innovations

** **IHI General Objective 2:** Foster the development of safe, effective, people-centric and cost-effective innovations that respond to strategic unmet public health needs

*** **IHI General Objective 3:** Drive cross-sectoral health innovation for a globally competitive European health industry

innovative health initiative

Horizon Europe – data-intensive projects



InToEHR Cluster

Innovative Tools for use and reuse of Electronic Health Records and/or patient registries

5 projects

AIDAVA
(09/2022 - 08/2026)

DataTools4Heart
(10/2022 - 09/2026)

eCREAM
(09/2022 - 08/2027)

IDEA4RC
(09/2022 - 08/2026)

RES-Q+ Data for Life
(09/2022 - 08/2026)

European Commission

Proposal for a Regulation on the European Health Data Space

It sets out rules, common standards, infrastructures and a governance framework for the use of electronic health data for healthcare, research, innovation and policy making

Empower individuals to access and control their personal health data

Ensure a consistent framework for the use of individuals' health data for research, innovation, policy-making and regulatory activities

Unleash the data economy by fostering a genuine single market for digital health services and products (EHR systems)

European Commission

Horizon Europe Cluster 1 (Health) calls (work progamme 2023-2024)

HORIZON-HLTH-2023-TOOL-05-09:
Developing a Data Quality and Utility Label for the European Health Data Space
Closes: 13 April 2023
Instrument: CSA
Indicative budget: 4M€
Project size: 4M€

Under evaluation & new project expected to start Q3 – Q4 2023

European Commission

Thank you for your attention