



EC research and innovation strategy and actions for outbreak preparedness and response

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Health Directorate
DG Research & Innovation
European Commission

EC research and innovation strategy: Objectives

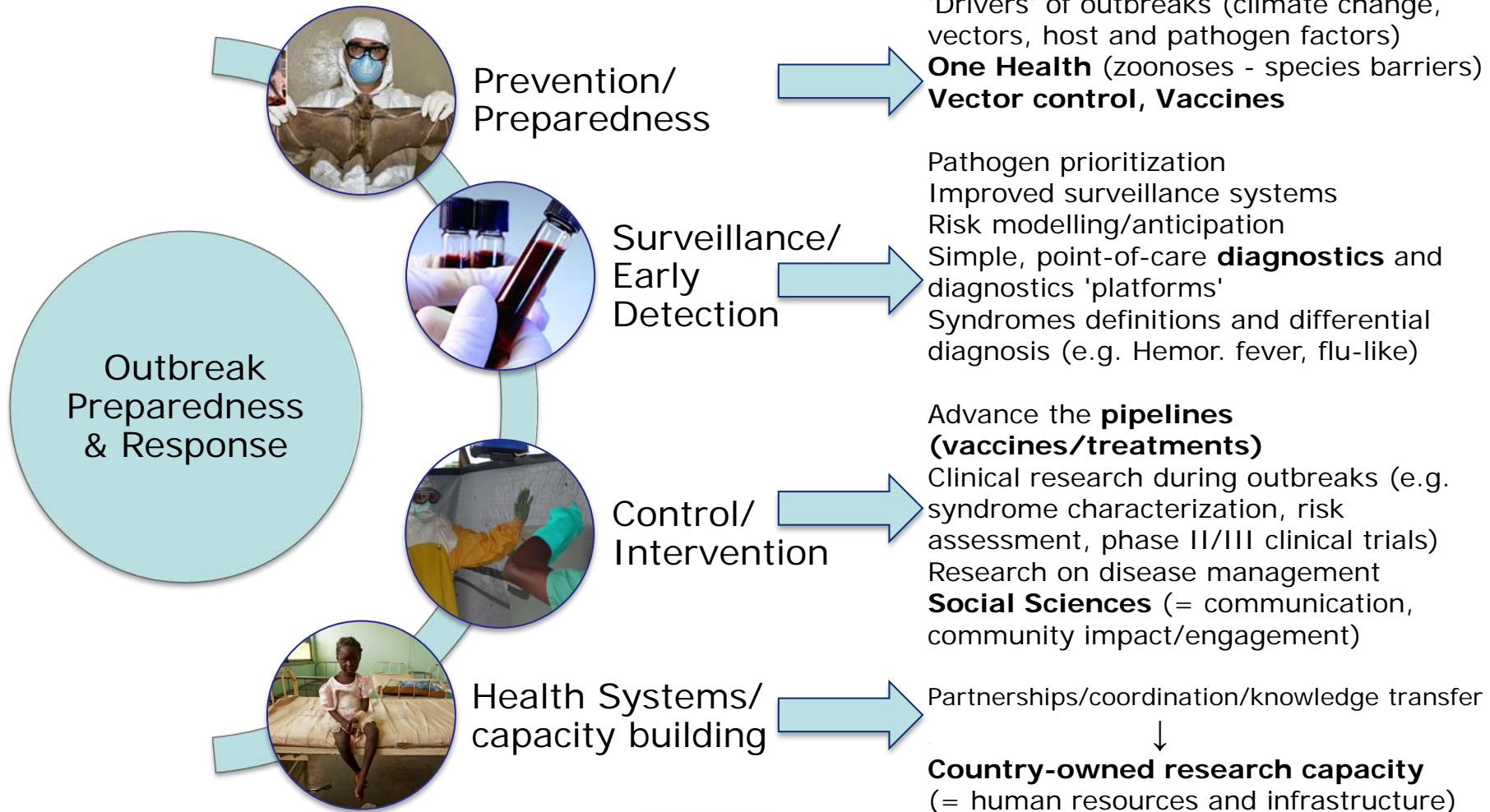
Overall

- Improve prevention and early detection of infectious disease threats in Europe and globally
- Promote a 'One Health' approach

Specific

- Develop the pipeline of medical countermeasures against prioritised (and unexpected/unknown) pathogens
- Ensure that a comprehensive research response is swiftly launched in case of an outbreak
- Facilitate global collaboration

Research Priorities

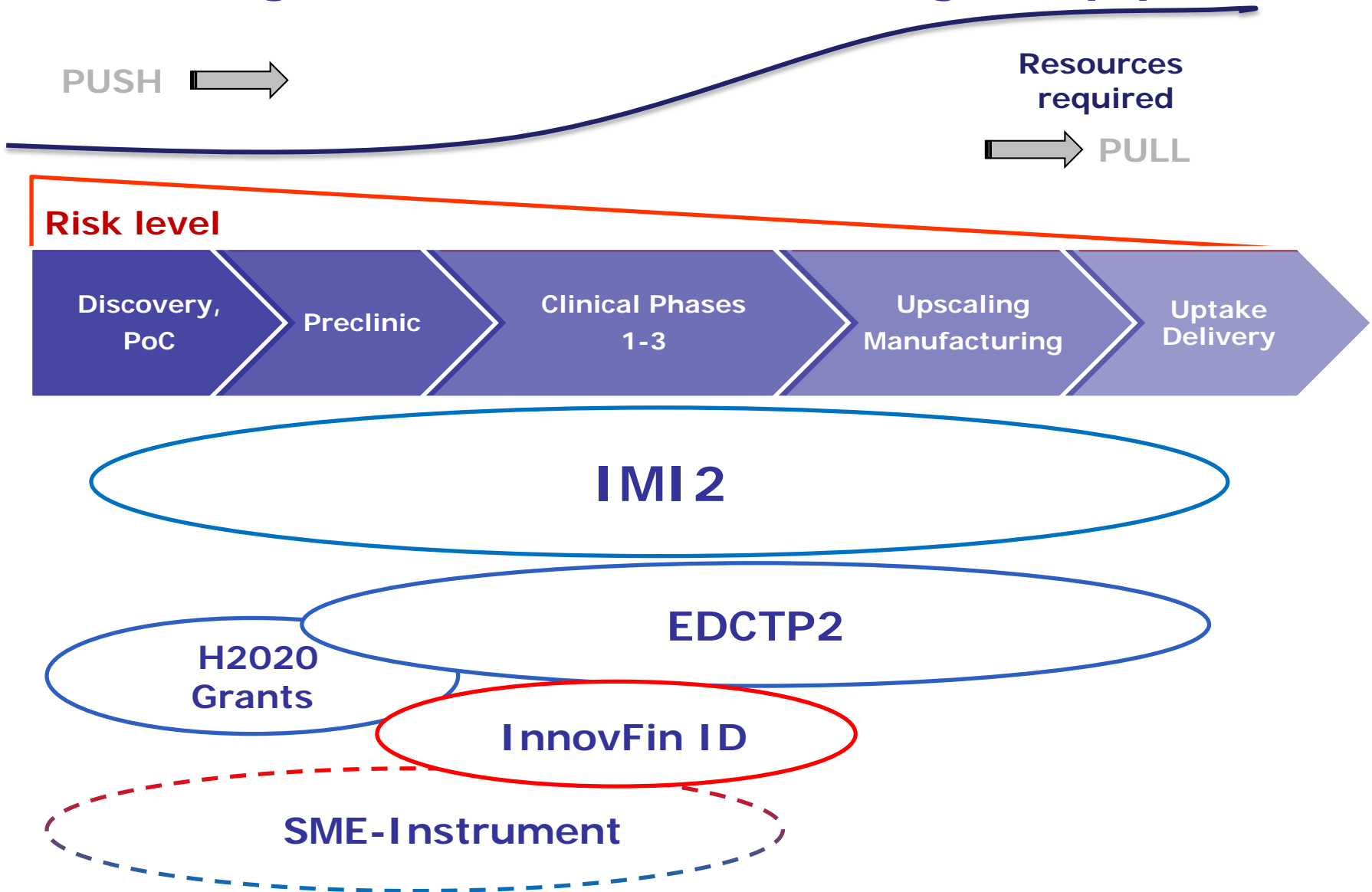


Main funding instruments under Horizon 2020 for preparedness research and response

- **Collaborative research** (Countries, Sectors, Disciplines)
 - SC1 (Health), SC2 (Bio-economy), SC6 (Societies), SC7 (Security), Research infrastructures
- **Innovative Medicines Initiative (IMI2)**
 - Public-private partnership between EC and pharma industry in Europe
- **European and Developing Countries Clinical Trials Partnership (EDCTP2)**
 - Partnership between 14 European and 14 African countries



EC funding instruments for feeding the pipeline



Specific instruments for response to an outbreak

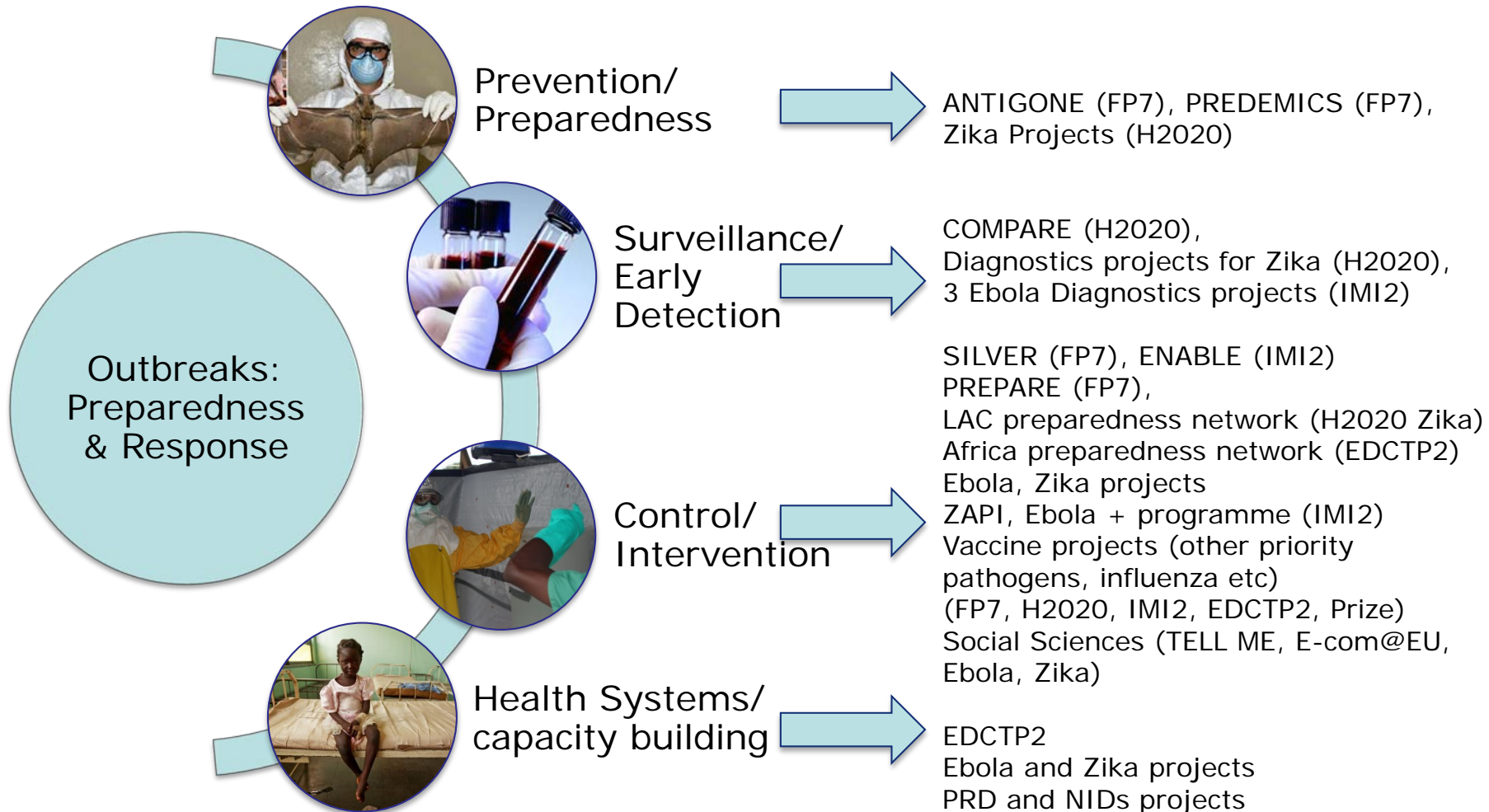
- **Flexibility built into ongoing projects**

Possibility for the EC or the participants to change research agenda in case of an outbreak

- **Flexible Financial Regulation**

Foresees the possibility to award grants without a call for proposals in exceptional and duly substantiated emergencies

Examples of Research Projects



Some examples

- COMPARE

- Aim for an enabling analytical framework and globally linked data and information sharing platform system for rapid identification, containment and mitigation of outbreaks
- Combine sequence-based pathogen data and associated (clinical, epidemiological, etc.) data

- PREPARE

- A European clinical research framework covering primary care and hospital care in the EU
- Implements large inter-epidemic clinical studies and develops new diagnostic tests for diseases
- Aim to ensure a rapid, coordinated deployment of clinical investigators within 48 hours of a severe infectious disease outbreak in Europe

Some examples (2)

- SILVER

- Aimed to develop drug discovery programme to inhibit RNA viruses
- Screened >700,000 cell-based assays, >700 promising hits, 20 tested for proof of concept analysis
- Several licenced products

- VIROGENESIS

- Virus discovery and epidemic tracing from high throughput meta-genomic sequencing
- Addresses the challenge of advancing methodology that maximizes the use of Next-Generation Sequencing (NGS) data in biomedical and clinical settings.
- Identified specific bioinformatics bottlenecks that prevent the effective use of NGS in clinical and epidemiological settings



Addressing Zika research gaps

- 3 EU funded consortia
- Addressing Zika research gaps
 - Clinical studies: prospective cohorts of pregnant women and newborns, adults with CNS involvement
 - Studies on natural history and clinical spectrum of disease, transmission modes, pathogenesis & immunological consequences of infection, diagnostics development, mathematical modelling, animal reservoirs, vector competence and control, social studies, ...
 - Harmonization of data collection & data sharing roadmap
- Develop LAC region preparedness research network



Participation in international initiatives

- Coalition for Epidemic Preparedness Innovations

<http://cepi.net/>



- International Research Consortium on Animal Health

<http://www.star-idaz.net/>



- Global Research Collaboration for IDs Preparedness

<http://www.glopid-r.org/>





GLOPID-R : Global Research Collaboration for Infectious Disease Preparedness

- Brings together 25 major funders of preparedness research whose involvement is crucial for a comprehensive and rapid global outbreak response
- Specific objectives
 - Facilitate the exchange of information
 - Address scientific, legal, ethical and financial challenges
 - Implement a 'One Health' approach
 - Establish a strategic agenda for research response
 - Connect infectious disease research networks
 - Actively involve developing countries

Research alone is not enough!

- Data and sample sharing framework needed
- Regulatory : accelerating licensing without compromising safety
- Liability and insurance issues in pandemic setting
- Large-scale manufacturing, QA, access
- IP matters
- Infrastructure resources for rapid vaccine deployment
- Post-licensure commitments
- ...

Data sharing

- 3 EU funded consortia on Zika



- Harmonise protocols & tools for data capture & management
- Set up joint harmonised platforms for clinical research
- Share data in real time between the 3 consortia
- Prepare for sharing data with scientific community & public health officials

- GloPID-R working group



- Aims to design a system for data sharing in public health emergencies to support the research response
 - Principles for data sharing in public health emergencies
 - Decision tree to identify data to be shared in particular context
 - Case studies to document data sharing experience

