EC research and innovation strategy

Objectives

• Improve prevention and early detection of IDs threats in Europe and globally.
• Promote a 'One Health' approach.
• Develop the pipeline of medical countermeasures against prioritised (and unexpected!) pathogens.
• Ensure that a comprehensive research response is swiftly launched in case of an outbreak.
• Facilitate global collaboration, in line with the WHO Blueprint preparedness plan.
Outbreaks: Preparedness & Response

Prevention

Surveillance/Early Detection

Control/Intervention

Health Systems/capacity building

Research Priorities

'Drivers' of outbreaks (climate change, vectors, host and pathogen factors),
Social Sciences e.g., behavioural science
One Health (zoonoses - species barriers)
Vector control, Vaccines

Pathogen prioritization
Improved surveillance systems
Risk modelling/anticipation
Simple, point-of-care diagnostics and diagnostics 'platforms''
Syndromes definitions and differential diagnosis (e.g. Hemor. fever, flu-like)

Advance the pipelines (vaccines/treatments)
Clinical research during outbreaks (e.g. syndrome characterization, risk assessment, phase II/III clinical trials)
Research on disease management
Social Sciences (= communication, community impact/engagement, behavioural science)

Partnerships/coordination/knowledge transfer

Country-owned research capacity (= human resources and infrastructure)
Main funding instruments for preparedness research and response under Horizon 2020

- **Collaborative research** (Countries, Sectors, Disciplines)
  SC1 (Health), SC2 (Bioeconomy), SC6 (Societies), SC7 (Security)
  Research infrastructures

- **Innovative Medicines Initiative** (IMI2)
  - Public-private partnership between EC and EFPIA

- **European and Developing Countries Clinical Trials Partnership (EDCTP2)**
  - Partnership between 14 European and 14 African countries

- **InnovFin Infectious Diseases**
EC funding instruments for feeding the pipeline

**Risk level**
- Discovery, PoC
- Preclinic
- Clinical Phases 1-3
- Upscaling Manufacturing
- Uptake Delivery

**Resources required**
- H2020 Grants
- SME-Instrument
- InnovFin ID
- IMI2
- EDCTP2
- Discovery, PoC
- Preclinic
- Clinical Phases 1-3
- Upscaling Manufacturing
- Uptake Delivery

**PUSH**
**PULL**
Specific instruments for response to an outbreak

• **Flexibility built into ongoing projects**
  Allow the EC or the participants to change research agenda in the case of an outbreak

• **Flexible Financial Regulation**
  Foresees the possibility to award grants without a call for proposals in *exceptional and duly substantiated emergencies.*
Outbreaks: Preparedness & Response

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Examples of Research Projects

- **ANTIGONE (FP7), PREDEMICS (FP7)**
  Zika Projects (H2020/2)

- **COMPARE (H2020)**
  Diagnostics projects for Zika (H2020),
  **3 Ebola Diagnostics projects (IMI2)**

- **SILVER (FP7), ENABLE (IMI1)**
  PREPARE (FP7),
  LAC preparedness network (H2020 Zika)
  Africa preparedness network (EDCTP2)

- **ZAPI (IMI1) Ebola + programme (IMI2)**
  Ebola, Zika projects

- **Social Sciences**
  (TELL ME, E-com@EU, Ebola, Zika)

- **EDCTP2**
  Ebola and Zika projects
  PRD and NIDs projects
Recent calls under H2020

- **Continuation of IMI2 Ebola+ call (continuously open call)**

- *Understanding (animal)host-pathogen-environment interactions (SFS-14-2016)*

- *Vaccine development for malaria and/or neglected infectious diseases (SC1-PM-06-2016)*

- *Research Infrastructures for the control of vector-borne diseases (INFRAIA-01-2016-2017)*

- *Research Infrastructures for vaccines (INFRAIA-01-2016-2017)*

- *Addressing the urgent research gaps against the Zika virus and other emerging threats in Latin America (SC1-PM-22-2016)*
Addressing the urgent research gaps against the Zika virus and other emerging threats in Latin America

• 3 proposals under negotiation working jointly on:
  
  • Address 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 between the 3 consortia
  
  • Build-up a LAC region preparedness research network
Open calls under EDCTP 2

- **Ethics and Regulatory Capacities**
- **Vaccines for poverty-related diseases**
  - Accelerate the clinical development of new vaccines (preventive or therapeutic) against one of the PRDs/NIDs/Emerging diseases
- **Strategic actions supporting large-scale clinical trials**
  - With potential to achieve rapid advances in the clinical development of new or improved medical interventions against PRDs
- **Research and clinical management of patients in PRD epidemics in Sub-Saharan Africa**
  - Provide accelerated evidence for optimal clinical management for patients and for guiding the public health response to any severe infectious outbreak
The EC participate 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

- Established in 2013
- Facilitates an effective research response within 48hrs of a significant outbreak with pandemic potential, in order to save lives and economies worldwide
- Brings together 25 major funders of preparedness research whose involvement is crucial for a comprehensive and rapid global outbreak response
- Identifies existing weaknesses that prevent a timely and efficient outbreak response
- Drives a process to overcome gaps and obstacles, identify concrete actions and build collaborative solutions
- Chaired by the European Commission, DG RTD
Priority GloPID-R Actions in 2016

1. Zika
2. Yellow Fever
3. Data Sharing - Develop a framework for data sharing during public health emergencies
4. Readiness Plan – Response modes and triggers for research actions
Research alone is not enough!

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