#InvestEUresearch

Horizon 2020
Work Programme
for Research & Innovation
2018-2020

2020 topics
The societal challenge
'Health, demographic change
and well-being'

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'DG CONNECT

NCP meeting, Brussels, 2 July 2019
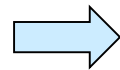
Research and
Innovation

Research and innovation – a growing priority for the EU Horizon 2020 supports Commission priorities

Horizon 2020

- Jobs, growth & investment

- Digital single market

- EU – a stronger global actor

- Couple research to innovation

- Provide evidence-base for addressing societal challenges, supporting EU policies and better regulation

- Strengthen research capacities and innovation strategies across all Member States

- Multidisciplinary and synergies

- Address people's concerns

European Commission

EC DG Research and Innovation has reorganised...

Directorate-General for RESEARCH and INNOVATION
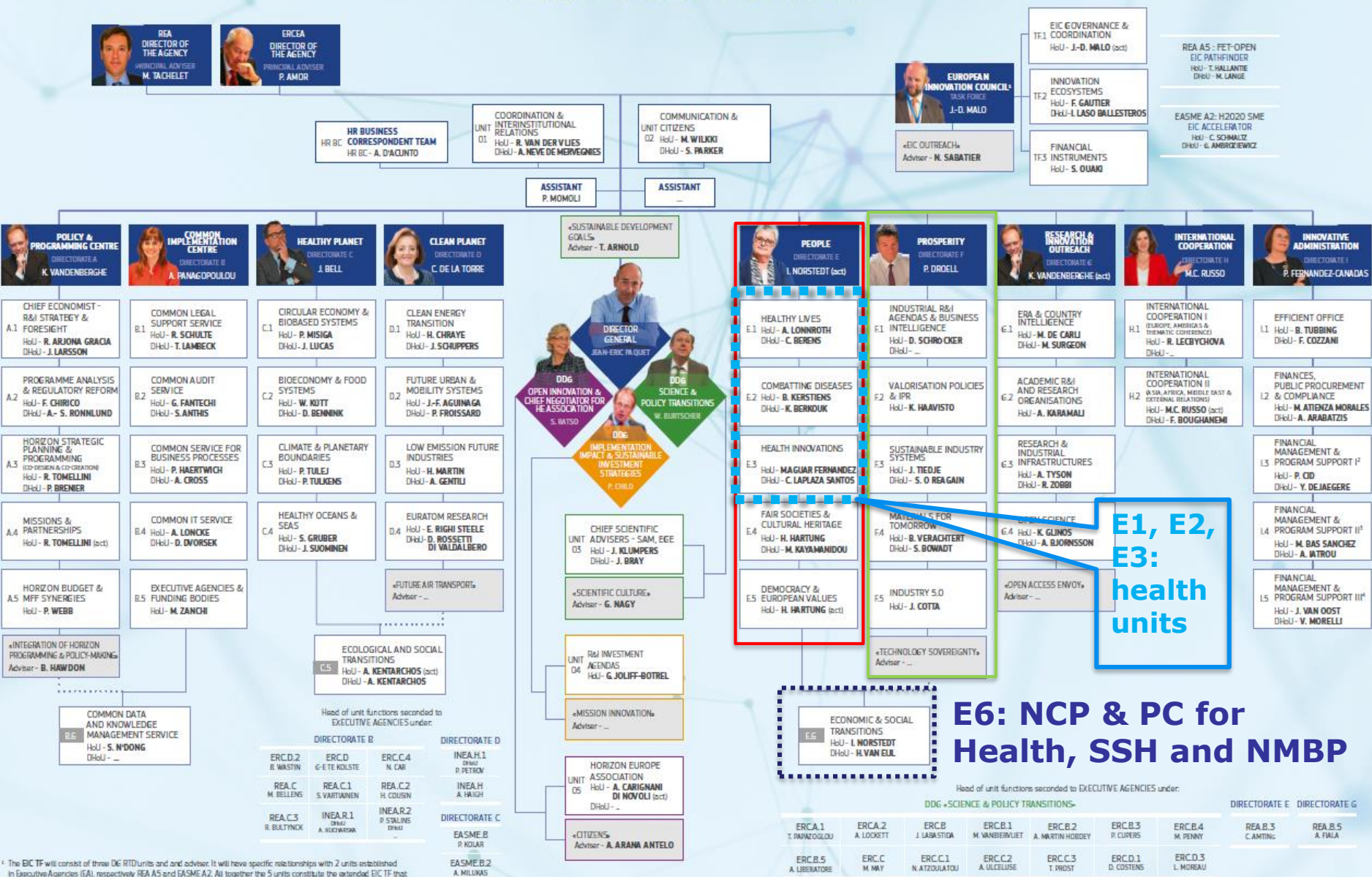
Health Research in Horizon 2020

Heath-related topics from NMBP Programme

➢ NMBP-21-2020: **Biological scaffolds for tissue regeneration and repair**

[**RIA**: two-stage, deadlines 12 December 2019 / 14 May 2020]
EU grant: €4-6M per proposal (budget for topic €17M)

➢ NMBP-23-2020: **Next generation Organ-on-chip**

[**RIA-LS**: two-stage, deadlines 12 December 2019 / 14 May 2020]
EU grant: €4-6M per proposal, with lump sum funding (budget for topic €18M)

WP 2020 (pre)publication: **4 June 2019**
https://ec.europa.eu/programmes/horizon2020/en/nmbp-work-programme-2018-2020-preparation

European Commission

Your NCP colleagues in NMBP and SSH:

- Industrial Leadership KET Part (Nanotechnologies, Advanced Materials and Advanced Manufacturing and Processing) of the HORIZON 2020:
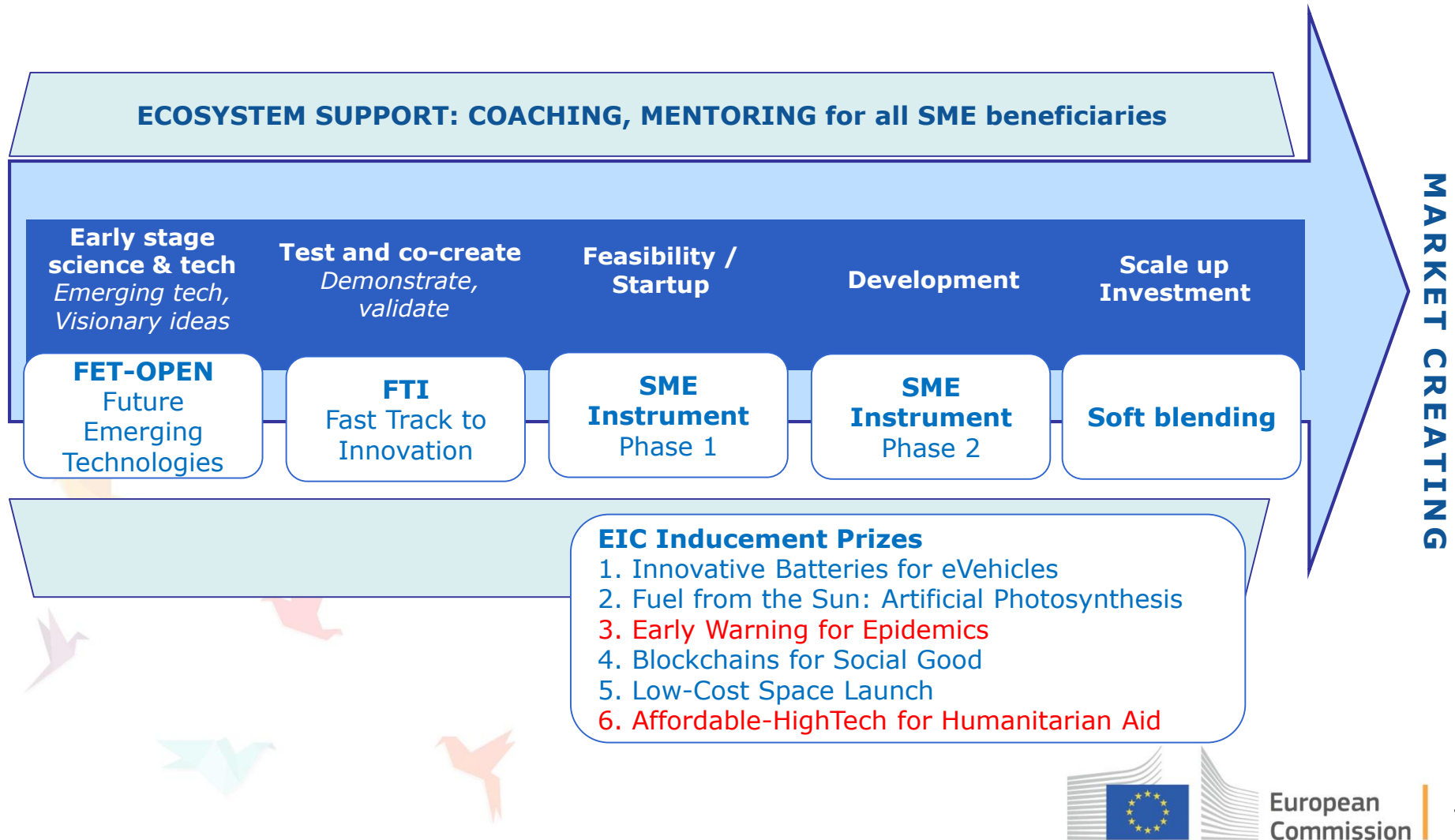
NMP TeAm 4: www.nmpteam.eu

- Societal Challenge 6 ("Europe in a changing world: inclusive, innovative and reflective societies") in Horizon 2020:

Net4Society: www.net4society.eu

European Innovation Council: pilot 2018-2020
€ 2.7 billion to support +5,000 SMEs and innovators

ECOSYSTEM SUPPORT: COACHING, MENTORING for all SME beneficiaries

Early stage science & tech *Emerging tech, Visionary ideas*	Test and co-create *Demonstrate, validate*	Feasibility / Startup	Development	Scale up Investment
FET-OPEN Future Emerging Technologies	**FTI** Fast Track to Innovation	**SME Instrument** Phase 1	**SME Instrument** Phase 2	**Soft blending**

MARKET CREATING

EIC Inducement Prizes
1. Innovative Batteries for eVehicles
2. Fuel from the Sun: Artificial Photosynthesis
3. Early Warning for Epidemics
4. Blockchains for Social Good
5. Low-Cost Space Launch
6. Affordable-HighTech for Humanitarian Aid

European Commission

Health collaborative research – 7 priorities for 2018–2020

€ 2.0 billion

Personalised medicine

Decoding the role of the environment for health and well-being

Infectious diseases and improving global health

Innovative health and care industry
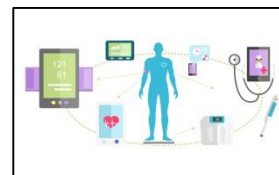
Innovative health, and care systems - Integration of care

Digital transformation in Health and Care

Trusted Big Data solutions and Cybersecurity for Health and Care

European Commission

7 priorities implemented via SC1 Work Programme 2018–2020 through 3 Calls for proposals

Call 'Better Health and care, economic growth and sustainable health systems'
5+1 main priorities & 21+3 topics (linked to next Call)

Call 'Digital transformation in Health and Care'
8+3 topics (In previous call)

Call 'Trusted digital solutions and Cybersecurity in Health and Care'
2 topics

Other Actions 2018–2019
7 items open for 2020

approx.
€ 2 billion

European Commission

Priority 1 – Personalised medicine

- Aim: delivering personalised health and care to benefit patients and citizens
- Focus: complex disorders, human microbiome, rare diseases and data sharing for enabling personalised medicine, economic models, reinforcing international and regional collaboration

POLICY DRIVERS + SUPPORT FOR:

Council conclusions on Personalised Medicine

International Consortium on Personalised Medicine

European Reference Networks

SC1-BHC-06-2020: Digital diagnostics – developing tools for supporting clinical decisions by integrating various diagnostic data

Scope

➢ To develop tools, platforms or services that will use information provided by most relevant diagnostic means for a particular area, resulting in an accurate, detailed, structured, systemic and prioritized assessment of the health status in a patient

➢ These tools/platforms/services should contribute to improving diagnosis and clinical decision, not only integrate existing data, and should involve intelligent human-computer interface solutions to facilitate its daily use in clinical practice.

Expected impact

➢ Increase EU's capacity to innovate in the area of medical instruments technologies

➢ Improve the quality and sustainability of healthcare systems

➢ Contribute to the growth of the European diagnostics sector, in particular for SMEs.

➢ Reinforce EU's role among world leaders in the production of medical diagnostic devices.

Practical aspects

Research and Innovation Action, 40 M€ – 8-15 M€/proposal

HCO-01-2020: Actions in support of the International Consortium for Personalised Medicine

Scope

Support the implementation of the ICPerMed Action Plan including actions such as:

- ➤ Support the building of PM networks with third countries (for the 2020 call: focus on Africa).

- ➤ Continuation of the work done by the ICPerMed secretariat.

Expected impact

Support the implementation of the IC PerMed goals.

- ➤ International aspect: Integrating the country/group of countries into ICPerMed activities. Support wider adoption of standards developed in Europe. Contribute towards the UN Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages

- ➤ ICPerMed secretariat: Ensure continuity of the operations of ICPerMed beyond 2020. Increase the visibility of the consortium and provide harmonised vision for the further development of personalised medicine

Practical aspects

Coordination and support action, 4 M€ – 1.5-2 M€/proposal

European Commission

SC1-HCO-03-2020: Bridging the divide in health research and innovation – boosting return on investment

Scope
- ➤ Focus on widening countries and leveraging on ESIF investments
- ➤ Support to carry out institutional reforms, in terms of governance, science evaluation, internationalisation, attracting and retaining talents
- ➤ Building on earlier "bridging-the-divide" CSAs (2014 and 2017)

Expected impact
- ➤ Institutional culture that rewards scientific performance and innovation
- ➤ Better embeddedness in international networks
- ➤ Increased participation in Horizon projects

Practical aspects
Coordination and Support Action, 2 M€ – 1.5-2 M€/proposal

European Commission

SC1-HCO-14-2020: ERA-NET: Sustained collaboration of national and regional programmes in cancer research

Scope

➢ Align national, regional and **charity** research funding programmes on translational cancer research by implementing a transnational call with EU co-funding and additional calls without EU co-funding.

➢ Demonstrate potential impact and leverage at national and EU level using key indicators.

Expected impact

➢ Identification of common research and innovation priorities, taking into account international developments where relevant.

➢ Leveraged funding, based on a common strategic research agenda.

➢ Streamlined national, regional and foundation or charity-based practices in organising research and innovation funding.

➢ Demonstrated sharing of data and analyses of funded cancer research and their impact.

Practical aspects
ERA-NET Cofund, 5 M€ – min. 5 M€/proposal

SC1-HCO-16-2020: ERA-NET: Sustained collaboration of national and regional programmes in research on brain-related diseases and disorders of the nervous system

Scope

➢ To sustainably coordinate national and regional research programmes in brain-related diseases (excluding neurodegenerative) by implementing transnational calls with EU co-funding

➢ Promote wider collaboration between funded ERA-Net projects and pertinent H2020-funded projects and international partners

➢ More comprehensive and wider data sharing and early consideration of translational pathways are inherent requirements for the transnational calls

➢ Financial resources from foundations, charities and transnational initiatives should also be considered

➢ Collaboration with the EU funded European Brain Research Area (EBRA) Coordination and Support Action (CSA) should be foreseen

Expected impact

➢ Joint investment of national and regional programmes in brain-related neurological diseases

➢ Increased common activities of national research programmes and projects

➢ Leveraging synergies & Contribution to the establishment of Brain research ERA

Practical aspects

ERA-NET Cofund, 5 M€ – min. 5 M€/proposal

SC1-HCO-17-2020: Coordinating and supporting research on the human microbiome in Europe and beyond

Scope

➢ Synergistic collaboration across research programmes on human microbiome

➢ Complement, support and enhance cooperation within Europe and beyond

➢ Harmonisation and standardisation of procedures, sample collection, processing of microbiome data

Expected impact

➢ Concrete methods, standards, procedures and in vivo models

➢ Increased comparability of microbiome data, more meaningful results

Practical aspects

Coordination and Support Action, 2 M€ – 1.5-2 M€/proposal

Priority 2 – Innovative health and care industry

- Aim: turn innovative knowledge and technologies into practical applications benefiting citizens, healthcare systems and businesses
- Focus: regenerative medicine, advanced therapeutics and regulatory science
- Complementarity with the SME instrument, the Fast Track to Innovation and the Innovative Medicines Initiative (IMI)

POLICY DRIVERS + SUPPORT FOR:

Upgrading the single market

European Commission

SC1-BHC-08-2020: New interventions for Non-Communicable Diseases

Scope
- ➢ Conduct early stage clinical trial(s) to validate novel or refined healthcare interventions for patients suffering from non-communicable diseases (any combination)

Expected impact
- ➢ Candidate healthcare interventions with meaningful advances in clinical practice and care for patients with non-communicable diseases, for late stage clinical trials.

- ➢ Potential to improve patient-centred outcomes and to impact on the disease burden of individual patients and health care systems following validation, in late stage clinical trials.

Practical aspects
Research and Innovation Action, 80 M€ – 4-6 M€/proposal

European Commission

SC1-BHC-11-2020: Advancing the safety assessment of chemicals without the use of animal testing

Scope

➢ Integrative approaches in human biology and related toxicity pathways to propose and demonstrate scientifically valid means for comprehensive safety assessment of chemicals without animal testing

➢ Establish the scientific credibility of the approaches for a variety of relevant decision-making contexts and regulatory requirements

➢ Cooperation with complementary initiatives in and outside the EU, including with industry and JRC

Expected impact

➢ Non-animal solutions for safety assessment of chemicals

➢ Recognition from regulatory bodies for safety assessment practice

➢ Uptake and commercial exploitation

➢ Contribution to 3Rs (Replace, Reduce, Refine)

Practical aspects

Research and Innovation Action, 60 M€ – 10-20 M€/proposal

SC1-HCO-18-2020: Developing methodological approaches for improved clinical investigation and evaluation of high-risk medical devices

Scope

➢ Analysis and review of current clinical investigation and evaluation designs for high-risk medical devices

➢ Development of new methodologies for generating sound clinical data coming from different sources incl. real-world data, adapted for conformity assessment and continuous clinical evaluation

➢ Networking and exchange of best practices among regulators and developers with goal to establish pool of expertise.

Expected impact

➢ High quality clinical data for conformity assessment and market access

➢ Improved knowledge of legislative frameworks and regulatory requirements

➢ Improved evidence of safety and efficacy for patients and health systems.

Practical aspects

Coordination and Support Action, 2 M€ – 1-2 M€/proposal

European Commission

SC1-HCO-19-2020: Reliable and accessible information on cell and gene-based therapies

Scope

➤ Proposals should offer well-structured and detailed strategies to convey accurate and up-to-date information on cell and gene-based therapies using multiple contemporary modalities, including a website. The consortium should consist of diverse actors and could include experts in science communication, patients' representatives, industry, SMEs, clinical and academic researchers as well as the major European learned societies in the field.

➤ All communication material/information should be translated to English and dedicated to at least researchers, patients, and the public.

➤ A series of communication events should be organised, also open to the public, where innovative technologies could be presented and discussed.

➤ Proposals should create an information source on the practical steps needed for cell and gene-based therapy development (one-stop shop information relating to manufacturing guidelines, regulatory requirements, intellectual property rights, market acceptability and ethical matters).

➤ Proposals should provide a strategy on how they will liaise with regulatory agencies and include a realistic sustainability plan.

➤ Sustainability should be ensured for at least 5 years after the end of the project.

SC1-HCO-19-2020: Reliable and accessible information on cell and gene-based therapies

Expected impact

➢ Better informed decision making by patients and the public, due to objective, accurate and transparent communications of the latest developments and actual treatments available in the field in order to avoid misconceptions

➢ Better informed decision making by regulatory and healthcare authorities, due to better access to reliable and updated information, and to stronger synergies and knowledge sharing between decision-makers and other stakeholders including advanced therapies learned societies.

➢ Improved products development, by providing the research community and patients with a high-quality information source.

Practical aspects

The Commission considers that proposals requesting a contribution from the EU between EUR 1.5 and 2 million would allow this specific challenge to be addressed appropriately.

Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

ONE proposal to be funded.

Priority 3 – Infectious diseases and improving global health

- Aim: fighting infectious diseases and the growing threat of antimicrobial resistance; addressing the needs of the most vulnerable and the global increase in chronic diseases

- Focus: emerging infectious diseases, poverty and neglected diseases, stratified host-directed approaches to communicable diseases, maternal and child health, global collaboration on non-communicable diseases (cohorts, brain research, hypertension, diabetes, cancer)

POLICY DRIVERS + SUPPORT FOR:

GL PID-R

Global Research Collaboration for Infectious Disease Preparedness
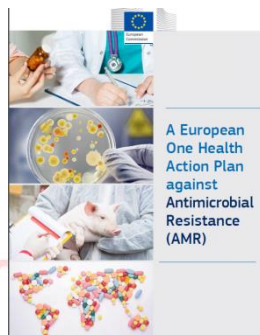
European One Health Action Plan against Antimicrobial Resistance

E D C T P

European & Developing Countries Clinical Trials Partnership

World Health Organization

Global Action Plan on antimicrobial resistance

GACD
GLOBAL ALLIANCE FOR CHRONIC DISEASES
AN ALLIANCE OF HEALTH RESEARCH FUNDERS

Global Alliance for Chronic Diseases

European Commission

SC1-BHC-17-2020: Global Alliance for Chronic Diseases (GACD) - Prevention and/or early diagnosis of cancer

Scope
- Implementation research (also promising interventions)
- Prevention and/or early diagnosis of cancer on in LMIC and/or in vulnerable populations in HIC

Expected impact
- Advance local, regional or national cancer prevention and/or early diagnostic health policies
- Inform health service providers, policy and decision makers on effective scaling up of cancer interventions at local, regional, and national levels
- Provide pathway to cancer care for the patients diagnosed with cancer

Practical aspects
Research and innovation action, 20 M€ – 1-3 M€/proposal
Part of the GACD scientific community

SC1-BHC-20A-2020: Pre-commercial procurement (PCP) for integrated care solution

Scope

➢ PCP targeting consortia of procurers with similar procurement needs that want to procure together the development of innovative integrated care solutions;

➢ i.e. organisational solutions, personal-health and self-care solutions, professional care solutions, ICT-based solutions, among other.

Expected impact

➢ Reduced fragmentation of demand for innovative solutions in the area of integrated care;

➢ Increased opportunities for wide market uptake and economies of scale for the supply through joint specifications, wide publication of results and where relevant contribution to standardisation, regulation or certification.

Practical aspects

Pre-Commercial Procurement – up to 5-6 million EUR/proposal (up to 90% of total budget)

Total budget BHC-20: 25 M€

European Commission

SC1-BHC-20B-2020: Public procurement of innovative solutions (PPI) for diagnostics for infectious diseases
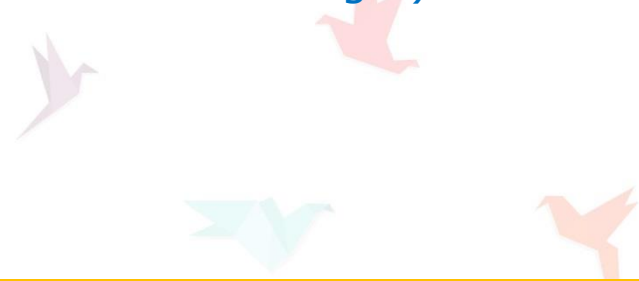
Scope

➢ Implementation of rapid diagnostic tools for infectious diseases in clinical practice.

Expected impact

➢ Contribute to the EU One Health Action Plan on Antimicrobial Resistance

➢ Create new opportunities for market uptake and economies of scale for the supply side of rapid diagnostics in the area of respiratory tract infections across the EU

Practical aspects

Public Procurement of Innovative solutions – 3 to 5 million EUR/proposal (35% of the total budget)

Total budget BHC-20: 25 M€

SC1-BHC-33-2020: Addressing low vaccine uptake

Scope

➢ To increase the understanding of the determinants of low vaccine uptake in specific contexts in the EU and/or Associated Countries (AC), develop and test strategies/interventions to increase vaccination rates; include a strategy to measure the impact of the proposed interventions. The finding must be gathered onto a set of recommendations useful for public health authorities.

➢ Proposals to include social science and public health related disciplines, and create links with existing European and/or international initiatives.

Expected impact

➢ Contribute to increase vaccine coverage in Europe

➢ Develop practical and readily implementable guidelines to aid public health authorities in Europe to increase vaccination rates

➢ Work towards meeting the goals on vaccination set out in President Juncker's State of the Union address (2017) and Council Recommendations on strengthened cooperation against vaccine preventable diseases

Practical aspects

Research and innovation action, 9 M€ – 2-3 M€/proposal

European Commission

SC1-BHC-34-2020: New approaches for clinical management and prevention of resistant bacterial infections in high prevalence settings

Scope
➢ Proposals should focus on the identification of best practices, and the development and validation of interventions, infection prevention and clinical management plans for dealing with resistant bacterial infections in high prevalence settings. The research needs to take into account the variety and capacities of local health care/nosocomial infrastructures, and the trends of resistance patterns on local, national and international level. The research needs to lead to management plans.

Expected impact
➢ Availability of tested cost effective models for prevention and treatment of bacterial infections in health care settings with high prevalence levels of resistant infections.

➢ Reduced spread of resistant hospital acquired infections in these settings.

➢ Knowledge that can be of use for other countries around the globe, including low and middle income countries, benefitting their local population

Practical aspects
Research and innovation action, 25 M€ – 10-15 M€/proposal

SC1-BHC-35-2020: Creation of a European wide sustainable network for harmonised large-scale clinical research studies for infectious diseases

Scope

➢ Proposals should set up a European-wide multidisciplinary network able to provide a platform for a rapid response in the conduct of clinical studies in relation to any severe infection. The initial clinical studies to be performed should be included in the proposal, whereas criteria and processes for including further clinical studies in the project should be clearly described. This should include provisions for flexibility in case of new scientific developments

Expected impact

➢ Reduced cost and time through efficiently implemented clinical trials for diagnosis, prevention and treatment of infections.

➢ Create and strengthen the operational capacity and the infrastructures for providing realtime evidence for optimal medical intervention and practice in infectious diseases.

➢ Contribute to existing EU policies on vaccines and AMR

Practical aspects

Research and innovation action, 30 M€ – 25-30 M€/proposal

SC1-HCO-07-2020: ERA-NET to support the Joint Programming Initiative on Antimicrobial resistance (JPIAMR)

Scope

➤ Proposals should pool the necessary financial resources from national or regional research programmes in the area of AMR by implementing a transnational joint call resulting in grants with EU co-funding. This should scale up the implementation of the JPIAMR Strategic Research Agenda and the European One Health Action Plan against AMR. Proposals should aim at supporting research and innovation for the development and testing of strategies and methodologies to reduce the transmission and spread of AMR take the full One Health approach into account.

Expected impact

➤ Funding of research proposals on a topic identified in the JPIAMR Strategic research agenda, which needs to be addressed at European level or wider, and which is complementary to topics of the EC work programmes.

➤ Leverage transnational excellent research with EU-added value in the area of AMR.

Practical aspects

ERA-NET Cofund, 5 M€ – min. 5 M€/proposal

Priority 4 – Innovative health and care systems – Integration of care

- Aim: develop effective, accessible and sustainable health interventions and integrated care systems
- Focus: mental health in the workplace, novel approaches for palliative care, implementation of personalised medicine, HTA, innovation in health care

POLICY DRIVERS + SUPPORT FOR:

Upgrading the single market

Cross-border healthcare Directive

SC1-BHC-24-2020: Healthcare interventions for the management of the elderly multimorbid patient

Scope
- ➢ effective, integrated patient-centred approaches
- ➢ improve management of multimorbid elderly patients
- ➢ increase quality of life of the elderly patient
- ➢ simplify the care pathway of multimorbid patients

Expected impact
- ➢ better management of multimorbid elderly patients
- ➢ cost containment in healthcare interventions

Practical aspects
Research and Innovation Action, 50 M€ – 4-6 M€/proposal

SC1-BHC-37-2020: Towards the new generation of clinical trials – trials methodology research

Scope

➢ Methodology research to develop innovative solutions in order to improve the design, conduct and analysis of clinical trials.

➢ Identification of best practices to prevent bottlenecks in execution of clinical trial (e.g., issues related to patient recruitment, adherence and compliance, governance, ethics, sex and gender-based analysis, data sharing).

➢ Identification and validation of methods that will improve the generalizability of evidence generated through differently designed trials, including personalized medicine approaches and combinatorial interventions.

Expected impact

➢ Improved relevance, quality and efficiency of clinical trials conducted with public funding

➢ Potential to establish a novel clinical trial methodology supported by regulatory authorities.

Practical aspects

Research and Innovation Action Lump Sum, 6 M€ – 4-6 M€/proposal

SC1-HCO-20-2020: Coordination of clinical research activities of the European Reference Networks

Scope
- Coordinate the research and innovation actions of the ERNs
- Identify the research priorities to be tackled by ERNs
- Facilitate the clinical research collaborations among ERNs and beyond
- Coordinate of the clinical research activities of ERNs with the major initiatives of rare diseases research, the International Rare Diseases Research Consortium (IRDiRC) & the European Joint Programme on Rare Diseases (EJP RD)

Expected impact
- Contribute to IRDiRC's goal, by 2027, to enable accurate diagnosis, care and available therapy of a rare disease within one year of consulting a doctor
- Enhance synergy with the Connecting Europe Facility Programme and the EU Health Programme
- Contribute to a European ecosystem for rare diseases bringing efficiently results of research and innovation to the benefit of the patient

Practical aspects
Coordination and Support Action, 2 M€ – 1.5-2M€/proposal

Priority 5 – Decoding the role of the environment, including climate change, for health and well-being

- Aim: improving the risk assessment of environment on health and well-being, and the related socio-economic impact and developing mitigation measures.

- Focus: new testing/screening methods to identify endocrine disrupting chemicals, the development of the 'human exposome' (to allow the assessment of lifelong environmental influences on individuals) and to set the priorities for a new research agenda

POLICY DRIVERS + SUPPORT FOR:

The 7th Environment Action Programme (EAP)

Sustainable Development Goals

The UNFCCC Paris Agreement

REACH and EU related policies

WHO Environment and Health Process (since 1989)

World Health Organization
REGIONAL OFFICE FOR Europe

European Commission

SC1-BHC-29-2020: Innovative actions for improving urban health and wellbeing - addressing environment, climate and socioeconomic factors

Scope

➢ develop and test effective actions and/or policies for improved urban health and wellbeing in Europe. (where applicable, health inequalities and environmental aspects should be addressed).

Expected Impact

➢ More robust evidence for policy making on improvement of urban health in the EU

➢ Improve population health, physical and/or mental health in urban areas of the EU

➢ Inclusion of vulnerable groups and gender aspects and address any health inequities in urban area.

Practical aspects

Research and innovation action, 35 M€ – 4-5 M€/proposal

SC1-BHC-36-2020: Micro- and nano-plastics in our environment: Understanding exposures and impacts on human health

Scope

➢ Produce scientific data in support of improved human health hazard and risk assessment of micro and/or nanoplastics

➢ A list of knowledge gaps included as a suggestion

Expected Impact

➢ Better understanding of health impacts of exposure to micro- and/or nano-plastics, including preliminary investigations into long-term impacts.

➢ Innovation in human health hazard and risk assessment methodologies of micro- and/or nano-plastics.

➢ Contribution to the health-relevant aims of the European Strategy for Plastics in a Circular Economy202 and of the Bioeconomy Strategy.

Practical aspects

Research and innovation action, 25 M€ – 4-6 M€/proposal

Clustering of selected projects; JRC involvement

CALL – Digital transformation in Health and Care

- Better access to healthcare and sustainability of health and care systems
- To empower the participation of citizens and facilitate the transformation of health and care services to more digitised, person-centred and community-based care models
- eHealth and mHealth
- ICT for Active and Healthy Ageing

IMPACT: to maximise the potential of the digital economy in the health and care sectors

POLICY DRIVERS:

Connected Digital Single Market

European Cloud Initiative

European Free Flow of Data initiative

Silver Economy initiative

European Commission

SC1-DTH-12-2020: Use of Real-World Data to advance research on the management of complex chronic conditions

Scope: clinical research integrating Real World Data (RWD), either newly acquired or from existing sources, and linking them with data collected with a research purpose if relevant. Use of RWD to improve the clinical management of adults with complex chronic conditions (CCC).

Expected impact

➢ Demonstrate the potential of the use of Real World Data to advance clinical research on complex chronic conditions;
➢ Demonstrate potential and use of RWD by health authorities to understand safety, quality and effectiveness of therapies;
➢ Improve the clinical outcomes as well as quality of life of CCC patients;
➢ Advance the understanding of management of complex diseases;
➢ Contribution to the cross-border health data exchange and to the DSM.

Practical aspects
Research and Innovation action, 41 M€ - 4-6M€/proposal

European Commission

SC1-DTH-13-2020: Implementation research for scaling up and transfer of innovative solutions involving digital tools for people-centred care

Scope

- To make health services more
  - ✓ patient-centred,
  - ✓ prevention- oriented
  - ✓ responsive, safe, effective, and efficient
- Identify the facilitators of and barriers to scaling-up/transfer comprehensive interventions/innovations in health services and care
- Innovative interventions, based on the use of digital solutions, well researched, and supported by sufficient evidence

Expected impact

- Improving the functioning and sustainability of health systems, put emphasis on prevention, greater health equity and additional societal benefits.
- Create a framework and strategy for a large-scale implementation of an intervention to facilitate the transferability of these practices.

Practical aspects

Research and Innovation action, 20 M€ - 3-4M€/proposal

European Commission

SC1-HCC-10-2020: Towards a Health research and innovation Cloud: Capitalising on data sharing initiatives in health research

Scope:
- Building on existing EU data-intensive initiatives, design an implementation roadmap for a FAIR health research data portal respecting legal and ethics requirements.
- Define and promote, among research projects, procedures to make data FAIR as well as a standard way of communicating such data, so that any IT-system can easily provide metadata to the portal.
- Build a community to align strategies and capitalise on the work done
- Develop two use cases to test the above.

Expected impact
- A catalogue of all relevant publicly-funded health research databases, allowing access to high quality health research data (link to EOSC).
- Through use cases, demonstrate the added value of close collaboration between health researchers and healthcare providers.

Practical aspects
Coordination and Support Action, 3 M€ - 2-3 M€/proposal

SC1-DTH-02-2020: Personalised early risk prediction, prevention and intervention based on Artificial Intelligence and Big Data technologies

Scope

- Innovative ICT solutions through data, data analytics, advanced or novel digital technologies, services, products, organisational changes (also including citizens data ownership and increasing health literacy)
- Validation and active stakeholder engagement in the design
- Personalised early risk prediction, prevention and intervention approaches and better understanding of disease symptoms and effects and behavioural changes
- Addressing the needs of individuals, improving the uptake of preventive approaches and leading to more effective health and care systems)

SC1-DTH-02-2020: Personalised early risk prediction, prevention and intervention based on Artificial Intelligence and Big Data technologies

Expected impact
- ➢ Adequate information on personalised risk prediction, prevention and intervention
- ➢ Clear improvements of outcomes for individuals, care systems and wider society and contribution to new health and care pathways
- ➢ Large-scale collection of user-generated data in compliance with data protection, privacy and security rules and principles

Practical aspects
Research and Innovation action, 32 M€ - 4-6 M€/proposal

SC1-DTH-04-2020: International cooperation in smart living environments for ageing people

Scope
- Develop and validate new solutions that provide personalised advice, guidance and follow-up by smart living environments for ageing people, supporting independent active and healthy lifestyles, fostering social participation and avoiding social exclusion (considering ethics, privacy, security and regulatory aspects, gender issues),
- Building on active user engagement
- Validation in realistic test sites (eg. home or care centres)

- Collaboration with Japan (standardisation)

- Collaboration with Canada (Transitions in Care Initiative)

SC1-DTH-04-2020: International cooperation in smart living environments for ageing people

Expected impact

➢ Independent living, and quality of life of older persons compared to current state of the art;

➢ Usefulness and effectiveness of personalized recommendations and follow-up in terms of the goals of preserving physical, cognitive, mental and social well-being for as long as possible;

➢ Evidence of user-centred design and innovation, effective ways of human computer interaction, and user acceptance;

➢ Fostering social participation and reducing social exclusion's risks;

➢ Validation of non-obtrusive technology for physical, cognitive, social and mental wellbeing;

➢ Strengthened international cooperation in Research and Innovation on ICT for AHA.

Practical aspects

Research and Innovation action, 8 M€ - 2-4 M€/proposal

SC1-DTH-06-2020: Accelerating the uptake of computer simulations for testing medicines and medical devices

Scope

- Develop innovative scientific and technological computer modelling solutions for testing medicines and/or medical devices based on multidisciplinary research
- Also explore and inform of the reasons for failure and suggest improvements
- Measures for validation of the in-silico results
- Benefit for human health, environment and animal welfare should be analysed
- Engagement with regulators and consideration of the regulatory framework

SC1-DTH-06-2020: Accelerating the uptake of computer simulations for testing medicines and medical devices

Expected impact
- Adoption of computer simulations and translation into the clinic and the market
- Increasing the trust of users, investors and stakeholders at industry and academia
- Redesigning current drug clinical trials by integrating in-silico methods using digitised, personalised testing environments
- Engagement with regulators, consideration of the regulatory framework
- Reducing size and duration of human clinical trials and/or reducing animal testing
- Increased efficacy and patient safety
- Reducing development costs and/or shorter time-to-market
- Setting standards for computer modelling solutions for testing
- Open, reusable data and in silico models

Practical aspects
Research and Innovation action, 32 M€ - 6-8 M€/proposal

SC1-DTH-14-2020: Pre-commercial Procurement for Digital Health and Care Solutions

Scope
- Support health and care service provider to procure the development of digital services, facilitating the transition to integrated care models across health and social services and country-specific cross-institutional set-ups
- Address key challenges such as patient empowerment, self-management, patient safety, patient involvement, chronic disease management, diagnosing, hospital logistics, skills and independent living by ICT-based solutions such as, e-Health, telemedicine, and mHealth - to be defined through the market consultation process, validation of benefits
- Driven by clearly identified user needs and public and/or private procurers
- Interoperable solutions based on open platforms, best practices and standardisation initiatives
- Facilitate the early adoption and transferability
- Compliance with ethical standards, patients' rights and privacy protection

Innovation Procurement: PCP + PPI Complementarity

- **PCP** to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- **PPI** to act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market
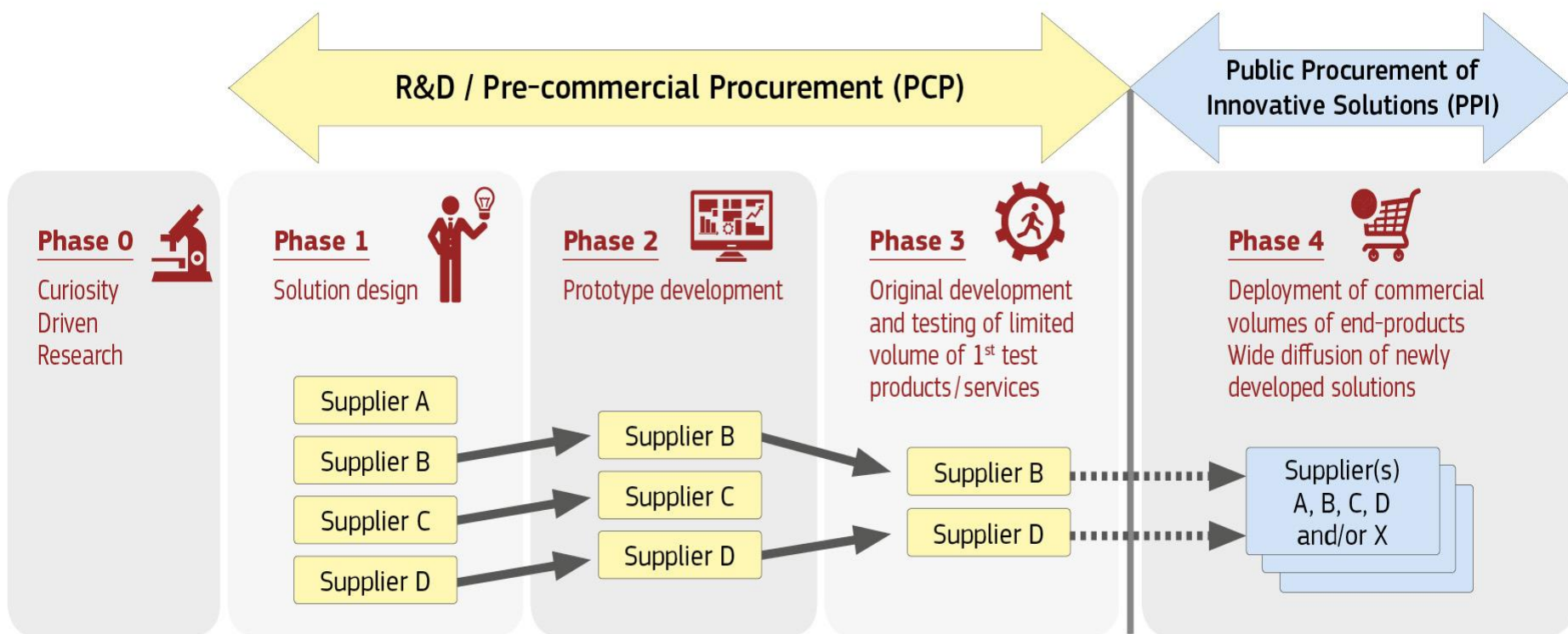
SC1-DTH-14-2020: Pre-commercial Procurement for Digital Health and Care Solutions

Expected impact

➢ Established path to innovation, evidence of benefits of disruptive technologies that can support the development of sustainable business models, improved user and market engagement, strengthened procurement community, evidence of healthy innovation ecosystems. Evidence in key performance areas i.e., quality in health and care, sustainability of the delivery system and economic value.

➢ Increased opportunities for solution uptake across wider international procurement markets by aiming at interoperable solutions validated through field testing.

Practical aspects
Pre-Commercial Procurement - 9 M€ - 4-5M€/proposal

SC1-HCC-06-2020: Coordination and Support to better data and secure cross-border digital infrastructures building on European capacities for genomics and personalised medicine

Scope

- Develop coordination mechanisms for sharing expertise and securely linking genomic and other health data (e.g. electronic health records, registries) together with national initiatives building on project results and stakeholder activities taking into account legal and ethical requirements
- Identify and facilitate the exchange of best practices between relevant R&I projects, initiatives and other stakeholders
- Provide overview of relevant standards for data quality, security, interoperability, privacy and ethics, concept for sustainability
- Identify critical elements for transparent governance of a digital infrastructure enabling the cross-border linking of genomic and other health data in Europe

SC1-HCC-06-2020: Coordination and Support to better data and secure cross-border digital infrastructures building on European capacities for genomics and personalised medicine

Expected impact

➤ Agreed standards and mechanisms for the cross-border linking and analysis of genomic and other health data with potential for wide-spread adoption across Europe

➤ Adequate basis for developing a cross-border digital infrastructure for linking genomic and other health data in Europe

➤ Best possible and secure use of genomic and other health data for personalized medicine

➤ Adequate basis for investment decisions in personalized medicine (both private and public) based on expected returns

➤ Support Europe's global leadership in personalized medicine

Practical aspects

Coordination and Support Action,
4 M€ - up to 4 M€/proposal

European Commission

SC1-HCC-07-2020: Support for European eHealth Interoperability roadmap for deployment

Scope

- Support deployment and monitoring of eHealth interoperability in real life interoperable digital platforms and solutions for use by citizens, researchers, health services and the workforce across border
- For significant number of citizens in several Member States accessing and providing their own health data
- Consider interoperability of EHR across national borders, empowered European citizen, compliance with the General Data Protection Regulation, Network and Information Systems Directive, ethics and legal issues
- Build on the Commission Recommendation on the European EHR exchange format and relevant activities of the eHealth Network

SC1-HCC-07-2020: Support for European eHealth Interoperability roadmap for deployment

Expected impact

➢ Citizen-centred secure electronic health data use

➢ Cross-border and inter-institutional interoperability solutions

➢ Improved health conditions, healthy working conditions and quality of life and health economics and occupational health

➢ Citizens' management of own healthy life continuum across borders, actors and confinements;

➢ Accessibility, control and portability of health data for citizens;

➢ Open, extensible and harmonisation-based citizen health records solution for service and app developers;

➢ Easy and safe for citizens to provide and donate their health data for research;

➢ Requirements, specifications and guidelines for the exchange of images, image reports, laboratory results and discharge letters

➢ Integration with Connecting Europe Facility

Practical aspects

Coordination and Support Action,
3 M€ - up to 3 M€/proposal

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageing

Scope

- Facilitate further uptake by actively involving partners from the European Innovation Partnership on Active and Healthy ageing as well as other relevant stakeholder groups and R&I projects, at European, national and regional levels
- Focus on successful support to supply and demand sides (also facilitating regular exchanges) in implementing scaling up strategies and large-scale deployment (incl. twinning programmes, capacity building for local and regional authorities)
- Long-term investment strategy leveraging and blending funding sources from European, national and/or regional programmes/promotional banks and private investments, also involving new players
- recommendations or guidelines for public health authorities
- Fields: mHealth solutions for active and healthy ageing, smart age-friendly homes and independent living, chronic disease management

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageing

Expected impact

- Accelerated progress on scaling-up digital innovation for active and healthy ageing across the EU.

- Contribution of the policy activities to i) The Quality of Life of the EU population, ii) The Sustainability of Health and Care delivery and iii) Economic growth and job-creation

- Increased levels of investment by public authorities and private investors in digital innovation for health and active ageing.

- Wider commitment to investment leading to successful and cost-effective implementation of digitally-enabled, person-centred care solutions

- Enhanced market conditions that can facilitate economies of scale for the suppliers of technology and services

Practical aspects

Coordination and Support Action,
2 M€ - 1.5-2M€/proposal

European Commission

SC1-HCC-09-2020: Supporting deployment of eHealth in low and lower middle income countries in Africa for better health outcomes

Scope

- Support the coordination of a registry of relevant existing e-Health solutions with their services and potential for low and lower middle income African countries or regions
- Roadmap and strategic implementation plans building on the requirements of end-user communities and policy makers
- Take into account national and regional policies and (best) practices regarding health and care services and health infrastructures, incl. lessons learned from existing eHealth policies and programmes at all levels of the health system
- Build on relevant existing and emerging initiatives and capacities in Europe and Africa for future cooperation and deployment
- Consideration of ethics and data protection of health data, socio-economic and gender issues
- Involvement of relevant stakeholders (incl. end-users) through national, regional and international workshops and communication and dissemination actions

SC1-HCC-09-2020: Supporting deployment of eHealth in low and lower middle income countries in Africa for better health outcomes

Expected impact

➢ Higher level of international cooperation and networking in eHealth programmes and policies between European countries or regions and low and middle income African countries, focusing on areas that are beneficial to the target countries / regions and their citizens in eHealth

➢ Increased opportunities for e-health innovators, patients, medical staff and health system stakeholders in Europe and Africa

➢ Better accessibility of eHealth Services

Practical aspects

Coordination and Support Action,
2 M€ - 1.5-2 M€/proposal

European Commission

CALL – Trusted digital solutions and Cybersecurity in Health and Care

- Multidisciplinary technologies and solutions in health and care with a focus on cybersecurity

- Secure and user-driven ICT-based solutions in early risk detection and interventions

- Aggregation of a variety of new and existing data sources

FOCUS AREAS
- Digitising and transforming European industry and services
- Boosting the effectiveness of the Security Union

POLICY DRIVERS :

Connected Digital Single Market

Big Data in healthcare

European Data Protection Regulation

DT-TDS-04-2020: AI for Genomics and Personalised Medicine

Scope

- Demonstrate the potential and benefits of AI technologies for advancing research and personalised medicine through the linking of relevant genomics data and repositories, according to adequate organisational, regulatory, security, ethical and technical requirements
- Develop and test AI solutions for linking genomics repositories across the EU, including banks of "-omics" and health related data, biobanks and other registries - supporting clinical research, decision making, diagnostic capacity in personalised medicine
- potential to build a large-scale distributed repository of relevant genomic data and other -omics and medical data for AI solutions
- compliance with the relevant privacy, cybersecurity, ethical and legal rule (incl. exchange of cross-border data)

DT-TDS-04-2020: AI for Genomics and Personalised Medicine

Expected impact

➤ Development and testing of effective AI technologies on genomics and other linked –omics and healthdata repositories

➤ Promoting the sharing of data and infrastructure for prevention and personalised medicine research, linking with ongoing '-omics' and human cell mapping initiatives, secure access and cross-border exchange, interoperability of relevant registries

➤ Measuring patient-based value healthcare outcomes

➤ Supporting the pooling of health data and resources across the EU

➤ Standards for genomic data generation, analysis, privacy and sharing

➤ Providing open, reusable data for prevention, genomics and personalised medicine research.

➤ Trust of users on AI solutions to process and link genomics data with other –omics and health related data for better decision-making and value-based patient health outcomes

Practical aspects
Research and Innovation action,
35 M€ – up to 10 M€/proposal

DT-TDS-05-2020: AI for Health Imaging

Scope

➢ AI tools and analytics for prevention, prediction and treatment of the most common forms of cancer while providing solutions to securely share health images across Europe

➢ Set up and contribute to populate a large interoperable repository of health images enabling the development, testing and validation of AI–based health imaging solutions to improve diagnosis, disease prediction and follow-up

➢ High quality, interoperable, anonymised or pseudo-anonymised data sets of annotated cases, based on data donorship, using open APIs

➢ Ethics, security requirements and data protection legislation

➢ Evidence establishing the AI tools safety, validity, reproducibility, usability, reliability and usefulness for better health outcomes

➢ Explaion reasoning behind AI-based conclusions and recommendations, possible failures and inaccuracies

European Commission

DT-TDS-05-2020: AI for Health Imaging

Expected impact

➢ Creation of a EU-wide repository of health images dedicated to the most common forms of cancer, enabling experimentation of AI-based solutions to improve diagnosis, treatment and follow-up and contribute to a more precise and personalised management of cancer

➢ Developing technical, organisational and ethical standards for AI for health imaging

➢ Promoting access to anonymised health image data sets to be made more openly reusable across the EU for training AI applications

➢ Increasing trust in AI solutions among users (healthcare professionals and patients), investors and stakeholders at industry and academia

Practical aspects
Research and Innovation action,
35 M€ – 8-10 M€/proposal

Call deadlines

Better Health and care, economic growth and sustainable health systems

Digital transformation in Health & Care

Trusted digital solutions and Cybersecurity in Health & Care

BHC + HCO + DTH-12 and
HCC-10 call topics
Calls open: 4 July 2019
Calls close: 7 April 2020

Other DTH, HCC & TDS-04 topics
Calls open: 19 November 2019
Calls close: 22 April 2020

Exceptions
BHC-08, BHC-24-, BHC-28 & DTH-13-2020
Two-Stage call
Call opens: 4 July 2019
1st stage closes: 24 September 2019
2nd stage closes: 7 April 2020

Exceptions
HCC-06, HCC-07 & TDS-05
Call opens: 9 July 2019
Closes: 13 November 2019

European Commission

DT-ICT-12-2020: AI for the smart hospital of the future

Scope

➢ Pilot demonstrators that deliver innovative AI-based solutions in health and care settings (e.g. hospital, primary care facility or care home)

➢ Support clinical diagnosis and treatment, etc. carried out with clinical outcomes comparable to human delivered procedures and with comparable results

➢ May address any aspect of health facility operations across their range of functions, such as diagnostics, treatments, logistical aspects, measured against health and care metrics

➢ Consider wider dimensions such as impact on resources, staff training and alignment with existing practice

➢ Build AI-based systems that combine digital and physical services that support individualised and integrated care solutions in care facilities

➢ Integrate health and care partners in the design of the pilots

➢ at scale" benefits in efficiency or cost reduction and demonstrate the effectiveness of any novel service models in providing economic justification for scale-up investment

➢ Address privacy and cybersecurity issues

➢ Align with actions of DT-ICT-02-2018: Robotics -Digital Innovation Hubs

# DT-ICT-12-2020: AI for the smart hospital of the future

Expected impact

➤ European-led AI based pilots for the smart hospital of the future, enabled by open system platforms

➤ Effectiveness of AI based technologies, such as smart robots, in a range of healthcare tasks, developing deployable applications

➤ Engagement of healthcare policy makers, investors, stakeholders

➤ Reaching a high leveraging effect on other sources of funding, in particular regional and national funding

➤ Trust and acceptance building in the AI technology among all stakeholders (including patients, their formal and informal caregivers, decision makers, etc.).

Practical aspects

Innovation action, 40 M€ – 7-10 M€/proposal, submission dealine: 22 Apr 2020

Participant portal – one–stop shop

- Call topics

- NCPs

- Expert registration

- Documents

- Project officers' list for questions

- FAQs

- Rules for participation

- Upload project reports

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home
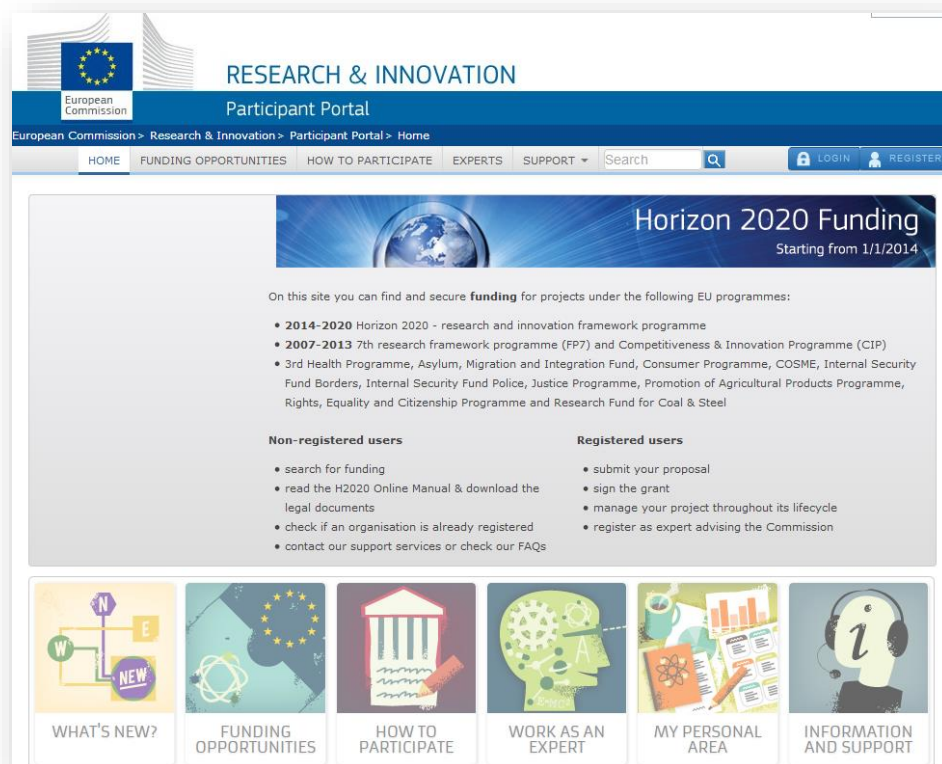
Participation of UK entities

- <u>until the UK leaves the EU, EU law continues to apply to and within the UK</u>, when it comes to rights and obligations; this includes the eligibility of UK legal entities to fully participate and receive funding in Horizon 2020 actions

- eligibility criteria must be complied with for the entire duration of the grant

- **if the United Kingdom withdraws from the EU during the grant** period without concluding an agreement with the EU ensuring in particular that British applicants continue to be eligible, they will cease to be eligible to receive EU funding (while continuing, where possible, to participate) or be required to leave the project on the basis of Article 50 of the grant agreement

Thank you!

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#InvestEUresearch
#EUHealthResearch

http://ec.europa.eu/research/health
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home
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