#InvestEUresearch

Horizon 2020 Work Programme for Research & Innovation 2018-2020

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

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Health Directorate, European Commission

European Commission

Research and Innovation

What is Horizon 2020?

HORIZON 2020 is the framework programme for research and innovation of the European Union

28 Member States +
11 Associated Countries pooling resources in one unique R&I programme

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What do you need to know about Horizon 2020?

#1 European largest **integrated R&I programme**, from **basic research** to **close-to-market innovation**

Total budget (2014-2020) of ~ **EUR 77 billion** – this represents **~10%** of **public R&I spending** in the EU
~ 3,000 grants signed per year

Horizon 2020 contributes to **~90%** of the total **transnational research** funding in the EU
(~75% of Horizon 2020 funding goes to transnational projects)

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What do you need to know about Horizon 2020?

Excellence as guiding principle for selection of projects

A large **toolbox of funding instruments** and actions

Open to business: from 2014 to 2016, **23.9% of funds go to Small and Mediums Enterprises (SMEs)**

Open to international collaboration: participation of 130 countries

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EU Horizon 2020: a three-pillar structure

- European Research Council
- Future and Emerging Technologies
- Marie Skłodowska-Curie actions
- Research infrastructures

Excellent science

Industrial leadership

Societal challenges

SC1- Health, demographic changes and wellbeing (€ 7.4 b)

- Leadership in enabling and industrial technologies
- Access to risk finance
- Innovation in SMEs

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Horizon 2020

Work Programmes 2018-2020

Political context

Research and innovation – policy drivers (I)

Contribution to 3 of the 10 Commission priorities

- Jobs, growth & investment

- Digital single market

- EU – a stronger global actor

Research and innovation – policy drivers (II)

SC1 policy drivers

- The 2030 Agenda for Sustainable Development and its Sustainable Development Goals

- Council Conclusions on Personalised Medicine and on Pharmaceuticals

- Digital Single Market

- COP21 and the goals of the Ostrava Declaration on Environment and Health

- The new European One Health Action Plan against Antimicrobial Resistance

- Cross-border healthcare directive (and its support to the European Reference Networks)

- Communication on upgrading the single market (and its proposed health technology assessments initiative)

- Building on the principle of openness – open science, open innovation and open to the world

Key findings from the H2020 INTERIM EVALUATION

KEY STRENGTHS

An attractive, simplified and well-performing programme, highly relevant for stakeholders and societal needs

On track to deliver **value for money** and **to meet its knowledge-creating objectives**

Strong **EU Added Value** through unique opportunities, competition & access to new knowledge

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Key findings from the H2020 INTERIM EVALUATION

KEY AREAS FOR IMPROVEMENT

Underfunding

Has lower success rates than FP7, esp. for high quality proposals

Support for market-creating innovation

Demonstrates potential for breakthrough, market-creating innovation, but it should be strengthened substantially

Greater outreach to civil society

Should better explain the impacts of R&I, and involve even more the users & citizens in agenda-setting & implementation

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EU Horizon 2020:
supports health research from bench to bedside

Participant portal – one–stop shop

- Call topics + all related documents

- NCPs

- Expert registration

- Legal & guidance documents

- FAQs

- Access to proposal submission system

http://ec.europa.eu/research/participants/portal

Collaborative research – Societal Challenge 1

'Health, demographic change and well-being'

What is health collaborative research?

What are the requirements?

- Biannual work-programmes (with updates) published by EC
- Aims to foster collaboration between
    - ✓ Countries: minimum 3 legal entities from 3 different EU Member States or FP-associated countries
    - ✓ Sectors: pre-clinical, clinical, …
    - ✓ Disciplines: cell biology, genetics, imaging, clinical trial, …

Broad range of topics …
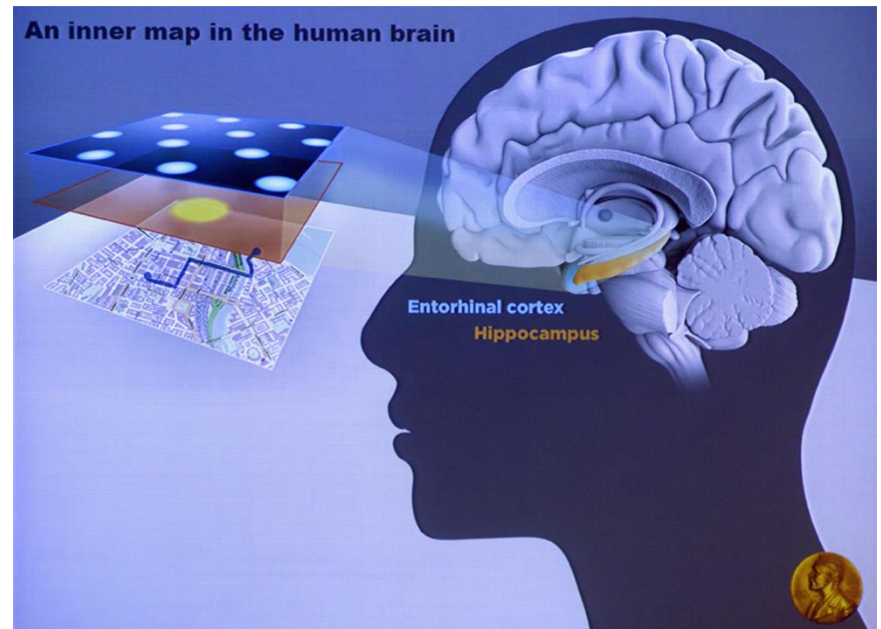
- *From …* BHC-01-2019: Understanding causative mechanisms in co- and multimorbidities
- *To …* HCO-05-2018: Strengthening regulatory sciences and supporting regulatory scientific advice

EU-supported research: Brain research

A positioning system in the brain

EU FP5 Life Sciences ('NAPPY') and FP7 Health ('SPACEBRAIN') collaborative research grants

& ERC grants

EU-supported research: Regenerative medicine

Treating leukaemia with designer immune cells

Baby girl is first in the world to be treated with 'designer immune cells'

Genetically engineered cells successfully used to treat aggressive form of childhood leukaemia, but landmark treatment had only been tested on mice
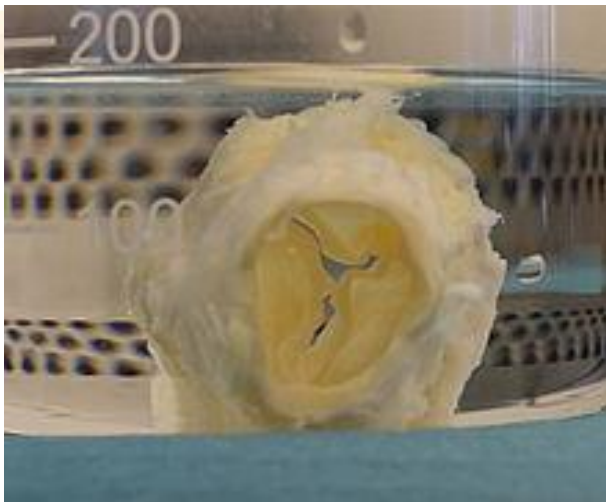
Layla Richards, whose aggressive form of leukaemia was treated with genetically engineered immune cells. Photograph: Great Ormond Street Hospital/PA

A baby girl with aggressive leukaemia has become the first in the world to be treated with designer immune cells that were genetically engineered to wipe out her cancer.
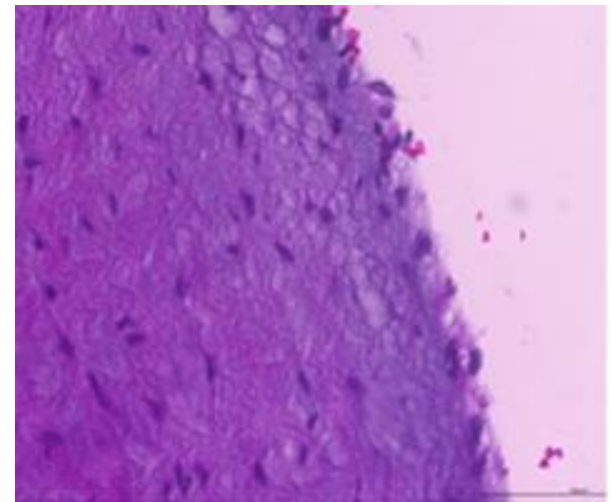
EU-supported research: Regenerative medicine

Project "ESPOIR"

- Heart valve defect (2 in every 100 babies born): valve-replacement surgery very successful BUT limited immune tolerance in young patients, outgrow their valve, re-operations required every 5-10 years
- Implant a **decellularised human donor valve**: does not activate the immune system, and promotes tissue regeneration
- 121 patients treated: zero valve-related mortality - 83 % of patients free from any re-intervention or re-operation
- Obtained regulatory and reimbursement approval for decellularised human heart valves in DE, CH, NL, IT, UK, BE
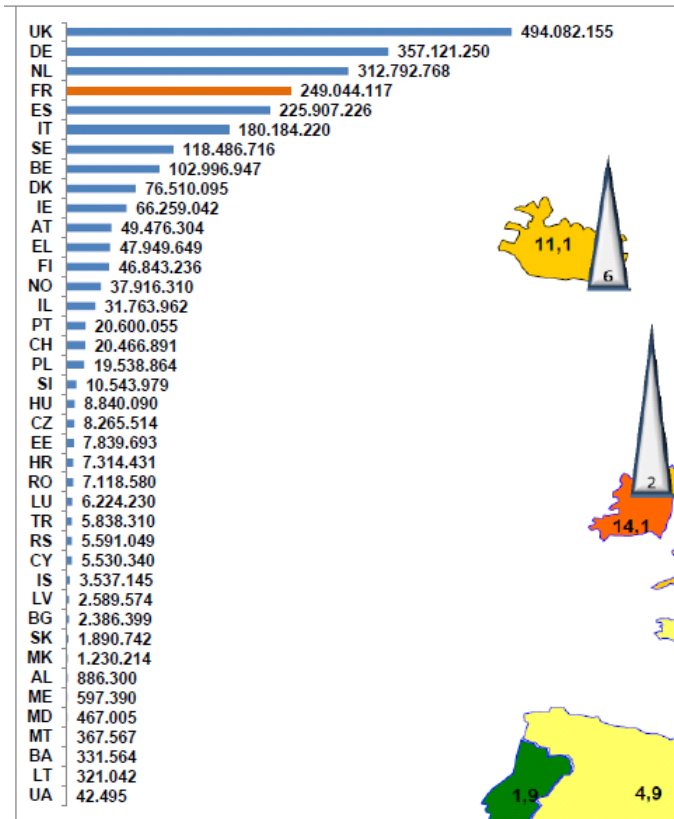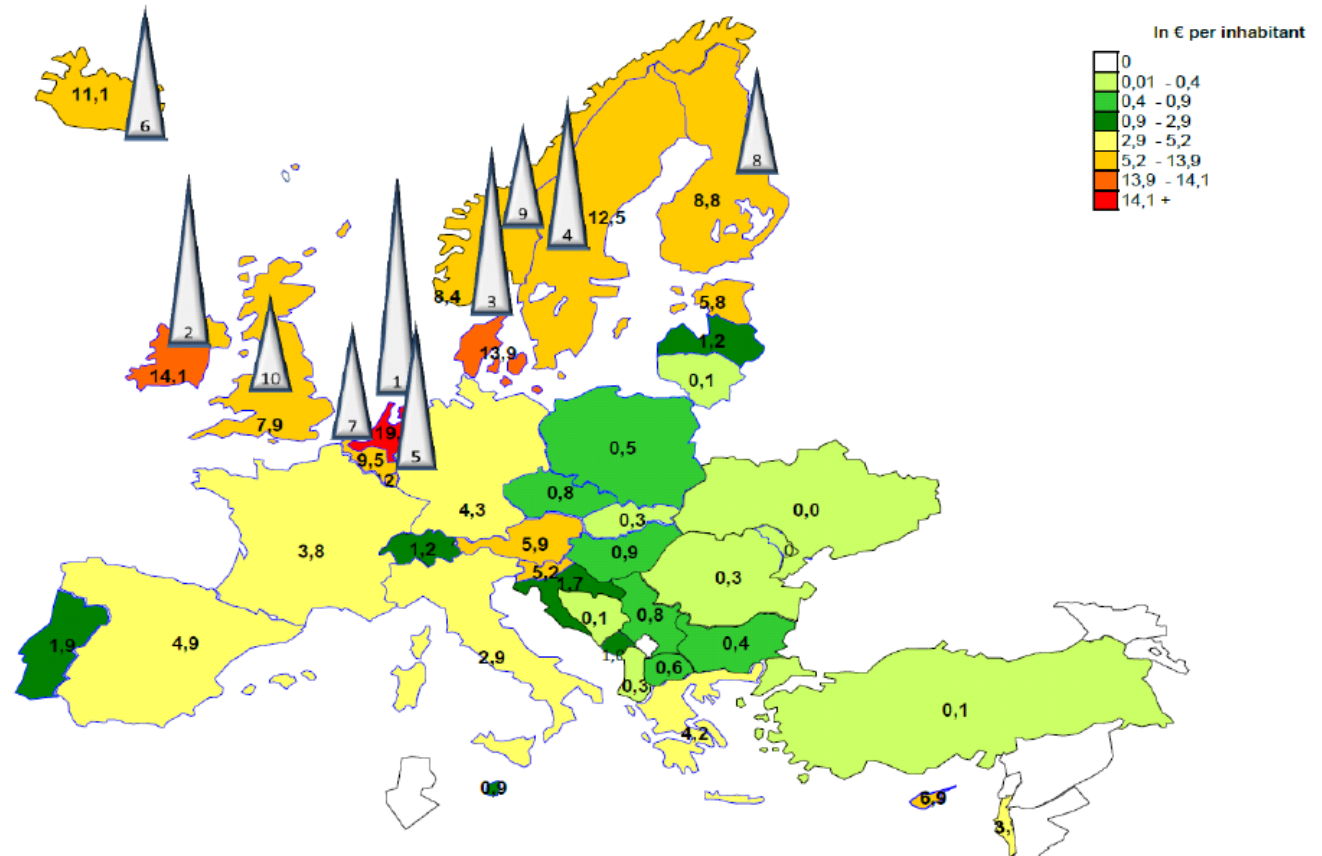
New tissue growth
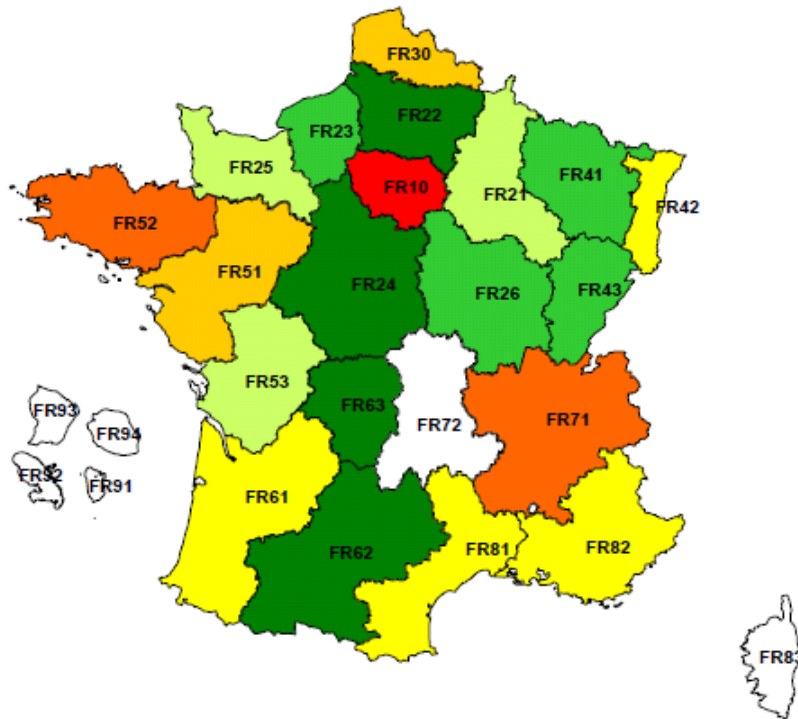
What about France in H2020 SC1 ?

EC contribution

UK	494.082.155
DE	357.121.250
NL	312.792.768
FR	249.044.117
ES	225.907.226
IT	180.184.220
SE	118.486.716
BE	102.996.947
DK	76.510.095
IE	66.259.042
AT	49.476.304
EL	47.949.649
FI	46.843.236
NO	37.916.310
IL	31.763.962
PT	20.600.055
CH	20.466.891
PL	19.538.864
SI	10.543.979
HU	8.840.090
CZ	8.265.514
EE	7.839.693
HR	7.314.431
RO	7.118.580
LU	6.224.230
TR	5.838.310
RS	5.591.049
CY	5.530.340
IS	3.537.145
LV	2.589.574
BG	2.386.399
SK	1.890.742
MK	1.230.214
AL	886.300
ME	597.390
MD	467.005
MT	367.567
BA	331.564
LT	321.042
UA	42.495

EU contribution by inhabitant

In € per inhabitant
- 0
- 0,01 - 0,4
- 0,4 - 0,9
- 0,9 - 2,9
- 2,9 - 5,2
- 5,2 - 13,9
- 13,9 - 14,1
- 14,1 +

Which FR region has received the most funding?


Regions	EU Contribution
FR10 - Île de France	169.343.154
FR71 - Rhône-Alpes	18.502.971
FR52 - Bretagne	9.315.085
FR30 - Nord - Pas-de-Calais	8.519.863
FR51 - Pays de la Loire	7.168.131
FR81 - Languedoc-Roussillon	7.101.331
FR82 - Provence-Alpes-Côte d'Azur	7.040.079
FR42 - Alsace	6.048.594
FR61 - Aquitaine	4.908.851
FR62 - Midi-Pyrénées	3.348.687
FR63 - Limousin	2.179.500
FR24 - Centre	1.571.204
FR22 - Picardie	1.143.147
FR23 - Haute-Normandie	769.250
FR43 - Franche-Comté	761.049
FR26 - Bourgogne	584.250
FR41 - Lorraine	525.143
FR21 - Champagne-Ardenne	142.125
FR53 - Poitou-Charentes	70.005
FR25 - Basse-Normandie	1.700
Grand Total	**249.044.117**

In kilo euro (k€)

- 0
- 1 - 520
- 520 - 1.140
- 1.140 - 4.900
- 4.900 - 7.160
- 7.160 - 9.310
- 9.310 - 18.500
- 18.500 +
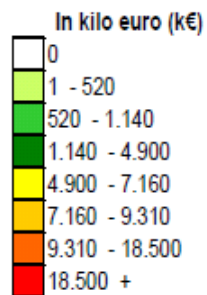
France key figures

EU contribution (million €)	249,0
Number of participations	551
Average amount by participation (€)	451.986

Health collaborative research – 7 priorities for 2018–2020

€ 2.0 billion

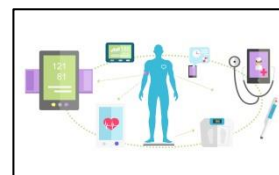SUSTAINABLE DEVELOPMENT GOALS
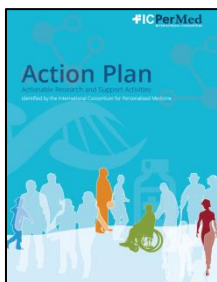
1. Personalised medicine

2. Innovative health and care industry

3. Infectious diseases and improving global health

4. Innovative health, and care systems – Integration of care

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

6. Digital transformation in Health and Care

7. 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 main priorities & 32 topics

Call 'Digital transformation in Health and Care'
13 topics

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

Other Actions 2018–2019
7 items

approx. € 2 billion

European Commission

Priority 1 – Personalised medicine

AIM: Delivering personalised health and care to benefit patients and citizens
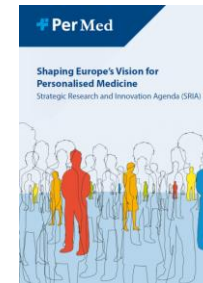
FOCUS: complex disorders, human microbiome, rare diseases and data sharing for enabling personalised medicine, economic models, reinforcing international and regional collaboration

POLICY DRIVERS:

Council conclusions on Personalised Medicine

International Consortium on Personalised Medicine

European Reference Networks

Personalised Medicine
in Work Programme 2018–2019 (I)

- BHC-03-2018: Exploiting research outcomes and application potential of the human microbiome for personalised prediction, prevention and treatment of disease

- BHC-04-2018: Rare Disease European Joint Programme Cofund

- BHC-05-2018: International flagship collaboration with Canada for human data storage, integration and sharing to enable personalised medicine approaches

- BHC-01-2019: Understanding causative mechanisms in co- and multimorbidities

- BHC-02-2019: Systems approaches for the discovery of combinatorial therapies for complex disorders
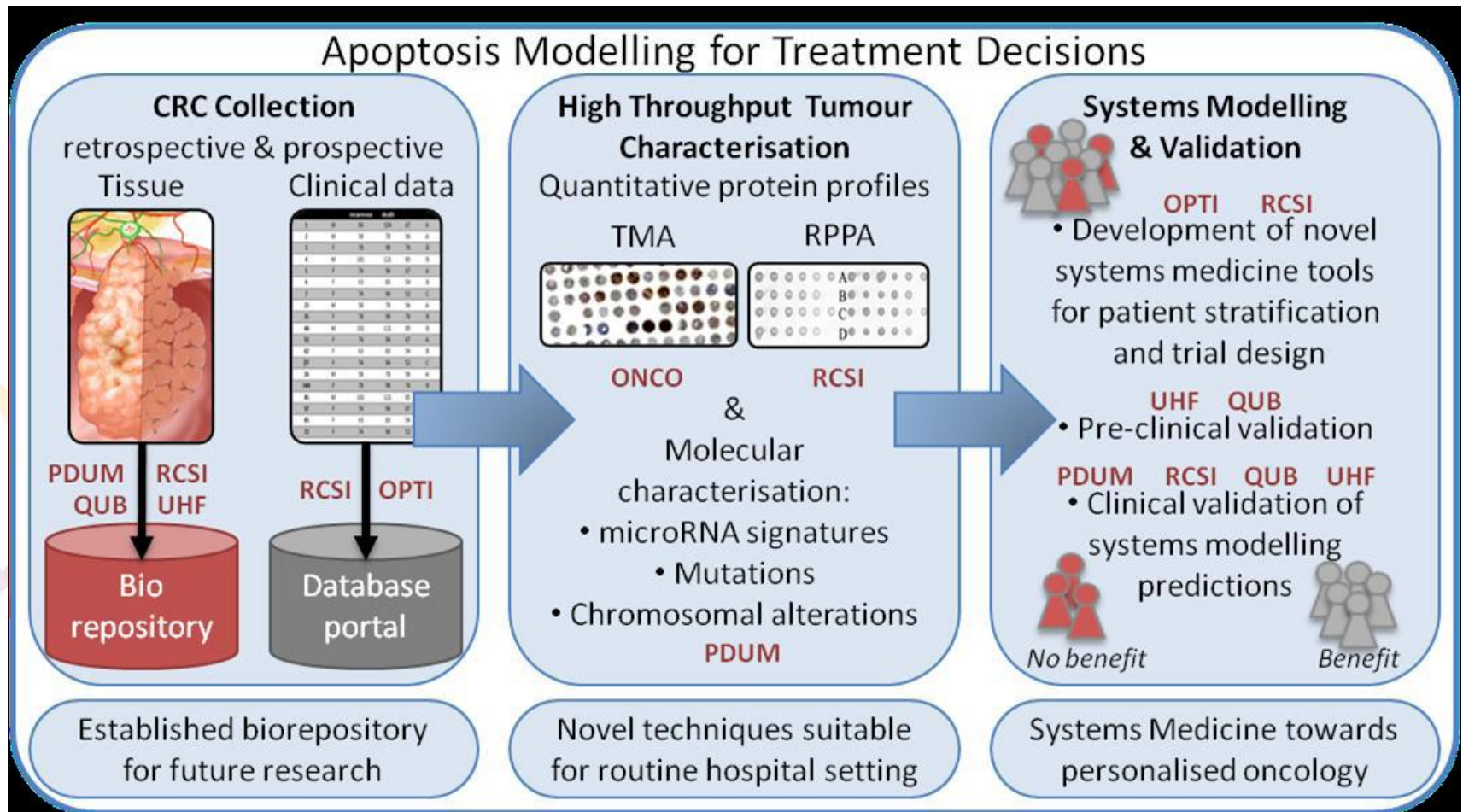
Personalised Medicine
in Work Programme 2018–2019 (II)

Coordination and support actions

- HCO-02-2018: Data integration and data-driven in-silico models for enabling personalised medicine - a European standardization framework

- HCO-04-2018: ERA-NET to support the Joint Programming in Neurodegenerative Diseases strategic plan (JPND)

- HCO-01-2018-2019-2020: Actions in support of the International Consortium for Personalised Medicine

EU-supported research: Treating colorectal cancer

Project "APO-decide"

A systems-based modelling of apoptosis signalling pathways to deliver new prognostic and predictive biomarkers for advanced colorectal cancer

Apoptosis Modelling for Treatment Decisions

CRC Collection
retrospective & prospective

Tissue | Clinical data

PDUM | RCSI
QUB | UHF

RCSI | OPTI

Bio repository

Database portal

Established biorepository for future research

High Throughput Tumour Characterisation
Quantitative protein profiles

TMA | RPPA

ONCO | RCSI

&

Molecular characterisation:
- microRNA signatures
- Mutations
- Chromosomal alterations

PDUM

Novel techniques suitable for routine hospital setting

Systems Modelling & Validation

OPTI | RCSI
- Development of novel systems medicine tools for patient stratification and trial design

UHF | QUB
- Pre-clinical validation

PDUM | RCSI | QUB | UHF
- Clinical validation of systems modelling predictions

No benefit | Benefit

Systems Medicine towards personalised oncology

EU-supported research: Pharmacogenomics for personalised medicine

EU project "U-PGx"

Patients tested for activity of many genes linked to drug actions

4000 patients + 4000 controls; 18 months

Data collected and embedded into e-records of patients in 7 countries

Doctors e-alerted when a drug is prescribed for a patient with "risky"genotype

Analysis of health outcomes and cost-effectiveness

Higher dose needed for these drugs

Risk of overdosing and harm to patient if prescribed as usual
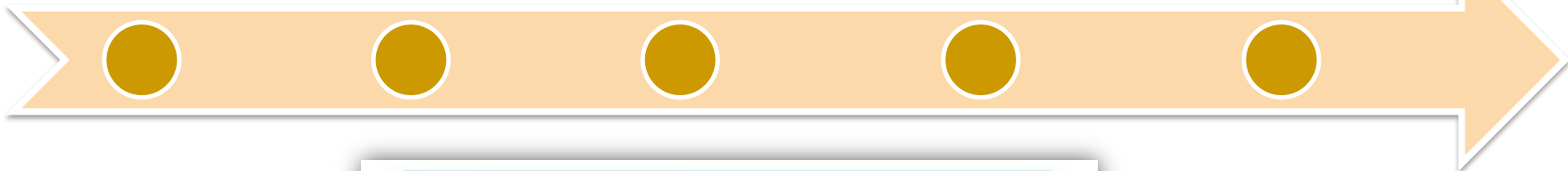
safety-code
The Medication Safety Code initiative

Name: Jane Doe
Date of birth: 01.02.1934

Gene, status	Critical drug substances (modification recommended!)
CYP2C19 Poor metabolizer	Clopidogrel, Sertraline
CYP2D6 Ultrarapid metabolizer	Amitriptyline, Aripiprazole, Clomipramine, Codeine, Doxepin, Haloperidol, Imipramine, Metoprolol, Nortriptyline, Paroxetine, Propafenone, Risperidone, Tamoxifen, Tramadol, Venlafaxine
TPMT Poor metabolizer	Azathioprine, Mercaptopurine, Thioguanine
Other genes Not actionable	ABCB1, ADRB1, BRCA1, COMT, CYP1A2, CYP2A6, CYP2B6, CYP2C9, CYP3A4, CYP3A5, DPYD, G6PD, HMGCR, P2RY12, SULT1A1, UGT1A1, VKORC1

Date printed: 15.03.2016

Card number: 0000001

safety-code
The Medication Safety Code initiative

What is it?
The *Medication Safety Code* on the left represents a patient-specific genetic profile regarding important pharmacogenes.

How does it work?
After scanning the QR code (e.g. with a smartphone), you are led to a website that displays patient-specific drug dosing recommendations.

U-PGx | Ubiquitous Pharmacogenomics

contact

Some street name 123/45
1234 Some city name

www.safety-code.org

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

POLICY DRIVERS:

Upgrading the single market
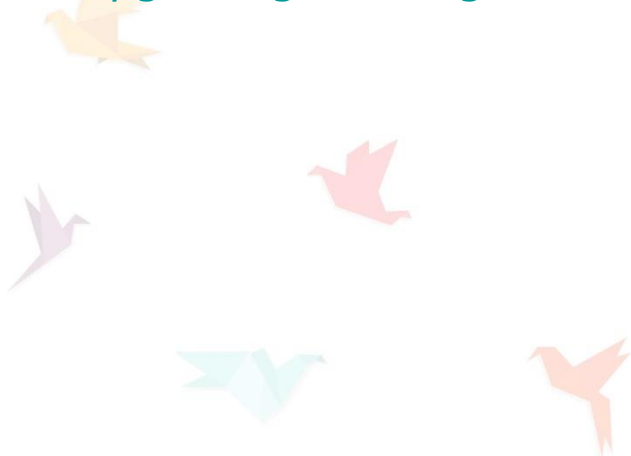
Innovative health and care industry in Work Programme 2018–2019

- BHC-09-2018: Innovation platforms for advanced therapies of the future

- BHC-07-2019: Regenerative medicine: from new insights to new applications

- BHC-10-2019: Innovation Procurement: Next generation sequencing (NGS) for routine diagnosis

Coordination and support actions

- HCO-05-2018: Strengthening regulatory sciences and supporting regulatory scientific advice

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:
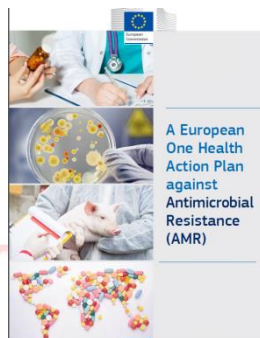
European One Health
Action Plan against
Antimicrobial Resistance

Global Action Plan
on antimicrobial
resistance

Infectious diseases and improving global health in Work Programme 2018–2019 (I)

- BHC-15-2018: New anti-infective agents for prevention and/or treatment of neglected infectious diseases (NID)

- BHC-16-2018: Global Alliance for Chronic Diseases (GACD) - Scaling-up of evidence-based health interventions at population level for the prevention and management of hypertension and/or diabetes

- BHC-18-2018: Translational collaborative cancer research between Europe and the Community of Latin American and Caribbean States (CELAC)

- BHC-21-2018: Research on HIV, tuberculosis (TB) and/or hepatitis C (HCV) in patients with mono-, co-infections and/or comorbidities in the context of fostering collaboration with the Russian Federation

Infectious diseases and improving global health in Work Programme 2018–2019 (II)

- BHC-13-2019: Mining big data for early detection of infectious disease threats driven by climate change and other factors

- BHC-14-2019: Stratified host-directed approaches to improve prevention, treatment and/or cure of infectious diseases

- BHC-19-2019: Implementation research for maternal and child health

Infectious diseases and improving global health in Work Programme 2018–2019 (III)

Coordination and support actions

- HCO-06-2018: Establishment of an International Network of Social Sciences Research Centres to help address governance and other challenges in the preparedness for and the response to infectious threats

- HCO-08-2018: Creation of a European wide sustainable clinical research network for infectious diseases

- HCO-09-2018: Building international efforts on population and patient cohorts

- HCO-10-2018: Coordinating European brain research and developing global initiatives

- HCO-11-2018: Strategic collaboration in health research and innovation between EU and China

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:

Upgrading the single market

Cross-border healthcare Directive

Innovative health and care systems – Integration of care in Work Programme 2018–2020

- BHC-23-2018: Novel patient-centred approaches for survivorship, palliation and/or end-of-life care

- BHC-26-2018: HTA research to support evidence-based healthcare

- BHC-22-2019: Mental health in the workplace

- BHC-25-2019: Demonstration pilots for implementation of personalised medicine in healthcare

Coordination and support actions

- HCO-12-2018: Innovation in healthcare – a CSA towards using pre-commercial procurement and public procurement of innovative solutions in healthcare systems

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:

The 7th Environment Action Programme (EAP)

WHO Environment and Health Process (since 1989)

The UNFCCC Paris Agreement

REACH and EU related policies

Decoding the role of the environment, including climate change, for health and well-being in Work Programme 2018–2019

- BHC-27-2018: New testing and screening methods to identify endocrine disrupting chemicals

- BHC-28-2019: The Human Exposome Project: a toolbox for assessing and addressing the impact of environment on health

Coordination and support actions

- HCO-13-2018: Setting the priorities for a European environment, climate and health research agenda

Other actions for 2018−2019

- Subscription fee: Human Frontier Science Programme Organisation

- Studies, activities of the Scientific Panel for Health, conferences, events and outreach activities

- External expertise

- Grant to the Global Alliance for Chronic Diseases

- Expert group for the impact assessment of the planned Commission communication on infectious diseases

- Subscription fee: World RePORT international health research database

- Mobilisation of research funds in case of Public Health Emergencies

Call deadlines

Better Health and care, economic growth and sustainable health systems

Digital transformation in Health and Care

Trusted digital solutions and Cybersecurity in Health and Care

BHC + HCO call topics
Calls open: 7 November 2017
Calls close: 18 April 2018

DTH, HCC, and SU-TDS call topics
Calls open: 7 November 2017
Calls close: 24 April 2018

Exception
BHC-15-2018
Lump Sum Funding: a pilot topic
Calls open: 7 November 2017
First stage: 6 February 2018
Second stage: 4 September 2018

International cooperation

Why International Collaboration?

Success rates of proposals with different numbers of applicants from non-associated countries

average H2020 success rate
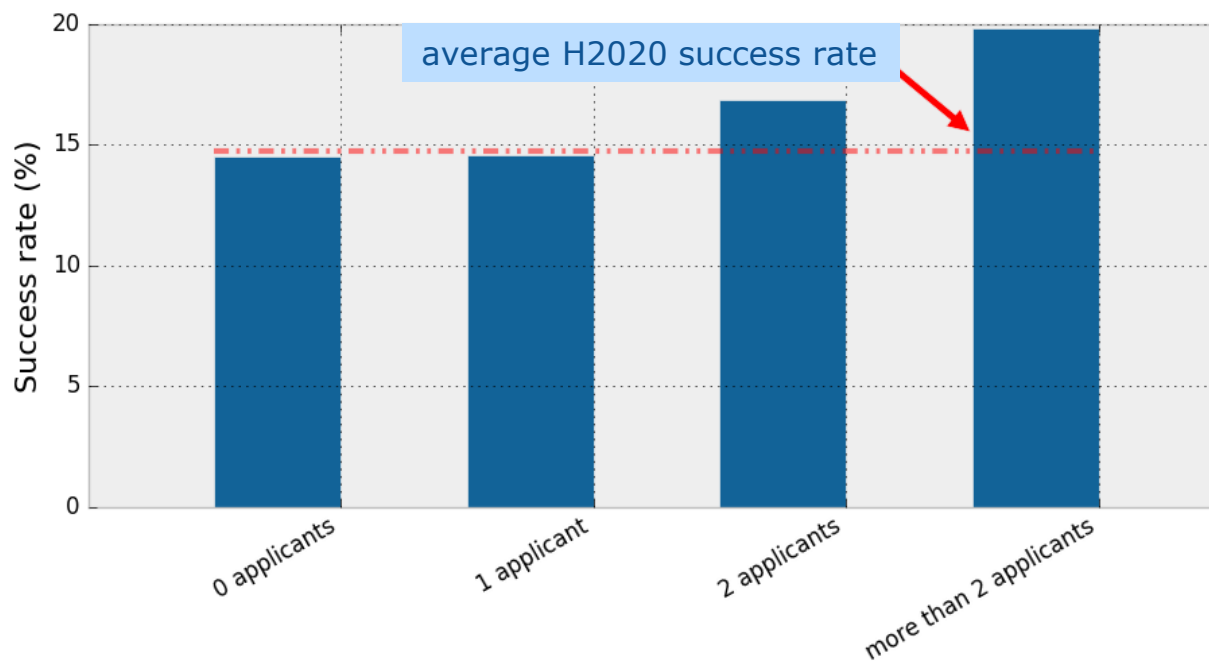
Note: Data for collaborative projects of Horizon 2020. Success rate is the ratio of mainlisted over eligible proposals.
Source: DG RTD - International Cooperation
Data: CORDA (JRC, EIT & art.185 not included), extraction date: 17/10/2017

International Cooperation: main features of WP 2018-2020

General opening: all topics open to international cooperation
- All SC1 topics are open to international cooperation
- EC contribution: 28 MS, 16 AC and 124 Third countries (General Annexes A.) + USA
- For some other TC: co-funding mechanism (CFM) => Australia, Brazil, Canada, China, Hong Kong & Macau, India, Japan, Republic of Korea, Mexico, Russia, Taiwan

Topics targeting specific countries /regions (e.g. CELAC, Russian Federation, Canada, etc.)
- Lower overall participation of TC in WPs 2014-2016 if compared to FP7
- Need to get higher and more visible participation of TC in the last WP
- Stimulate cooperation on targeted areas that represent a burden for EU and TC (e.g. cancer for CELAC)
- Give a politically visible 'sign' of cooperation (science diplomacy)

International Rare Diseases Research Consortium (IRDiRC)

ALPHA MAN: Building on successes from FP5 and FP6 to FP7 and beyond

FP6 HUE-MAN
Pre-clinical and clinical therapy protocols; Conditions for large-scale enzyme production

FP7 ALPHA-MAN
First in man clinical trials for the therapy; Demonstration of safety and efficacy

Marketing authorisation has been applied for

FP5 EURAMAN
Enzyme replacement therapy in a mouse model for alpha-mannosidosis

IRDIRC initiative
Headline goal:
1000 new therapies and means to diagnose most rare diseases by 2020

International Human Epigenome Consortium (IHEC)

Hendrik G. Stunnenberg,[1,*] The International Human Epigenome Consortium,[4] and Martin Hirst[2,3,*]
[1]Department of Molecular Biology, Faculties of Science and Medicine, Radboud University, Nijmegen, 6525AG, the Netherlands
[2]Department of Microbiology and Immunology, Michael Smith Laboratories, University of British Columbia, Vancouver, BC V6T 1Z4, Canada
[3]Canada's Michael Smith Genome Sciences Centre, BC Cancer Agency, Vancouver, BC V5Z 4S6, Canada
[4]http://ihec-epigenomes.org/
*Correspondence: h.stunnenberg@ncmls.ru.nl (H.G.S.), mhirst@bcgsc.ca (M.H.)
http://dx.doi.org/10.1016/j.cell.2016.11.007

More than 1,000 epigenomes mapped through IHEC initiative, special issue in Cell, success of 'BluePrint' EU project
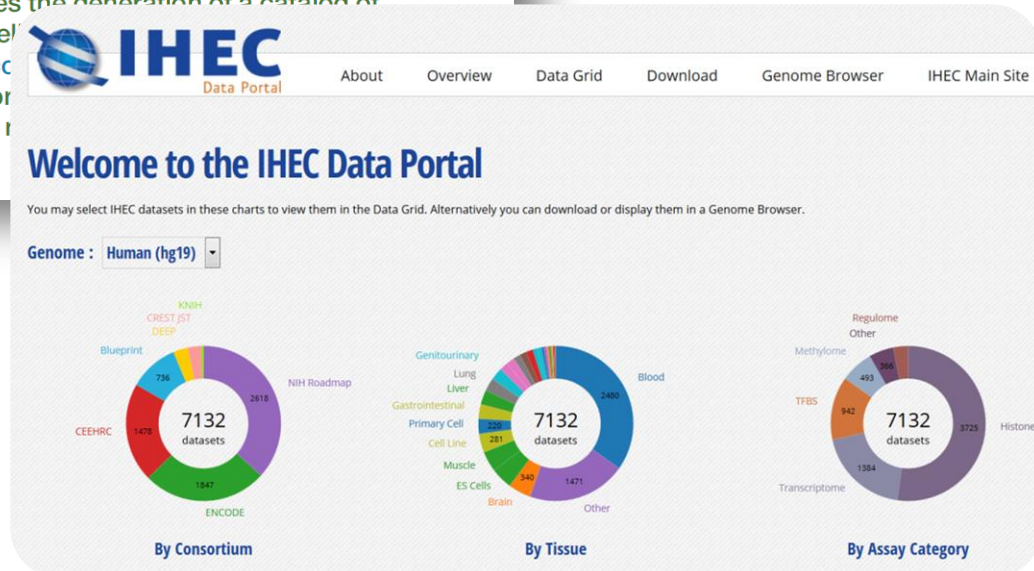
Clinical studies

Template
Essential information about clinical studies |

- Providing <u>structured</u> information <u>to experts for evaluation</u>

- Giving applicants the chance <u>to provide detailed information</u> about clinical studies without page limitations
  Reasons: - detailed but important information, e.g. about Scientific Advice Meetings, relevant (regulatory) guidelines, in- / exclusion- criteria, etc.
                  - potentially high number of studies

- Providing necessary information to request '<u>unit costs</u>'

Available under 'call documents'[1] and in submission system

[1]http://ec.europa.eu/research/participants/data/ref/h2020/other/legal/templ/h2020_tmpl-clinical-studies_2018-2020_en.pdf

Template
Essential information about clinical studies |

- Use of template <u>mandatory</u> for certain single-stage and second-stage topics, **if** a clinical study is included

  - But: no eligibility criterion, no disadvantage when information provided in other part of proposal

  - Rather: more and more appreciated (applicants, evaluators) as an opportunity for structured information

- These topics are listed in the template itself
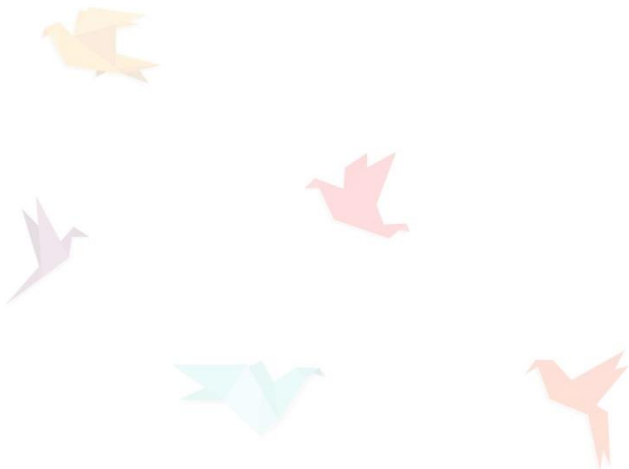
Template
Essential information about clinical studies |

- <u>Ethical considerations</u> have to be addressed in the respective <u>separate section</u>

- Risks and contingency plans have to be addressed in the respective section of the proposal (part B.3.2 and table 3.2.a) … If contingency plans are not outlined in the proposal (and the grant agreement), your grant agreement might be terminated and/or the EU contribution significantly reduced if a study cannot proceed as planned

> "Extensions of project duration can generally not be granted in H2020. Significantly delayed key study milestones (e.g. 'first patient/first visit') might lead to the termination of the grant agreement"

Open research data pilot

Open Research Data Pilot

- **Introduced** with H2020 as part of Open Science and Open Access policies of DG RTD.

- **Legal basis**: Art. 29.3 of the H2020 MGA

- A **default** as of 01 January 2017 for SC1 projects

- **'Opt-out' option** only for specific and well justified reasons

- **Principle**: 'As open as possible, as closed as necessary'

- **Type of Data concerned**
  - Data underlying scientific publications (raw/individual patient data (IPD) not concerned)
  - Additional data defined and agreed by the consortium in the data management plan (DMP) (avoiding potential IP and confidentiality infringements)

European Commission

Open Research Data Pilot

- 'Opt-out' possible at any stage (but rarely justified):
  - during the application phase
  - during the grant agreement preparation (GAP) phase and
  - after the signature of the grant agreement

- **Costs** associated with open access to research data, can be claimed as eligible costs of any Horizon 2020 grant

- Participation in the ORD pilot is **not part of the evaluation of proposals**

- **First version of the DMP** (as a deliverable) must be submitted within the first 6 months of the project

- General DMP template* is available online, draft annotations specific for health research will be available in the near future

- The DMP needs to be updated over the course of the project whenever significant changes arise

*http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

Public-Private Partnership

BUDGET: € 3.276 billion
2013-2020: EC: €1.638 bn + EFPIA: €1.425 bn + Associated Partners: €0.213 bn

- **30 November: Launch of Call 13** (16 topics) – EU contribution: € 124.5m + In-kind contribution from EFPIA &Associated Partners: € 113.5m

- supports health research and innovation, speeding up the development of innovative medicines, particularly in areas of unmet medical need

- covers the full spectrum of drug discovery and development

- facilitates collaboration between universities, research centres, the pharmaceutical and other industries; SMEs, patient organisations, and medicines regulators

- Strategic Research Agenda based on the WHO Priority Medicine Report renewed in July 2013

http://www.imi.europa.eu/get-involved
http://www.imi.europa.eu/apply-funding
http://www.imi.europa.eu/apply-funding/general-overview/tips-applicants

IMI – Lead factory

![European Lead Factory logo]

Joint European Compound Collection	**European Screening Centre**
320 000 cpds from **7 pharma companies**	Advanced, ultra high throughput **screening facilities** & **expertise** on logistics, medicinal chemistry, etc.
200 000 cpds from public partners	

'Access to the European Lead Factory has fast-forwarded our drug discovery programme in the field of oncology by several years.' – Huib Ovaa, Netherlands Cancer Institute

'ELF support & its high quality compound library … will allow Effecta Pharma to expand its drug discovery efforts for dengue and gives an important boost to tackling this viral disease.' – Effecta Pharma, UK biotech company

- ✓ Leading role for SMEs
- ✓ Quality & diversity of compounds recognised
- ✓ Award-winning IP solution
- ✓ Happy users!

Public–Public Partnership

Coordinating national research

Joint Programming initiative on Neurodegenerative Disease Research (JPND)

- 30 countries; EU Member States-led initiative **to increase coordinated investment among participating countries**

- Strategic Research Agenda spanning biomedical, healthcare and social science research

- **Public database mapping** relevant national and European **research and infrastructures**

- Informing **national research agendas/plans**

- Currently some **EUR 123 million invested in 9 transnational calls (incl. co-fund of 10 million from EC)**

BUDGET: ~ € 1.37 billion
EC: € 683 m + MS: € 683 m

- EDCTP2 Annual Work Plan 2018 to be adopted mid-2018: **EU-funded activities: € 115m + new Participating States: € 115m**

- covers research accelerating clinical development of medical interventions to prevent or treat HIV/AIDS, tuberculosis, malaria and other infectious diseases

- includes the development of drugs, microbicides, vaccines, diagnostics and their delivery

- supports coordination of European national research programmes

- funds collaboration between EU, European countries and sub-Saharan African countries

www.edctp.org/see-work/strategy
www.edctp.org/funding-opportunities/calls

EDCTP

European & Developing Countries
Clinical Trials Partnership

Two HIV paediatric formulas – safe and highly effective at protecting infants during breastfeeding up to 12 months after birth

The Lancet, 18 November 2015

Pyramax® approved as antimalarial for treatment of multiple episodes of malaria

EMA news: Meeting highlights from the Committee for Medicinal Products for Human Use (CHMP) 16-19 November 2015

9 December 2015 – EDCTP receives Science Diplomacy Award at South African Science Forum

Research and Innovation

Support to Small and Medium Entreprises

European Commission > Research and Innovation >

European Innovation Council (EIC) pilot

The EIC pilot supports top-class innovators, entrepreneurs, small companies and scientists with bright ideas and the ambition to scale up internationally. It brings together the parts of Horizon 2020 that provide funding, advice and networking opportunities for those at cutting edge of innovation.

European Commission

European Innovation Council: pilot 2018-2020
€ 2.7 billion to support +5.000 SMEs and innovators

ECOSYSTEM SUPPORT: COACHING, MENTORING for all 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

6 EIC HORIZON 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 High-Tech for Humanitarian Aid

European Commission

EIC – new website

- Cleaner interface

- Highlighting success stories

- Wizard guides you to the calls that fit

ec.europa.eu/research/eic

Full bottom-up and introduction of interviews are the main new features of the evaluation under EIC Pilot

Proposal Submission

Remote Evaluation

Ranking of proposals

Above thresholds

Below threshold(s)

Interview

Invited for interview

Not invited for interview

Invitation to GAP

Proposed for funding

Not proposed for funding

Proposal rejection

Responsibility

- Applicants
- H2020 Evaluation team
- Experts

European Commission
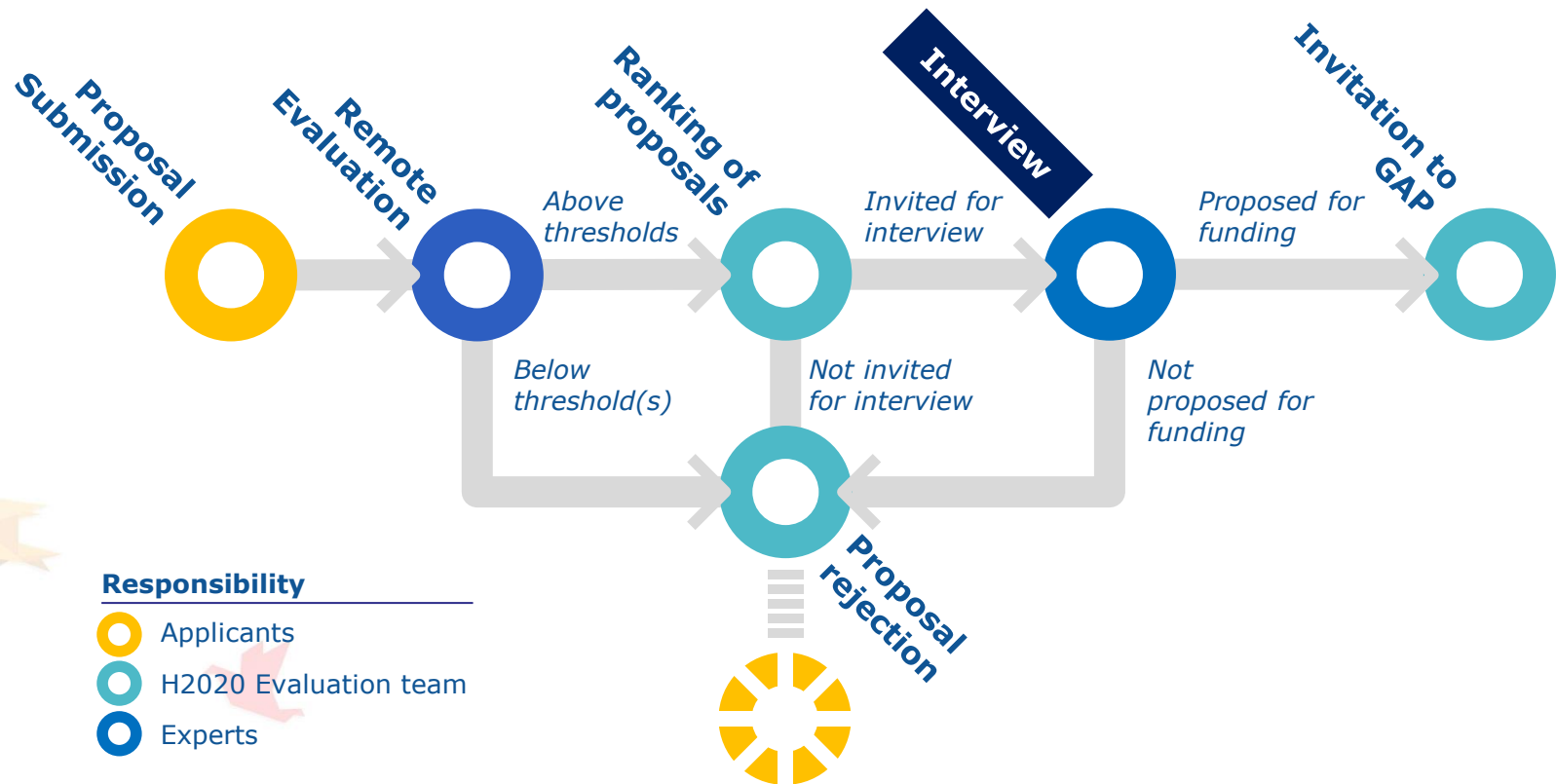
Instrument →	SME-Instrument		FTI	FET-Open	EIC Horizon prizes
	Phase 1	Phase 2			
For whom	One or more eligible[1] SMEs		From 3 to 5 eligible[1] entities (mostly industrial[2])	At least 3 entities[3]	One or more entities (with restrictions[1] for some of the prizes)
Maximum funding[4]	50,000 €	2.5 M€	3 M€	3 M€ (RIAs) 0.5 M€ (CSAs)	Varies for each prize
Total budget 2018-20	164 M€	1425 M€	300 M€	647 M€ (RIAs) 10 M€ (CSAs)	40 M€
Focus	Exploring the feasibility of a business idea (~ 6 months)	Breakthrough innovation & international growth (12-24 months)	Close-to-market innovation	Radically new technologies	6 different topics (major societal issues)

(1) Applicants must be established in an EU Member State or in a country associated to Horizon 2020
(2) This industry involvement implies: (a) either the allocation of at least 60% of the budget to industry participants in the consortium, or (b) the presence of a minimum number of two industry participants in a consortium of three or four partners, or of three industry participants in a consortium of five partners
(3) A FET-Open consortium must always include at least 3 participants from 3 different EU Member States or Associated Countries. In addition to these three partners, any legal entity from anywhere in the world can also be included in the consortium.
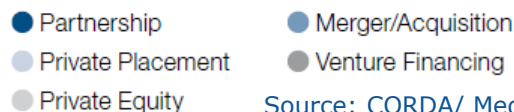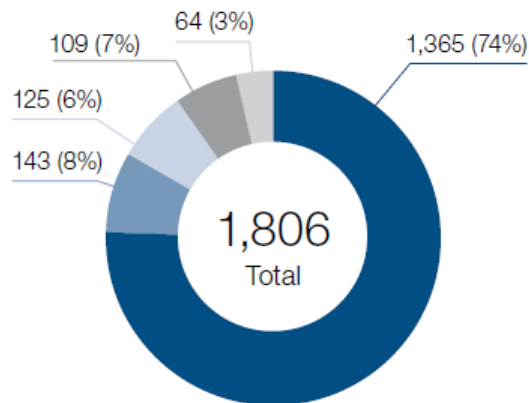**(4)** Per project – with possible exceptions

Is EU funding worth for SMEs ?

EU-funding boosts SMEs deal activity

2010-2015: **4,6 deals per SME** (twice more than for non-EU funded SMEs)

Example: **NABATIVI project**

Fig. 2: Deal types of EU-funded healthcare SMEs (2010–2015)

- 1,365 (74%)
- 64 (3%)
- 109 (7%)
- 125 (6%)
- 143 (8%)

1,806 Total

Legend:
- Partnership
- Private Placement
- Private Equity
- Merger/Acquisition
- Venture Financing

EU-funding boosts SME's Initial Public Offering

- Example: **Immunovia**
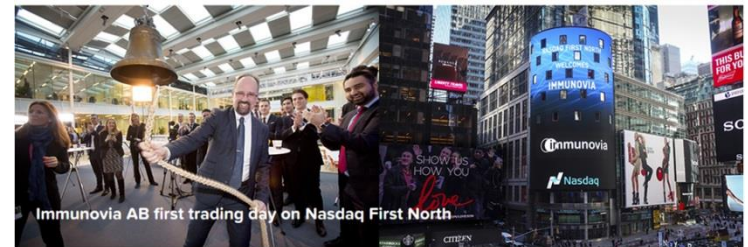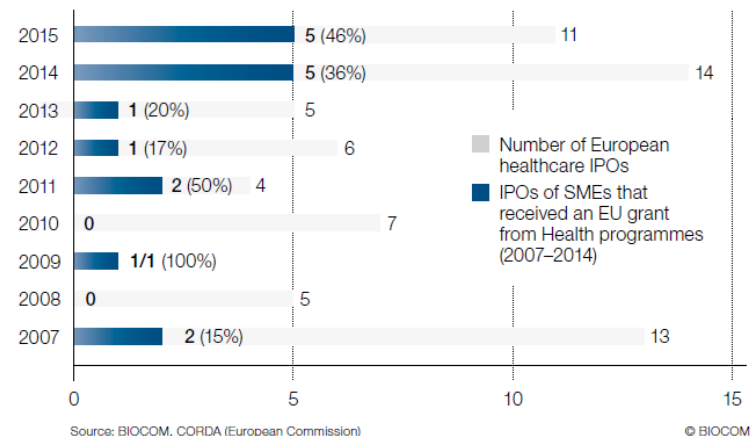- Listed at Nasdaq North, market value tripled in 18 months to €300m

Immunovia AB first trading day on Nasdaq First North

Fig. 4: IPOs and EU-funded healthcare biotech SMEs in Europe

Year	IPOs of SMEs that received an EU grant	Number of European healthcare IPOs
2015	5 (46%)	11
2014	5 (36%)	14
2013	1 (20%)	5
2012	1 (17%)	6
2011	2 (50%)	4
2010	0	7
2009	1/1 (100%)	
2008	0	5
2007	2 (15%)	13

Number of European healthcare IPOs

IPOs of SMEs that received an EU grant from Health programmes (2007–2014)

Research Infrastructures

Health-related ESFRIs: covers the whole spectrum

Target identification

Hit/Lead/ Optimisation & Preclinic

Clinical research

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

Imaging facilities

- **EUROBIOIMAGING** – Imaging facilities

Medical research facilities

- **EATRIS** - Translational research facilities
- **ECRIN** - Clinical trial platform
- **ERINHA** - High-security labs

Thank you!

@EUScienceInnov
#InvestEUresearch
#EUHealthResearch

http://ec.europa.eu/research/health
http://ec.europa.eu/research/participants/portal

European Commission