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Joining forces to strengthen European health research

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If you want to walk fast, walk alone.
If you want to walk far, walk together.
African proverb

Previous basic and applied biomedical research has created the basis for high standards of healthcare in Europe and has achieved excellent abilities to diagnose and treat diseases and promote health. United European Gastroenterology (UEG) has joined forces with the Biomedical Alliance in Europe (BioMed Alliance) to strengthen European health research, because it now needs even greater support to address many unresolved and novel challenges. Unprecedented opportunities have arisen for improving health and achieving better diagnostic, therapeutic and preventive strategies, due to amazing innovations and new methodological options evolving in life sciences, medical research, engineering, information technology and other fields. Increasingly complex biomedical research requires close transnational collaboration, because human diseases have no national borders. The COVID-19 pandemic is a telling example of the essential requirement for international research collaboration to protect human health. The European Union (EU) has effectively facilitated and supported collaborative research through a series of courageous framework programmes since 1984, with a continuous impressive increase of their budgets (Table 1). These EU research programmes have been a huge success, delivering major breakthroughs in scientific understanding and tangible benefits for people. They have markedly contributed to elevating research standards across Europe, establishing a strong infrastructure for collaboration, building capacity particularly among young researchers and positioning Europe as a leading hub for research, innovation and competitiveness.

The European Commission (EC) has prepared a new phase of research funding with the proposed ninth framework programme Horizon Europe for 2021 to 2027. Along with other funding schemes, Horizon Europe will address important societal challenges and remains the EU's flagship scheme for supporting research and innovation, with a proposed total budget of €100 billion (Table 1). Horizon Europe builds on the preceding Horizon 2020 programme and proposes new elements such as Moonshot Missions, a stronger emphasis on translational initiatives, a consolidated budget for blue-sky initiatives and more collaborative effort to converge scientific knowledge into concrete solutions for citizens. Five mission areas have been identified to deliver solutions for some of the world's greatest challenges: adapting to climate change, cancer, climate-neutral programmes and smart cities, healthy oceans and inland waters, and soil health and food.

We commend the EC for its vision on research and innovation and the related budget proposal. However, the budget has not yet been adopted and the political struggle continues. The European Parliament proposed to increase the programme's budget to €120 billion, which was supported by the Commissioner for Innovation and Research.[1] In contrast, competing priorities of EU member states, who need to find unanimous agreement for the budget to pass, threaten to squeeze the research programme's budget.

The Horizon Europe programme

The proposed Horizon Europe programme has three main pillars (Figure 1), with opportunities for health research funding in each of them. It takes some effort to develop a clear understanding of where health research opportunities lie in the framework.

- Pillar 1 (proposed budget €25.8 billion) is dedicated to ground-breaking research ideas and aims to enable individual researchers and their teams to pursue the most promising avenues at the frontiers of science. It includes the European Research Council grants that provide outstanding opportunities to successful biomedical researchers.
- Pillar 2 addresses pressing societal challenges and unmet needs. The cluster dedicated to health (proposed budget €7.7 billion) drives translational initiatives and cross-disciplinary approaches and comprises several key topics:
  - Health throughout the life course

Table 1. The European Union's framework research programmes and their budgets. Based on data of the European Commission, Directorate for Research and Innovation.

Framework research programme (FP)/years	Total budget
FP 1/1984-87	€3.3 billion
FP 2/1987-91	€4.4 billion
FP 3/1991-94	€6.6 billion
FP 4/1994-98	€13.1 billion
FP 5/1998-2002	€15.0 billion
FP 6/2002-07	€17.5 billion
FP 7/2007-13	€50.5 billion
FP 8 Horizon 2020/2014-20	€80 billion
FP 9 Horizon Europe/2021-27	Proposal €100 billion

- Environmental and social health determinants
- Non-communicable and rare diseases
- Infectious diseases, including poverty-related and neglected diseases
- Tools, technologies and digital solutions for health and care, including personalised medicine
- Healthcare systems

The previous Innovative Medicines Initiative is succeeded by the Partnership on Innovative Health with a broadened scope, to comprise not only development of pharmaceuticals but also diagnostic tools, medical devices, medical imaging and biotechnology.

Table 2: Proposed budget of the Horizon Europe programme compared to Horizon 2020, subject to agreement by the member states on the EU's Multiannual Financial Framework. Modified from the Horizon 2020 budget.[5]

	Horizon Europe	Horizon 2020
Total budget	€100 billion	€80 billion
Pillar 1	€25.8 billion	€24.4 billion
European Research Council (Pillar 1)	€16.6 billion	€13.1 billion
Marie Skłodowska-Curie Actions (Pillar 1)	€6.8 billion	€6.1 billion
Pillar 2	€52.7 billion	€29.7 billion
Cluster Health	€7.7 billion	€7.4 billion
Pillar 3 (new)	€13.5 billion	€17.7 billion: Industrial leadership €2.7 billion: European Institute of Innovation and Technology

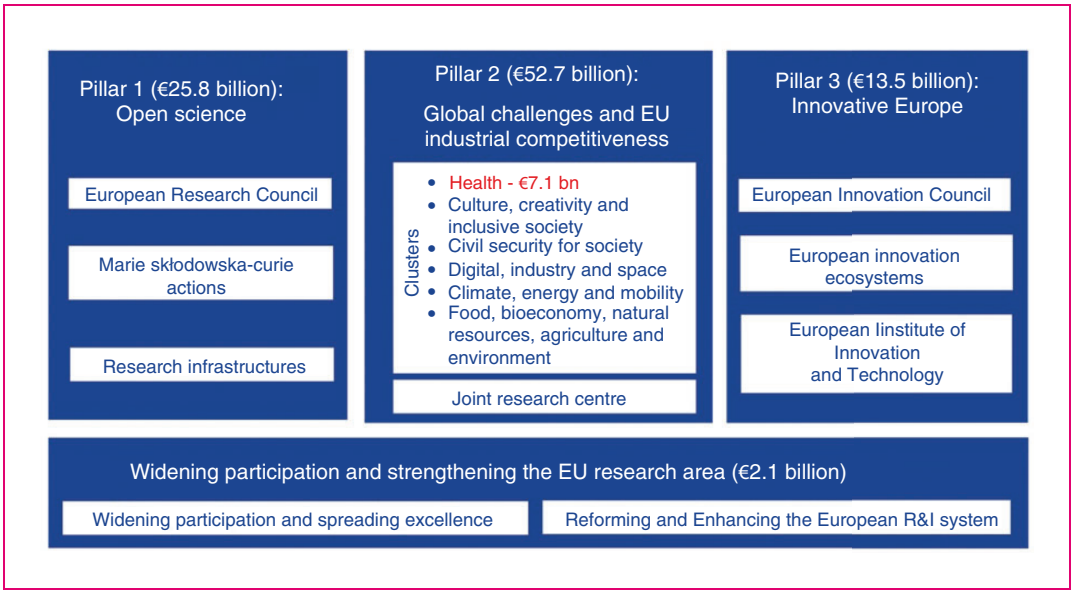

Figure 1. Elements of the proposed Horizon Europe research and innovation framework programme (modified from information provided by the European Commission, Directorate for Research and Innovation).

- Pillar 3 will enhance and fasten the impact of research and promote the European economy by stimulating breakthroughs and innovations and by facilitating their translation application.

New elements in Horizon Europe are a stronger emphasis on synergies across funding schemes and more streamlined projects. The new 'Missions' are a key novelty. Among them, the cancer mission shall focus on all aspects of cancer care including prevention, detection, care and quality of life. The important next steps are achieving an agreement of member states, EU Parliament and the EC on the budget for Horizon Europe and designing the Work Programme 2021–2022 based on the proposed strategic plan.[2]

Joining forces for strengthening the EU health research agenda

Although we are most grateful for the great opportunities that Horizon Europe will offer health research, there is no reason for complacency. The topics that are prioritised in the work programmes will be very important, as will whether the considerations of patients and health professionals or those of commercial actors prevail in these decisions. Therefore, the healthcare and biomedical research community should proactively inform the EC on the most burning priorities and greatest opportunities in health research.

At first sight, the planned budget of €7.7 billion dedicated to health research in Horizon Europe appears a stunning amount. But this investment in health research (and added funding in other pillars) is rather modest compared to the high expenditure on healthcare in the EU member states, amounting to about 10% of their gross domestic product.[3] Sadly, compared to Horizon 2020 the proposed increase of the healthcare research budget is only 4%, whereas the total budget of Horizon Europe increased by 25% (Table 2). Consequently, the proposed budget for health research decreased from previously 9.3% to 7.7% of the total EU investment for research. In fact, the planned budget for health research in Pillar 2 for 7 years amounts to only €2.47 per person and year for each of the 446 million citizens of the EU after Brexit. Improving our future health is surely worth more than the cost of only one cup of coffee per year.

Therefore, it seems even more important than before to consistently and effectively inform the public and political decision makers on the benefits of a targeted, much higher investment into EU health research. Previous research has effectively advanced medical diagnostics, therapeutics and technology in many fields. This has been of key importance for achieving a healthier, longer-living population in Europe, with great benefits for individuals but also a high economic return for society. Moreover, biomedical innovation gives rise to new companies and employment and boosts private sector research and development investments, thereby creating employment and income for people.

The numerous European medical and scientific associations need to join forces and speak with one voice to effectively inform decision makers on the needs and benefits of investing in biomedical research. In January 2020 as many as 7526 people were accredited as lobbyists to the EU Parliament and 11,882 organisations were listed in the public transparency register.[4] Under these conditions, numerous single medical associations – all with somewhat different messages – will not be heard. UEG has therefore joined the BioMed Alliance (https://www.biomedeurope.org/), an umbrella organisation acting as the common voice of European medical societies. BioMed Alliance represents 33 European research and medical societies with more than 400,000 researchers and health professionals. In addition to UEG, further members from the digestive health area are the European Association for the Study of the Liver, European Society of Pathology and European Society for Paediatric Gastroenterology, Hepatology and Nutrition. BioMed Alliance is the common voice of European biomedicine. It aims to improve biomedical research, support better training and mobility of researchers and healthcare professionals, represent its members in policy and strategic matters and improve public understanding of medical science. BioMed Alliance has embarked on various advocacy campaigns and developed effective, multiple partnerships with EU health stakeholders and decision makers to promote the value of health research and to propose solutions. It addresses topics that are relevant for its members, such as continuing medical education, strengthening academic-led clinical trials, EU Medical Devices Regulation, In Vitro Diagnostics Regulation, General Data Protection Regulation and the EU plans to establish paywall-free research publication (Plan S). As a priority, the BioMed Alliance has urged EU institutions to place health research high on their agendas, allocate appropriate funding and establish appropriate structural measures such as an EU Steering Board for Health and a European Institute for Health and Health Research that provide oversight and guidance. An adequate budget for health research is very important, but one also needs to prioritise benefits for patients. The biomedical community should strengthen its efforts to join forces and speak together for the value of health research and for stronger collaborative and longer-term pan-European research initiatives. Therefore, we

encourage other European medical societies in the digestive health area to join the BioMed Alliance.

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