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Response to the European Commission Green Paper “From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding”

ECCO, the European CanCer Organisation, exists to uphold the right of all European cancer patients to the best possible treatment and care and to promote interaction between all organisations involved in cancer research, education, treatment and care at European level. Providing the unifying voice of European Societies representing professionals in oncology, ECCO proactively engages with policy-makers in driving oncopolicy in Europe.

Through its 24 Member Organisations representing over 60,000 professionals in Europe, ECCO is the only multidisciplinary and multiprofessional organisation that connects and responds to all stakeholders in oncology Europe-wide.

ECCO warmly welcomes the opportunity to comment on ideas set out in the European Commission’s Green Paper ‘From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation Funding’. ECCO would like to comment on the following key aspects.

Section 4.1 Working together to deliver on Europe 2020

Q2. How should EU funding best cover the full innovation cycle from research to market uptake?

For effective linkage between cancer research and innovation the complete research continuum needs to be addressed, from basic research to preclinical research and clinical research through to clinical application and evaluation. By definition, the concept of comprehensiveness supports this linkage, and networks for both research and care as well as Comprehensive Cancer Centres are structures within which complete translational cancer research and innovation can be performed. A similar research continuum is required for cancer prevention, which is conducted outside the healthcare system. Funding should support multidisciplinary/multiprofessional



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research teams with the necessary critical mass covering the whole or important fractions of the research continuum.

Q3. What are the characteristics of EU funding that maximise the benefit of acting at EU level? Should there be a strong emphasis on leveraging other sources of funding?

Cancer is a major societal challenge and must be tackled in partnership with all stakeholders (EU Member States, European Commission, European Parliament, universities, scientific organisations, research performing and funding organisations, healthcare providers, NGOs, industries and businesses, legal and ethical bodies, individual citizens, and the media) across the cancer continuum (basic, clinical, early and late translational research, epidemiology, behavioural and health service research). Meeting this societal challenge requires drawing on all available European scientific expertise in order to generate multidisciplinary solutions which are seen as by far the best, if not the only, rational way for innovation in cancer prevention, early detection, and treatment.

Currently, the Framework programmes provide valuable instruments to support international collaboration. However, to tackle a major societal challenge such as cancer - in particular if personalised medicine is to become a priority - it will be necessary to: (i) re-assess the suitability of the various instruments currently available to support research both at national and European level, (ii) transfer a greater proportion of national research budgets to European level or earmark a larger fraction of national budgets for supranational co-operation and (iii) effectively co-ordinate national resources earmarked for supranational co-operation. In doing so, it will be possible to generate effective instruments to undertake essential, long-term projects as well as to establish a dedicated pool of flexible funds that will be crucial for responding to global challenges as they happen (taking a pro-active rather than reactive stance). Overall, meeting the above challenges will not only require a great deal of commitment by the Member States (MS), but also political innovation at all levels of the EU institutional triangle.



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ECCO sees co-ordination of funding for cancer research across the continuum as a key challenge ahead, and sustainability and regulatory issues (clinical trials rules, privacy regulations, etc.) will need to be addressed quickly if cancer is to be tackled in partnership using all the expertise (variable geometry approach) and resources available in Europe. The EU must leverage other sources of funding, including structural funds and private funds, in order to reach the goals of the Innovation Union 2020 Strategy.

Q4. How should EU research and innovation funding best be used to pool Member States resources? How should Joint Programming Initiatives between groups of Member States be supported?

Cancer research provides an excellent example of how EU research and innovation funding may be used to pool MS resources. Today, no single cancer centre or Member State is capable of addressing the whole cancer continuum and the many formidable problems that still make this disease a major killer and a major factor that detrimentally affects the quality-of-life of European citizens. One in three Europeans will be diagnosed with cancer in their lifetime.

As a result, the cancer research community and European cancer centres must be brought together to achieve the critical mass of expertise and resources that is needed to tackle this major societal challenge. The European Commission's Seventh Framework Programme (FP7) recently funded the EurocanPlatform and ENCCA (European Network for Cancer research in Children and Adolescents) projects, two Networks of Excellence that aim to structure translational cancer research in Europe. The EurocanPlatform brings Comprehensive Cancer Centres (CCCs) with a strong research agenda together with basic/preclinical Cancer Centres in an integrated network to collaborate and share resources in order to optimise the translational process, to increase global competitiveness, and to achieve significant breakthroughs in cancer prevention and treatment. The EurocanPlatform, which has placed the patient at the core, embraces the concept of personalised medicine as a basis for developing new therapeutics and focuses on advanced translational research strategies



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using a variable geometry approach with the intent of maximising resources and efforts.

Given its structuring nature, the EurocanPlatform can serve as an excellent model to develop effective research and innovation funding mechanisms as this infrastructure can be further expanded to eventually include the majority if not all leading cancer researchers in Europe. Such a body would have the potential to outperform any other cancer research initiative worldwide and would certainly bring Europe into a leadership position. Key to such development will be the integration of all relevant stakeholders into the many different branches that characterise the cancer research continuum. Participation should be competitive and temporary, but on a renewable basis. This would create a virtual European Cancer Centre that provides longevity and sustainability and that is characterised by competitiveness, excellence, and flexibility. The EurocanPlatform pilot provides evidence that such an approach is feasible and it represents a unique opportunity for further developments in the cancer area.

One way by which EU research and innovation funding could be used to develop such a European Cancer Centre would be for cancer centres and research groups participating in this endeavour to provide in-kind contributions (MS) that are matched by EU funding. Such a model may address the issue of sustainability in the long-run and could serve as a paradigm for other diseases. For this to work, however, it will be necessary to give high priority to competitiveness in the selection and renewal processes and to quality assurance of the cancer centres and research groups in order to preserve excellence. An obvious next step in the process would be the creation of a ‘European Institute of Health’ to foster innovation, with the European Cancer Centre as one of its core units.

Other possibilities for pooling of Member State resources include the support of “Dream Teams” linking basic and clinical scientists to work on a well-defined, high-priority research project with clear potential impact on the health of EU citizens. Here industry could participate by providing “cash” contributions (unlike the Innovative Medicines Initiative) as well as by providing its most promising new drugs to be studied. The theme of this particular initiative could be treatment “individualisation”



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in different disciplines of medicine, including cancer. This initiative is of critical importance as deep sequencing of the genome of patients is “just around the corner”. However, only highly focused projects will bring results within a reasonable period of time.

Joint programming and Innovation Partnerships are also possible scenarios to further advance the activities of the cancer community, although we favour a process in which the scientific community is consulted right from the beginning. So far, we have just been passengers in the process.

Q5. What should be the balance between smaller, targeted projects and larger strategic ones?

This will largely depend on what the Common Strategic Framework intends to achieve. The aims are ambitious as they target societal challenges, encourage competitiveness of European industry, and point towards excellence in its scientific and technological base. Given the current economic situation it will be wise to focus on European niches and to strike a balance between large strategic projects (50%) and targeted and smaller projects (50%).

Q7. What should be the measures of success for EU research and innovation funding? Which performance indicators could be used?

The main aim of cancer research is to decrease mortality and improve survival and quality-of-life. Bibliometrics, patents and quantitative measurements on available research infrastructures (e.g. tumour sample available in tissue banks) should additionally support these aims. Therefore, it will be important to develop the structures and methodologies to assess improvements and register effects of research innovations. Without the necessary structures for clinical registries and outcome research this will not be possible. EU funding should create incentives to make a direct impact on patient lives.



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Section 4.2 Tackling societal challenges

Q9. How should a stronger focus on societal challenges affect the balance between curiosity-driven research and agenda driven-activities?

Focus on societal challenges is vital to address key community issues, but emphasis on this should not be at the expense of curiosity-driven research as there can be no applications without a previous discovery.

Q10. Should there be more room for bottom-up activities?

Absolutely, this has been clearly exemplified by the role that the Initiative for Science in Europe (ISE) played in rallying Europe's science organisations behind one of the major breakthroughs in European science policy, the creation of the European Research Council (ERC).

Similarly, the oncology community, represented by ECCO - the European CanCER Organisation, has rallied the cancer community in order to ensure that cancer remains at the top of the EU policy agenda. With its constituency of 60.000+ oncology-related professionals, broad international representation, multidisciplinary, and its prestigious biennial congress, ECCO is uniquely positioned to provide a forum where researchers, health care providers, science policy-makers, industry, patient advocates, media and other stakeholders as well as society at large can raise awareness about issues that hinder the translation of basic discoveries into clinical application.

To facilitate the implementation of its policy objectives and to structure the cancer community, ECCO recently launched the European Academy of Cancer Sciences, an independent body of experts that will provide a reference point for policy-makers and professionals in the field of oncology research and care at national, European, and global level. The Academy will strive for excellence, independence, leadership, diversity, and flexibility and its vision is expected to shape funding and feed political decisions. The European Commission as well as MS can expect independent, high-level evidence-based advice on all aspects of cancer research and innovation from



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such a European Body of Excellence. Independent academic activities as laid out by the Academy will greatly enhance European options for bottom-up approaches and may serve as a validated role model in this respect.

Q13. How could EU research and innovation activities attract greater interest and involvement of citizens and civil society?

The Commission and the scientific community, in particular through its umbrella organisations, should become more involved in communicating the values and role as well as the economic benefits of research to society. If we want a science-friendly society to support research, scientists must place themselves at the centre, not above society.

The public and policy-makers acquire much of their information about science from the media. Therefore, improving communication, media skills, dissemination of information through academic umbrella organisations, encouraging scientists to live up to their societal responsibilities, and actively getting involved with schools to motivate the younger generation, are just a few of the actions that can play a major role in placing research and innovation at the centre of a knowledge-based society. A media-savvy scientific community will secure more scientifically-educated journalists and will develop relationships with the media that are deeper and more significant. Cancer research provides a good example of successful, transparent, and authoritative communication initiatives. One pillar of ECCO's activities has been the communication of evidence-based information, rooted in principles of multidisciplinary and multi-professionalism, to European citizens. ECCO also stresses the need to create empowered patients through validated information and participation.



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Section 4.3 Strengthening competitiveness

Q15. How should industrial participation in EU research and innovation programmes be strengthened?

Industry may only be ready to participate in EU research and innovation programmes if the Commission supports multidisciplinary teams with the critical mass of expertise and resources, including patients, required to innovate within all areas of the cancer continuum. Such world-class infrastructures should provide industry with a one stop shop to accelerate drug development and time to market. Therefore, large network activities that bring together the best brains and best technologies in Europe, as initiated and structured in the field of cancer research, appear to be an excellent model for strengthening industrial participation in EU research and innovation programmes. One example to be considered here is BIG (Breast International Group), which has become a very strong partner of the pharmaceutical industry in the running of registration trials in early breast cancer. The EU could learn from this experience and identify ways to further improve on it, in the interests of the health of tomorrow's EU citizen. Indeed, the pharmaceutical industry is the only party which provides funding for these expensive trials; the academic world often does not succeed in imposing its views, such as the need for (a) the exploration of shorter treatment duration with the new drug and (b) the reinforcement of translation research in order to better identify the subgroup which truly benefits from the new drug. This suboptimal model is responsible, in part, for the exponential increase in cancer care costs across the EU. There should be a mechanism through which well-respected organisations could apply for EU funding in the context of well-defined partnerships with the pharmaceutical industry with the aim of bringing a truly innovative cancer therapy to the clinic. Again the process should be peer-reviewed.



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Q17. How should open, light and fast implementation schemes (e.g. building on the current FET actions and CIP eco-innovation market replication projects) be designed to allow flexible exploration and commercialisation of novel ideas, in particular by SMEs?

It is important to create incentives for early associations between scientific research and business. In this sense, networking opportunities should be encouraged and the opportunity to establish permanent dialogue and synchronisation between research funding and development industrial funding is of prime importance. A strong framework providing optimum conditions for technology transfer and innovation is an important component in this process.

Section 4.4 Strengthening Europe's science base and the European Research Area

Q21. How should the role of the European Research Council be strengthened in supporting world class excellence?

Strengthening basic, curiosity-driven research in Europe with excellence at its core is vital to achieving long-term societal benefits and innovation. As far as cancer is concerned, it may be necessary for the EU to co-ordinate the priorities of both the ERC and forthcoming framework programme activities in order to speed up the translation of basic discoveries into clinical applications. Given the current imbalance in the funding of basic, clinical and translational research it would be timely to consider the creation of a European Institute of Health as explained in Q4. Moreover, since the cancer continuum spans all the way from basic research to treatment and care, it would be beneficial if DG Research and DG SANCO collaborate closely to fight the disease. The same is true for research and health ministries in Member States.



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Q22. How should EU support assist Member States in building up excellence?

EU support should assist MS in building excellence by (i) developing a programme to build up science to a minimum common standard across Europe, (ii) applying best practice in evaluation and monitoring mechanisms, and (iii) developing easy and effective instruments for identifying opportunities to efficiently co-ordinate EU and national resources earmarked for supranational cooperation.

Related to the first point, knowledge development and transfer is of critical importance. The EU should support CME courses as well as educational courses such as the ECCO Flims Annual Workshop which aims at developing a strong, expanding base of well-trained clinical researchers by providing them with the training they need to develop and conduct better clinical/translational trial designs.

The EU must support opportunities for multidisciplinary stakeholders in science to come together to discuss the latest in cutting-edge research and data. Networking between a wide range of experts, gaining insight into the newest scientific and clinical research, patient management and practice through a range of educational and scientific avenues will ultimately impact directly on patients.

Educational conferences and congresses are pivotal to ensure the scientific community avails of these all-important networking possibilities. In cancer, the European Multidisciplinary Cancer Congress leads the way in providing this unique opportunity.

Integrating basic & translational science, surgery, radiotherapy, medical oncology & care, participants have the opportunity to review exciting data and collectively advance European cancer therapeutics and prevention. Ensuring the interconnectivity between all disciplines, professions and individual tumour types is an essential part of the process.

Q25. How should research infrastructures (include EU-wide e-Infrastructures) be supported at EU level?

Research infrastructures (RI's) represent essential instruments to support cutting-edge research and are a cornerstone in the development of science and technology in



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Europe, and a pillar of the European Research Area (ERA). So far, all of the RIs prioritised in the ESFRI (European Strategy Forum on Research Infrastructures) roadmap are 100% funded by the Member States; considering the current financial limitations it is likely that new RIs may only become a reality if established as a result of international collaboration.

In the cancer area it will be important to fund infrastructures for independent clinical research that will enhance academic independence while, at the same time, attract the pharmaceutical industry, since an interesting partnership would be promoted and would presumably prevent the industry from the temptation of seeking opportunities in Asia as a preferred clinical trial arena.

Possible sources of financing include: (i) use of structural funds for regional infrastructures, (ii) public/private partnerships, (iii) use of article 169 of the Treaty and (iv) new ERA-nets.

Q26. How should international cooperation with non-EU countries be supported e.g. in terms of priority areas of strategic interest, instruments, reciprocity (including IPR aspects) or cooperation with Member States?

The breadth and scope of today's societal challenges call for a shift in the cultural attitude towards research in Europe. We must move from regional or national efforts into continent-wide collaborations. Collaborations with non-EU countries in areas of strategic interest may be crucial for translating research results into products and services. International cooperation with research groups outside the EU remains suboptimal, due to the critical need for education to be provided in non-EU countries in the field of research. Therefore, building more education opportunities along this line would be of great value.