

The next generation health research workforce Executive summary

Scientific Panel for Health

**Workshop held at the European Commission DG RTD, Brussels,
Belgium, on September 27, 2016**

The European Commission's Scientific Panel for Health (SPH, <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/scientific-panel-health-sph>) is a science-led expert group that has been tasked with helping to achieve better health and wellbeing for all inhabitants of the European Union.

The Panel has three main roles:

1. To analyze bottlenecks that prevent improvements in health, and to propose solutions.
2. To identify long term trends influencing health through foresight, and to recommend research and innovation priorities to respond to these trends.
3. To aid in the translation and implementation of research and innovation results into practice.

This “next generation health research workforce” SPH workshop (working group leads - Prof Wolfgang Oertel and Rector Tomas Zima) was held at the European Commission DG RTD in Brussels, Belgium, on September 27, 2016. It aimed to identify current barriers; examples of successes; and mechanisms to:

- Attain a better-trained health research workforce in Europe
- Improve cross-sectoral cooperation, encompassing academia, healthcare and industry.

Two to three introductory speakers presented on each of three themes:

1. Moving academic education, rewards and incentives
2. Biotech, academia, and industry mixed careers
3. Workforce for big data in health research.

Presentations were followed by roundtable discussions, for which the conversation was guided through a number of questions formulated to spark and structure the discussions.

Main Conclusions

Research teams with complementary skills and expertise, as compared to the model of individual investigator units, are required to undertake research addressing complex societal needs. The next generation workforce will therefore need to be composed of diverse specialists that have their individual competencies along with a generalist 'coating' that will enable them to communicate with collaborating researchers from different disciplines. This should lead to teams working together towards a long-term common goal, building shared values and understanding. To facilitate this exchange between disciplines and also between sectors, different performance assessment methods are needed: traditional academic metrics should be revisited as rewards and incentives should focus on contributions made, value created, and broader impact.

Training programs developed together with industry may improve clinician/scientists understanding of the innovation cycle, negotiation skills, and understanding of business principles. Similarly, entrepreneurship training should be made available during and after post-graduate education when students have more ideas and can focus on bringing innovation to the market. Moreover, students would benefit from computation and statistics training at an early stage. A potential way to achieve a more qualified workforce might be to reconsider the curriculum in medical schools and graduate schools to provide students with a good general background in basic science and to identify students with research interests at an earlier stage, engaging students and offering insight in research practice and careers. Students in disciplines other than medicine may profit from having some medical training, so as to better integrate their expertise into health research teams.

To provide a conducive learning and working environment for researchers/scientists, academia and industry will have to work closely together. Having a standardized, well-defined guidance/toolkit or framework can facilitate this. Similarly, a platform that supports collaboration and the protection of the rights of those involved will enhance collaboration in analogy to the EIT-Health (<https://eithealth.eu>). The competence for education lies primarily with Member States, but many stakeholders can contribute to implementation through bottom-up initiatives. Examples of hotspots and hubs are educational initiatives in international doctoral training programs, such as ITM networks, but also hubs of public-private partnerships as training sites and lastly, funding incentives coming through the European Union in their training network programs, and in Member State training programs will further promote this.

Participant List- Scientific Panel for Health (SPH) Workshop: Next generation health research workforce (27th September 2016)

| Last name(s) | First name(s) | Organization | Country |
|---------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Workshop Speakers | | | |
| Brus | Ronald | myTomorrows | Netherlands |
| Levin | Johannes | LMU - Ludwig-Maximilians-Universität München | Germany |
| Pereira | Maria | Gecko Biomedical | Portugal/France |
| Pita Barros | Pedro | Universidade Nova de Lisboa; UNICA- Network of Universities from the Capitals of Europe | Portugal |
| Tronci | Enrico | Informatics Department, Università di Roma "La Sapienza" | Italy |
| Van den Berghe | Greet | Intensive Care, Department of Cellular and Molecular Medicine, KU Leuven | Belgium |
| Vondrasek | Jiri | ELIXIR- Distributed infrastructure for life-science information; ESFRi- European Research Infrastructures | Czech Republic |
| Westendorp | Rudi | SUND- Department of Public Health, University of Copenhagen; EIT Health partner | Denmark |
| SPH Members and Workshop Moderators | | | |
| Celis | Julio E. | Danish Cancer Society Research Center | Denmark |
| Degos | Laurent | University Paris VII | France |
| Luyten | Frank | Division of Rheumatology, University Hospitals Leuven; Director Skeletal Biology and Engineering Research Center & Clinical Director, Stem Cell Institute, KU Leuven. | Belgium |
| Oertel | Wolfgang | EAN- European Academy of Neurology; Department of Neurology, Philipps University Marburg | Germany |
| Pavalkis | Dainius | RISE HL- Research & innovation strategic experts High level group; Surgery, Lithuanian University of Health Sciences; Innovation & Development, Kaunas Clinics | Lithuania |
| Rübsamen-Schaeff | Helga | Biochemistry & Virology Frankfurt University; Scientific Advisory Board, AiCuris GmbH & Co KG | Germany |
| Sipido | Karin | Department of Cardiovascular Sciences, KU Leuven | Belgium |
| Stallknecht | Bente M | Department of Biomedical Sciences, University of Copenhagen | Denmark |
| Zima | Tomáš | Charles University, Prague | Czech Republic |
| Workshop Co-Moderators/Support Staff | | | |
| Gal | Diane | Department of Cardiovascular Sciences, KU Leuven | Belgium |

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|------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Collinge | Virginie | World Health Organization | Belgium |
| Workshop Participants | | | |
| Albrecht | Konstanze | National Contact Point Health, DLR | Germany |
| Barrionuevo | Marta | ISCIII- Carlos III National Health Institute | Spain |
| Charalambous | Andreas | ECCO - European CanCer Organisation; EONS -European Oncology Nursing Society | Cyprus/Finland |
| Cocquerez | Armande | INSERM- Institut national de la santé et de la recherche médicale | France |
| Coriat | Anne-Marie | Wellcome Trust | UK |
| Cupers | Philippe | Health Strategy Unit, DG RTD- Directorate General Research and Innovation, European Commission | Belgium |
| Deleener | Alain | FWO- Research Fund - Flanders | Belgium |
| Fernández Crespo | Jesús | ISCIII- Carlos III National Health Institute | Spain |
| Finckh | Axel | EULAR- European League Against Rheumatism; University Hospital Geneva | Switzerland |
| Fortmann | Iris | FWF- Austrian Science Fund | Austria |
| Hilbers | Peter | Department of Biomedical Engineering, Eindhoven University of Technology | The Netherlands |
| Hyttinen | Jari | EAMBES- European Alliance for Medical and Biological Engineering & Science | Finland |
| Jansen | Peter | UEG- United European Gastroenterology; LiSyM- research network; Gastroenterology and Hepatology, Academic Medical Center Amsterdam | The Netherlands |
| Macintyre | Elizabeth | EHA- European Hematology Association; Hématologie Biologique and INSERM UMR1151 (Normal and Pathological Lymphoid Differentiation), Université Sorbonne Paris Cité (Descartes) | France |
| Migliaccio | Giovanni | EATRIS- European Infrastructure for Translational Medicine | Netherlands |
| Nguyen | Tim | WHO- World Health Organization, Evidence and Information for policy-making, division of Information, Evidence, Research and Innovation, WHO Regional Office for Europe | Denmark |
| O'Morain | Colm | Alliance For Biomedical Research in Europe | Ireland |
| Raulo | Erkki | Integrative Life Science (ILS) Doctoral Program, University of Helsinki | Finland |
| Roca | Pierre | ECCO - European CanCer Organisation | Belgium |
| Sanmartin Sola | Ramon | DG CNECT- DG for Communications Networks, Content & Technology, European Commission | Belgium |
| Torres | Frederico | EULAR- European League Against Rheumatism | Belgium/Spain |
| Van Poelgeest-Pomfret | Mary Lynne | WFIP- World Federation of Incontinent Patients; EPF- European Patients Forum, Patient-MedTech Dialogue | Netherlands |
| Vassena | Rita | ESHRE- European Society of Human Reproduction and Embryology | Spain |

