ENDOCRINE SOCIETY
Hormone Science to Health

March 6, 2017

Written evidence submitted by the Endocrine Society
To the Exiting European Union Committee
Regarding the UK's negotiating objectives for withdrawal from EU

Introduction and Background

1. The Endocrine Society appreciates the opportunity to submit written evidence for the Exiting the European Union Committee inquiry on the UK's negotiating objectives for withdrawal from the European Union (EU). Founded in 1916, the Endocrine Society is the world's oldest, largest, and most active organization dedicated to the understanding of hormone systems and the clinical care of patients with endocrine diseases and disorders. The Society's membership of over 18,000 includes basic researchers, clinical researchers, and clinicians in practice. We are an international medical and scientific community, with over 440 members in the UK, and over 1400 members in other EU countries.
2. Many chronic diseases treated by endocrinologists, such as obesity, diabetes, and thyroid disorders are global health challenges that will require coordinated effort to address. Endocrinology is an interdisciplinary field that studies complicated biological systems and approaches to disease treatment, and we appreciate that the evolving biomedical research landscape increasingly requires multidisciplinary and frequently multinational teams of researchers with varied backgrounds and expertise. EU research projects have had impact in improving our understanding of, and treatment options for these and other diseases in the United States, where the Endocrine Society is based, and worldwide. Our recommendations are meant to ensure that the exit from the EU will not significantly hinder the ability of UK researchers to fully participate as collaborators in EU research projects. In so doing, the UK will continue to have a leadership role in breakthrough research and accelerate the development of medical therapies to improve health worldwide.

Executive Summary of Recommendations

3. To ensure that scientific knowledge increases optimally and achieves broad benefit and positive impact, the Endocrine Society supports flexible movement of scientists and clinicians, and preservation of employment opportunities for researchers. Special consideration should be given to students and trainees to enable their free movement in support of educational goals.

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4. To ensure that UK scientists are able to contribute to research and development for the benefit of all, the Endocrine Society supports the maintenance of access to EU funding mechanisms and the reduction of barriers to collaboration with EU colleagues.

Supporting Evidence for Paragraph 3

5. Scientists have long recognized the benefits associated with international collaboration to their research programs. The practice of taking an extended sabbatical leave, oftentimes to visit an institution in another country, is highly valued as an opportunity to learn new techniques or rapidly advance a major research project with new collaborators. The ability to exchange information and solicit new perspectives through consistent on-site teamwork with diverse and new colleagues can foster groundbreaking new ideas and solutions to problems[1]. Indeed, the mobility of scientific labor for extended or time-defined periods is recognized by pharmaceutical companies in support of the idea that "bringing diverse perspectives to decision-making can lead to scientific breakthroughs."[2]
6. Flexible movement of scientists across borders also enables the exchange of highly-specialized expertise and resources. Research protocols are carried out by highly-trained scientists, often with very specific subject matter expertise. To incorporate necessary expertise or techniques into an institution or research team's repertoire, it is frequently necessary to hire expert faculty or a trainee from another country for permanent or temporary positions, for example through a Marie Sklodowska-Curie Action[3].
7. The free movement of clinicians is also integral to the maintenance of a robust biomedical research enterprise that positively impacts patient health. Physicians who provide direct care to patients also benefit greatly from travelling to other countries to experience different health care systems and different approaches to clinical situations. Furthermore, physician-scientists provide an immense benefit in the translation of scientific knowledge to patient care.
8. Trainees are particularly vulnerable to barriers to the free movement of scientific labor. A research trainee may spend many years in multiple postdoctoral positions accumulating techniques and expertise needed to support an independent career. These positions may

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[1] Tachibana, Chris. "Five Steps to a Successful Sabbatical." *Science Careers*. February 1, 2013. Retrieved on February 21, 2017 from: https://www.sciencemag.org/careers/features/2013/02/five-steps-successful-sabbatical

[2] "Scientific renewal keeps discoveries flowing." Novartis.com March 14, 2014. Retrieved on February 21, 2017 from: https://www.nibr.com/stories/education/scientific-renewal-keeps-discoveries-flowing

[3] European Commission. "Marie Sklodowska-Curie actions." Retrieved on February 21, 2017 from: https://ec.europa.eu/programmes/horizon2020/en/h2020-section/marie-sklodowska-curie-actions

be in other countries, based on the desire to acquire a particular skill-set or train with colleagues at a specialized institution. Furthermore, trainees are impacted by any restrictions to travel that might preclude their ability to participate fully in international scientific conferences such as the Endocrine Society's Annual Meeting, ENDO or the meetings of the European Society of Endocrinology.

9. The flexible movement of scientific labor and expertise is essential for efficient and full participation in the biomedical research enterprise. Established practices for allowing EU scientists to work in UK institutions, and for UK scientists to work in EU institutions should therefore be preserved. It is also imperative that the UK remain a destination for research students to prevent a "brain drain". To encourage and retain the best and brightest researchers and maintain scientific and medical leadership, it is essential to minimize barriers to movement for scientists at all stages of their career development.

Supporting Evidence for Paragraph 4

10. Empirical evidence demonstrates that multidisciplinary and multinational research teams are more frequently organized than in the past. For example, based on an analysis of the average number of authors on original research reports published in Endocrine Society journals, increased collaboration has resulted in more authors per report. This holds true for basic research as well as clinical research[4]. Furthermore, the results of research supported by EU research Framework Programmes (FPs) were recognized by the Royal Society for their consistent publication in high impact peer reviewed journals[5].
11. With the combined input of Member States, Associated Countries, and other cooperating entities, the EU research funding apparatus can create unique economies of scale. Beyond supporting multidisciplinary teams in scientific collaboration to address major research projects, EU funding programs enable large-scale scientific infrastructure projects and major clinical trial networks. For example, the RHAPSODY collaboration supports "over 100 researchers from academic, clinical and pharmaceutical research institutions" to study the progression of pre-diabetes to type 2 diabetes. Such an ambitious data-collection project would be impossible without the creation of an immense multi-national network of researchers and institutions; the benefits of improved drug trials and public health

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[4] Goldberg, MA*., and Kaiser, UB*., "The Rise of the Asterisk: One Step to Facilitate Team Science." *Mol Endocrinol*, July 2015, 29(7):943-945.

[5] Prof. Carlos Frenk et al., "UK research and the European Union: The role of the EU in funding UK research" The Royal Society. December 2015. https://royalsociety.org/~/media/policy/projects/eu-uk-funding/uk-membership-of-eu.pdf

interventions will help endocrinologists in the UK, the US, and around the world treat and prevent diabetes[6].

12. The United States has consistently appreciated the impact of collaboration with EU research projects since the 1998 "Agreement for Scientific and Technological Cooperation" with the EU. Scientists based in the US are active participants on many grants supported by Horizon 2020 and previous Framework Programmes, and also value the exchange of scientific expertise through Marie Sklodowska Curie actions. Recognizing the value of ongoing collaboration as a recognized stakeholder in EU research projects, on October 17, 2016, an agreement was reached between the US and EU to facilitate improved collaboration on Horizon 2020 research projects[7].
13. Through active and full participation in EU research programmes, researchers in the UK are able to contribute their expertise to high-impact projects and maintain a leadership role in the global biomedical research enterprise. We are therefore concerned by reports that UK scientists are already being disadvantaged and removed from applications from EU research grants[8]. Without the preservation of access to EU research funding programmes for UK researchers and minimized barriers to collaboration, the challenges facing UK scientists will become far greater and science in the UK will suffer.

Conclusion

14. The Endocrine Society views the flexible movement of scientific and clinical activities and support for international scientific collaboration to be critical for public health and research advances worldwide. The world-class research enterprise in the UK would be badly damaged by the loss of access to EU scientists and EU research opportunities. During negotiations for withdrawal from the EU, we urge the UK government to prioritize the flexible movement of scientists across borders with special consideration to students and trainees to enable their free movement in support of educational goals, and the maintenance of access to EU funding mechanisms and the reduction of barriers to collaboration with EU colleagues. Prioritizing these objectives will enable the UK to continue to be a global leader in biomedical research and breakthrough innovation.

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[6] "Decoding Diabetes to Stop its Progression." October 2016. *EURESEARCH*. Retrieved on February 21 from: https://www.euresearch.ch/fileadmin/redacteur/Media/RHAPSODY_Success_Story_201610.pdf

[7] http://ec.europa.eu/research/iscp/index.cfm?pg=usa

[8] O'Carroll, Lisa. February 2017. "Britons 'bumped off' EU medical research grant applications, MPs told." *Theguardian*. Retrieved on February 22, 2017 from: https://www.theguardian.com/science/2017/feb/21/britons-bumped-off-eu-medical-research-grant-appplications-mps-told-brexit-european-research-council

15. Thank you for considering the Endocrine Society's comments. If we can be of any further assistance, please contact Joseph Laakso, PhD, Associate Director of Science Policy, at jlaakso@endocrine.org.