Cancer Research UK response to the Science and Technology Select Committee (Commons) inquiry: An immigration system that works for science and innovation

June 2018

1. Cancer Research UK (CRUK) is the world’s largest independent cancer charity dedicated to saving lives through research. It supports research into all aspects of cancer and this is achieved through the work of over 4,000 scientists, doctors and nurses. In 2016/17, we spent £432 million on research in institutes, hospitals and universities across the UK. We receive no funding from the Government for our research and are dependent on fundraising with the public. Cancer Research UK wants to accelerate progress so that three in four people survive their cancer for 10 years or more by 2034.

2. We welcome the committee’s inquiry aimed at ensuring the future immigration system works for science. As the UK leaves the EU, it is crucial that we remain at the forefront of research and innovation. Fundamental to achieving this is supporting a vibrant and internationally mobile research workforce. A future immigration system should enable the UK to attract, recruit and retain global scientific talent at all professional levels regardless of their nationality. It is vital the Home Office does not simply roll out the current non-EEA immigration system for EEA nationals as it is costly and difficult to navigate.

3. It is positive that there has been a focus from both the UK and EU on protecting research, science and innovation during and after Brexit. We were pleased that commitments to ensuring the UK is open to global scientific talent were reiterated in the Prime Minister’s recent Jodrell Bank speech. For Government to deliver its ambitious Industrial Strategy, it is essential that these commitments are realised at all professional levels.

4. Our response primarily focuses on the features we would like to see in a future UK immigration system that will enable UK research to thrive. We also highlight what clarifications are still needed for current EEA nationals in the UK and provide several case studies from our research community. These illustrate the specific career needs of scientists in relation to movement of people, both in terms of attracting and retaining the people the UK needs and supporting the research that they do. We have developed our position in consultation with our research community, including an online survey with more than 600 respondents and interviews with the research workforce and those responsible for their recruitment. We also support the UKRI submission to this inquiry which identifies the multiple reasons why movement to and from the UK within the scientific workforce is so important.

Ensuring the UK’s future immigration system supports a skilled science workforce

5. **Our priority is to ensure the UK Government designs a future immigration system which enables us to attract, recruit and retain global scientific talent at all professional levels regardless of their nationality.**

6. The research workforce is at the heart of breakthroughs that benefit cancer patients in the UK, in Europe and worldwide. CRUK funds postgraduate students and researchers from an international pool to ensure that we are working with the very best minds to conduct the highest quality research. Half of our PhD students and 46% of our research fellows are from outside of the UK. The flow of talent globally is an essential part of the research environment and international movement is a feature of most researchers’ careers and
professional development. 72% of UK-based researchers spent time at non-UK institutions between 1996 and 2012.

7. The future immigration system should be based on evidence gathered by the Migration Advisory Committee and others and should include labour market needs, be consistent with the ambitions in the Industrial Strategy and consider different approaches for different types of sectors and migration. The future system should not be based on an overall numerical target for the level of migration in the UK.

8. The Home Office should include the following features in a post-Brexit immigration system:

9. Mechanisms to recruit international staff with minimal cost, delay and uncertainty - The Home Office should not simply roll out the non-EEA immigration system for EEA nationals. The current system is expensive for the researchers we fund and resource-intensive for the employers who recruit these researchers (such as research institutes and universities). This is particularly an issue for roles below PhD-level which there are no exemptions for in the current non-EEA system. This includes technical roles as well as roles involved in the running of our clinical trials.

10. The most effective measure of skill and benefit of migrants coming to the UK - The Migration Advisory Committee has made previous recommendations to continue to restrict non-EEA migration by salary thresholds. However, salaries in the academic sector do not adequately reflect skill level or benefit of the work being undertaken. Some roles in the research sector are highly valued due to the niche expertise they bring from outside the UK, however, they would not meet the current Government salary threshold. For example, one of our group leaders in Oxford recruited a postdoc researcher from Japan to lead one part of their research project due to the unique expertise of the Japanese lab in a technique vital to progress their research. The Home Office must therefore consider how to reflect different sector needs while developing a comprehensive strategy for all industries. This should also include an assessment of the different salary levels across the UK.

11. Policies to enable partners and dependents of the research workforce to live, work and use public services in the UK - Over 75% of our survey respondents said that this is a key consideration when moving to another country. For the UK to continue to attract global talent, we must ensure their families are able to come with them to the UK and stay once they’re here.

12. Support to ensure that international students in the UK can take up job offers - CRUK funds more than 500 PhD students per year. Half of these are not from the UK. These students are an important part of the research pipeline, as many continue as postdoctoral researchers and clinical staff after their studies. It is vital for the UK scientific base that these talented students can stay in the UK and continue to contribute to the research that they have been working on once they have completed their PhD qualification. We are concerned that restrictions put on students once they finish their studies would impact how many of them would stay in the UK.

13. Flexibility to enable extensive short- and medium-term movement of the research workforce - Nearly 50% of all UK cancer research involves international collaboration. Cancer Research UK collaborates extensively with European and international partners. In 2016, more than half the EEA nationals who answered our survey had spent time outside the UK for work.
Some of these were short trips whereas some lasted a few months to a year. Common reasons for this travel were: collaborations (such as clinical trials), giving and receiving training, use of equipment, verifying data, sharing knowledge, attending conferences, and to work in fixed-term/short-term contracts.

14. Consideration of the relationship between domestic skills development and the international higher education environment in the UK - Our global research workforce trains students in the UK. To ensure we continue to develop students in the UK, their education must be world-class. This includes continuing to collaborate internationally, attracting global scientific talent and enabling students to travel for education.

15. Mechanisms to support non-UK research group leaders to bring members of their research group with them when they move to the UK - We want to ensure that we attract talented international group leaders. Some of these will already have established research groups outside of the UK. Their group members will be key to the success of their research. The UK Government should consider mechanisms for attracting these group leaders with their group members, which UK research institutions are currently not able to do.

16. Ability for the Home Office to capture and publish more detailed migration statistics to inform future immigration policy development - Increasing reliance has been placed upon migration statistics to develop immigration policy, particularly post-Brexit. The available measures, such as the International Passenger Survey and Home Office migrant journey report, are not comprehensive or adequate reflections of the value of migration to different sectors, such as research and innovation. Current statistics captured by the Home Office also do not cover short-term travel (less than one year) and data on EEA nationals. A future immigration system must capture data on this.

17. Consideration of the links between the immigration system and wider Brexit legislation - When the UK Government considers the future immigration system, they must consider the interdependencies between immigration and other EU legislation being negotiated. For example, reducing EEA immigration may affect the UK-based research workforce’s access to EU Framework Programme funding. This could have a detrimental impact on the UK research environment.

18. Does not take a devolved/regional approach immigration policy - CRUK does not believe that the Home Office should devolve immigration policies to the four UK nations. In our interviews with and survey of our research workforce, respondents outlined that being able to move employers and location is key to them and one of the reasons why they were attracted to come to the UK. Developing devolved or regional systems is likely to decrease the attractiveness of the UK to the research workforce in the future.

Short-term uncertainty for current EEA nationals in the UK and those arriving during transition

19. There have been some welcome clarifications regarding the status of EEA nationals in the UK and UK nationals in the EEA. However, additional assurances would be welcome, including the process of settled/temporary status applications, criteria for ‘continuous residence’ and that the Home Office has capacity to deal with the forthcoming workload.
20. We are pleased there have been clarifications regarding the status of EEA nationals in the UK and UK nationals in the EEA, including during the transition period. This includes clarity on the specific cut-off date, transfer of permanent residency permits to settled status, settled status application costs, and the status of family members of EEA nationals. These clarifications provide helpful reassurance to the research community as well as their family and dependents.

21. Additional assurances would be welcome on:

22. *The process for settled status applications* – as the UK Government has indicated, this process should incorporate Government data such as tax contribution and National Insurance information to make it simple and streamlined.

23. *The process for temporary status applications* – this will provide more certainty for our research workforce. This must include information about how temporary status holders will switch to settled status. This will ensure that those who are still working towards their five years of residence feel certain that they will be eligible for settled status once they have been in the UK for 5 years.

24. *The criteria for ‘continuous residence’* – this should not be affected by periods spent abroad for study or research. More than half the EEA nationals who answered our survey had spent time outside of the UK in 2016 for work (either trips less than 3 months or trips lasting between 3 months and 1 year). This should be a key consideration when developing the additional criteria required for EEA nationals to apply for settled status. The Home Office should work with Higher Education Institutes to determine the period of residence of EEA students in the UK.

25. *The plan for increased Home Office capacity* - The administrative burden on the Home Office to deal with the changes to the status of EEA nationals must not be underestimated. The increase of Home Office staff and resources must be prioritised to ensure applications are processed quickly.

26. *It is positive that assurances have been provided by the Home Office for EEA nationals arriving during the transition period between March 2019 and 31 December 2020. These assurances must be incorporated in UK legislation as soon as possible to ensure we can continue to attract global scientific talent. The process for registration should also be published and explained.*

27. We welcome clarification provided by Government on the transition period\(^{+}\), including confirmation that the transition period will run until 31 December 2020. It is also reassuring that EEA nationals will be able to move to the UK during the transition period on the same basis as they do today as this provides some certainty to EEA nationals. Other welcome clarifications are that family members of EEA nationals can stay under the same conditions that existed before Brexit and that EEA nationals who do not have 5 years’ continuous residence can stay to build up their residence period for settled status.

28. We would welcome further assurances on the process for registration of those arriving during transition period. The UK Government has indicated that EEA nationals and their family members who arrive in the UK during the implementation period will have to register. It is expected that Government will publish plans on this registration system in summer. The registration system must be published and explained as soon as possible.
Examples of the movement needs of scientists

29. The mix of British, European and international talent within our research community is vital to share best practice, expertise and skills. Researchers also needs to be highly mobile to support the work they do. We have developed a series of case studies from our researcher community which illustrate the importance of this international mix and some of the different reasons travel helps them conduct their research.

1. Dr Sonia Rocha – the value of our global scientific talent
Dr Sonia Rocha was one of our CRUK Senior Research Fellows at the University of Dundee from 2011 to 2017. She obtained her undergraduate degree at the University of Porto in Portugal and her PhD from the ETH-Zurich, Switzerland, before moving to the UK in 2000 to complete her post-doctoral training.

Through her training in a wide range of countries, Dr Rocha has gained extensive knowledge into a complex and highly specialised subject. As one of our Senior Research Fellows, she used her wide-ranging experience and unique perspective to make vital contributions to her field. As a Professor at the University of Dundee, she and her team worked on hypoxia and inflammation in cancer. Her team represented some of the most promising international talent in the field: it comprised of PhD students from the UK, Italy, Russia and Indonesia, a post-doctoral student from Argentina and a laboratory technician from Portugal.

This international make up is key to the group’s success. “I cannot imagine a single nationality lab, really,” says Dr Rocha, “Experience and ways of thinking from different countries move research forward”.

Dr Rocha’s research laboratory has published over 56 scientific papers since 2005 and made significant breakthroughs in our understanding of hypoxia and inflammation, including the identification of novel therapeutic targets.

“The UK is a fantastic place to do science” Dr Rocha adds, “Recent uncertainty has caused concern in the team, but I am hopeful that our talented researchers and technical staff will choose to stay and work here, and that my team can continue to work with scientists from across the EU.”

She has now taken up an exciting new role as the Head of the Biochemistry department at the University of Liverpool. At present, Sonia is considering other options outside of the UK. This is in case the UK does not ensure the rights of EU citizens in the UK and does not allow for easy recruitment of the research workforce regardless of their nationality.
2. **Professor Peter Sasieni – the value of international mobility for clinical trials**

Professor Peter Sasieni is the Director of the Cancer Prevention Trials Unit at Queen Mary University of London. In this role, Professor Sasieni leads important clinical trials on prevention and screening of several cancers. Prevention trials are a large component of cancer research, as they underpin necessary changes in health policy and practice that help reduce the number of people affected by cancer.

Prevention trials tend to be large, multi-centre and international. IBIS-II for example, a trial aiming to prevent the return of breast cancer in post-menopausal women, took place in 300 sites across Europe. “Without the participation of non-UK patients, such trial would take longer to recruit, potentially delaying the delivery of new treatments to British patients”, Professor Sasieni tells us.

Throughout this kind of trial, Professor Sasieni travels to the EU to plan and design the trial with his research partners, attend data monitoring and trial steering committee meetings, identify sites for new trials, establish working relationships with his team, and conduct site initiation visits.

Many of these activities require Professor Sasieni to travel quickly, without excessive administrative burden. For example, it is often very difficult to find dates in which all the principal investigators and site staff are available to meet for site initiation visits. In these cases, Project Managers may be required to travel at short notice, and any delays caused by administrative burdens after Brexit could cause these windows of opportunity to be missed. Furthermore, Professor Sasieni says that travel delays could prevent Project Managers from reacting efficiently to urgent local situations, forcing them to contract out the work to other EU countries.

3. **The CRUK Cambridge Institute – the value of international students**

This Centre is a collaboration between CRUK and the University of Cambridge. Research ranges from basic cancer biology and computational biology through to translational research and clinical application. The Institute is world-leading and continues to produce exemplary research.

For example, hyperpolarised carbon-13 spectroscopic imaging, a technique that can increase the sensitivity of MRI by more than 10,000 times, will soon undergo patient trials. Similarly, the METABRIC project used expertise from many Cambridge Institute staff and collaborators worldwide to generate a new classification of 2,000 breast cancers with clinical follow-up.

The Institute has 61 graduate students, playing pivotal roles in the continuing success of research programmes. Approximately one third of graduate students at the Institute are from the UK, with two thirds coming from outside of the UK. In 2017, the Institute took on 11 new graduate students—10 are from outside of the UK.
4. Jiazheng Wang – the value of international students and their dependents
Jiazheng Wang is a Chinese PhD student who has a Tier 4 visa to study at the Cancer Research UK Cambridge Institute. He studied a BSc in Electrical Engineering at North China Electric Power University, before completing an MSc in Electrical Engineering at the University of Maryland, focusing on MRI imaging and restructuring.

His studies have attempted to develop techniques to make fast and high-resolution images for molecular imaging through hyperpolarised MRI. This work aims to help the early diagnosis of cancer and to detect early evidence of treatment response. Research Group Leader Professor Kevin Brindle says it is ‘very unlikely’ that he could have recruited a PhD student with this background from the UK and that Jiazheng’s contribution to his lab has been ‘invaluable’.

Jiazheng’s wife came to the UK on a dependent’s visa for the first 2 years of his studies. If she had not been granted this visa, he would not have come to the UK to study.

5. Professor Stephan Beck – the value of outward mobility for our research workforce
Professor Stephan Beck leads a laboratory that researches the genomics and epigenomics of phenotypic plasticity -- the capacity of one genetic make-up to manifest in different ways in response to external factors such as diet and lifestyle. This ability is key to the normal functioning of cells, but it also allows cancers to opportunistically adapt, acquire invasive abilities, and altogether become harder to treat.

Stephan travels within the EU multiple times a month to attend conferences and undertake collaborative projects under Horizon 2020 and the European Research Council. For example, he is currently involved in two major international projects on multiple sclerosis and colorectal cancer in collaboration with researchers from 11 different countries. These projects require Stephan to attend workshops in the EU to train or be trained and to discuss and disseminate results.

During his career, Stephan has participated in eight vital research projects that rely on this kind of collaboration. EpiGeneSys, for example, brought together 166 researchers from 88 organisations across Europe to allow for integrative exchanges and training and to facilitate sharing of tools, resources and knowledge. This cohesive approach delivered 64 protocols and almost 3000 publications from 2010 to 2016, greatly advancing our understanding of diseases linked to epigenetic disorders, such as cancer.

Traveling allows Stephan and his team to remain productive partners in this kind of collaborative effort, to stay informed on state of the art research, and to disseminate their own work – all necessary activities for UK-based scientists to remain competitive in the field.
6. The CRUK Manchester Institute – the value of international leaders

The CRUK Manchester Institute is a leading cancer research institute and a partner in the Manchester Cancer Research Centre. It has been the site of crucial drug discoveries, clinical trials, and pioneering research on cancer biology and personalised medicine. The Manchester Institute is famous for its extensive infrastructure, state-of-the-art technologies, expertise and its ‘Team Science’ approach to cancer research. This involves integrating perspectives, skills and experiences of researchers from diverse backgrounds to address scientific challenges.

The Manchester Institute’s reputation has attracted scientific talent from all over the world. The resulting wealth of international talent within CRUK’s Manchester Institute has facilitated the collaborative, cross disciplinary approach, which makes the Institute a scientific powerhouse. In complicated research like cancer biology, knowledge pockets are distributed geographically, meaning that depth of experience and expertise of our Manchester team simply could not be found in any single country.

This concept is exemplified by the make-up of the Institute’s research workforce: Half of the group leaders and 80% of the postdoctoral researchers are from outside the UK.

For example, Professor Robert Bristow, Director of the Manchester Cancer Research Centre, Senior Group Leader in CRUK’s Manchester Institute and world-leading clinician-scientist, moved to Manchester from Canada. His experience abroad has allowed him to accrue unparalleled experience in researching the genomics of prostate cancer progression and cancer treatment response.

Dr Claus Jørgensen, a Senior Group Leader at the Manchester Institute, has studied and worked in Denmark and Canada before moving to the UK. He is currently investigating how pancreatic cancer cells signal to healthy cells around them, to improve outcomes for patients by uncovering new aspects of the biology of this type of cancer in order to develop new types of treatment.

The Junior Group Leaders have similarly international profiles. For example, Dr Esther Baena, who has studied and conducted research in Spain and the U.S., is a Junior Group Leader at the Manchester Institute. She is contributing to prostate cancer research by investigating how cancer cells grow and become resistant to treatment.

The diversity of the Manchester Institute’s research workforce is precisely what allows for its renowned ‘Team Science’ approach, and its success in researching a wide range of topics to deliver better, more personalised cancer care.

For further information please contact Zoë Martin, Policy Manager on zoe.martin@cancer.org.uk or 0203 469 5337

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2. This is from internal data collected by our Research and Innovation Directorate.


4. [https://www.ohe.org/publications/exploring-interdependencies-research-funders-uk](https://www.ohe.org/publications/exploring-interdependencies-research-funders-uk)
