The EU: what's best for UK cancer research and patients?

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The UK faces a momentous decision on June 23, 2016, that will determine its future and influence the future of Europe. How might the so-called Brexit affect cancer research and cancer care in the UK?

Cancer research is a global effort to which the UK makes a substantial and internationally well-respected contribution. UK charities and the Government spend approximately £500 million per year on cancer research, and significant outputs include world-leading publications across the cancer research spectrum, a prominent role in understanding cancer outcomes at the European level, and world-leading participation in clinical trials. Companies with a large UK research base, such as AstraZeneca and GlaxoSmithKline, have developed substantial innovations in cancer care. The UK has championed patient advocacy and often makes leading contributions to patient and public engagement. Important positive interactions and contributions have taken place between the UK and the European Union (EU). The UK influences and benefits from EU strategy in cancer research and control, and is learning examples of good practice from other EU countries, such as early cancer diagnosis (from Denmark) and the management of older patients with cancer (from France). From the funding perspective, UK researchers successfully competed for part of the EU's €1·5 billion cancer research funding within the Seventh Framework Programme scheme (2007–14) with involvement in more than 80% of funded projects. That scheme brought more than £4 billion to UK science overall. In the prestigious European Research Council programme, the success of UK cancer researchers has been impressive, securing 77 (16·5%) of the overall total of 466 grants awarded in all subject areas with a value of €150 million, placing them in Europe's top tier. Cancer Research UK's institutes received 7% of the funding from EU grants in 2014–15.

However, some of the EU's impact on cancer research has been negative. The 2001 European Clinical Trials Directive, which sought harmonisation and simplification of regulations, actually resulted in increased costs and bureaucracy and held back UK clinical trial activity.[1] There has been an animated debate and legitimate concerns have been raised about the new EU General Data Protection Regulation and its potential to (inadvertently) hinder clinical research.

Although the EU currently recognises health-care provision as a Member State responsibility, emerging data about cancer inequalities and substantial diversity in cancer costs across the EU[2] emphasise the need for Europe-wide cooperation for patient

benefit. The relatively poor outcomes observed for UK patients with cancer in the 1990s and early 2000s led to collaborative research, which confirmed and partly explained why cancer survival was lower in, for instance, the UK and Denmark, than in some other European countries.[3] Many of the UK's problems have been tackled successfully, but much remains to be done. As mentioned, Denmark's work on early cancer diagnosis is now informing practice-changing activities in the UK. Innovation to improve outcomes for patients with cancer in their 60s and beyond, such as that ongoing in France, will influence UK practice. The EU has funded a series of successful Member State Joint Actions against cancer, which inform national cancer plans.[4] The launch of the European Cancer Patient's Bill of Rights in the European Parliament on World Cancer Day 2014[5] represented an important catalyst for change for patients with cancer (both UK-wide and Europe-wide) and involved substantial leadership from Europe's patient advocates and health-care professionals. Overall, the benefits of these collaborative European approaches so far have been major and can still increase, and are greatly facilitated by the EU.

Although collaborations between European cancer researchers, patients, and institutions are still expected to continue if the UK's relationship with the EU were to change, their scale and impact would be compromised by a UK exit. How would UK researchers fare if access to EU funding (for which the UK competes so well) was no longer possible? Could continued access be negotiated or would the UK Government subsidise the (substantial) shortfall? Human capital in cancer research and control is also a global commodity. The flow of excellent senior and junior researchers into UK institutions from the EU must be maintained. It is expedited by free movement of citizens across the EU. Movement of researchers in the opposite direction will continue to enhance career development. At a broader level, if a UK exit precipitated a sustained period of financial uncertainty, this could lead to poorer health outcomes, especially in areas of social deprivation. UK spending on cancer care already falls below the European average,[2] and if financial uncertainty caused it to fall further we would expect further deterioration in cancer outcomes as a consequence of reduced spending on health care, and the consequential reduction in staff and facilities.

We believe that a continued strong collaboration and shared work and funding in cancer research with EU partners, together with sharing best practice in cancer care, is vital to maintain the UK's role in cancer research and improve UK cancer services. This alliance will be most effectively delivered by remaining in the EU and robustly supporting research and patient-focused legislation. We must continue to influence and share European policy in important domains such as clinical trials, data sharing, and clinical best practice, and deliver the highest quality cancer research that underpins improved cancer care for our patients. It is for these reasons that we oppose the UK leaving the EU.

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1 European Commission. Impact assessment report on the revision of the "Clinical Trials Directive" 2001/20/EC. http://ec.europa.eu/health/files/clinicaltrials/2012_07/impact_assessment_part1_en.pdf (accessed April 7, 2016).

2 Luengo-Fernandez R, Leal J, Gray A, Sullivan R. Economic burden of cancer across the European Union: a population-based cost analysis. *Lancet Oncol* 2013; **14:** 1165–74.

3 Allemani C, Weir HK, Carreira H, et al, for the CONCORD Working Group. Global surveillance of cancer survival 1995–2009: analysis of individual data for 25 676 887 patients from 279 population-based registries in 67 countries (CONCORD-2). *Lancet* 2015; **385:** 977–1010.

4 Martin-Moreno JM, Albreht T, Radoš Krnel S, for European Partnership Against Cancer. Boosting innovation and cooperation in European cancer control. 2013. http://www.euro.who.int/__data/assets/pdf_file/0014/235211/Boosting-Innovation-and-Cooperation-in-European-Cancer-Control.pdf?ua=1 (accessed April 7, 2016).

5 Lawler M, Le Chevalier T, Banks I, et al, on behalf of the European Cancer Concord (ECC). A Bill of Rights for patients with cancer in Europe. *Lancet Oncol* 2014; **15:** 258–60.