BREXIT: the impact on Scotland

Health and Wellbeing Edition

September 2018
Preface
Anna Dominiczak

Introduction

The NHS: A British or International Institution
Vicky Long

Our Food after Brexit
Emilie Combet

Leaving the EU and the potential impact on Nursing and Patient Care
Siobhan O’Connor

Will Brexit impact on Health Protection and Security from Infectious Disease?
Fiona Henriquez

Water Quality in Scotland post-Brexit
Helen Bridle

Brexit and the Future of Health Research and Innovation
Siobhan O’Connor and Maria Ana Cataluna

EU Nationals and their Use of Health Services in the UK
Daniela Sime

Linguistic Tolerance in Multilingual Scotland: Nurturing Diversity post-Brexit
Bernadette O’Rourke

The landscape of Higher Education after Brexit
Siobhan O’Connor and Kate Walker

Recommendations

More from The Young Academy of Scotland on Brexit
Preface

In 2011, the Royal Society of Edinburgh (RSE), Scotland’s National Academy, created the Young Academy of Scotland (YAS). This is the first and currently only Young Academy in the United Kingdom. The YAS has been exceptionally successful in fulfilling its mission to foster interdisciplinary activities among emerging leaders from the disciplines of science and humanities, the professions, the arts, business and civil society. It is designed to provide a platform for innovative young entrepreneurs, professionals and academics to address the most challenging issues facing society in Scotland and beyond.

The collection of papers on the impact of Brexit on Scotland’s health and wellbeing is timely and well chosen. These papers present rigorous, evidence-based and data-rich and yet easy to read accounts on several aspects of Scotland’s health and wellbeing post-Brexit. This is not a scaremongering but rather a deep and well-researched concern about the people who work in our NHS and clinical academia, as well as the patients they serve. A well-balanced discussion on food and food security as well as health protection and water quality is included.

As a Fellow of the RSE, I am proud of our Young Academy colleagues. This collection of papers is strongly recommended to all in Scotland and beyond who are interested in health strategy and policy, including research and innovation.

Professor Dame Anna Dominiczak DBE FRSE FMedSci
Regius Professor of Medicine
Vice Principal and Head of College of Medical, Veterinary & Life Sciences
University of Glasgow
In six months from the publication of this report, the United Kingdom will cease to be a member of the European Union. As ‘Brexit Day’ grows closer, there has been much frustration in both Holyrood and Westminster at the slow progress of negotiations. The prospect of a ‘no-deal’ Brexit has grown considerably since Theresa May’s cabinet approved her ‘soft Brexit’ EU Trade Plan, sparking the resignations of her Foreign Secretary and Brexit Secretary, and outcry from some segments of the Conservative Party.

While Westminster has been embroiled in debate surrounding May’s proposals, Holyrood has passed its own ‘Brexit Continuity Bill’ which was designed to take control over the repatriation of significant EU legislation in Scotland. This ‘Continuity Bill’ has been challenged by Westminster and is being considered by the Supreme Court.

During this political and legal turbulence, the public is growing concerned about the potential impact of Brexit, especially regarding their health and wellbeing. There have been new reports of people stockpiling food and medicine, economists debating the likely impact of Brexit on UK markets, and heated debates of how the rights of EU nationals currently residing in the UK may change.

This report seeks to examine the likely impact of Brexit on the health and wellbeing of Scotland’s people, and make recommendations on how individuals, communities, and policy makers could meet these considerable challenges.

The Young Academy of Scotland

The Young Academy of Scotland (YAS) was established by the Royal Society of Edinburgh (RSE) in 2011 to provide a platform for young professionals to address the most challenging issues facing Scotland. There are currently 131 people in YAS, with members coming from all areas of academia, business, third sector organisations, and public life. Each article in this report was written by one or more YAS members with relevant expertise in that specific area of Health and Wellbeing. Each article represents the opinions of its author(s), and should not be taken as the view of YAS or the RSE.

This report follows the previous YAS report, BREXIT: the impact on Scotland, which was published in September 2017. The first report is available via the YAS website, www.youngacademyofscotland.org.uk
The NHS: A British or International Institution?

By Dr Vicky Long

In the run-up to the referendum, pro-Brexit campaigners exploited public support for the NHS in a high-profile campaign which claimed that Britain gave the EU £350 million a week. Pitting EU bureaucracy against a British institution it stated, ‘let’s fund our NHS instead’. The backlash which ensued when pro-Brexit campaigners retreated from this pledge following the referendum has received ample attention. What has received less consideration is the role played by healthcare practitioners from outside the UK in staffing and shaping what is often seen as a quintessentially British institution, from its very inception. An appreciation of this history highlights the contribution made by healthcare professionals from around the world to modern British medicine. It also reveals the barriers they faced and reminds us of the need to protect and promote the free movement of healthcare researchers and professionals in the wake of Brexit.

The experiences of healthcare researchers and practitioners fleeing persecution from fascist regimes in the 1930s and 1940s provides some particularly valuable insights. Around 5,200 European medical refugees arrived in Britain between 1930 and 1960\(^1\). However, the reluctance of conservative factions within the British Medical Association (BMA) and other medical professional bodies to recognise foreign medical qualifications for doctors and nurses was fuelled to a large degree by their desire to restrict access to desirable posts. Racist attitudes may also have hampered refugees’ capacities to secure work appropriate to their prior experience and qualifications\(^2\). Many were compelled to take up lower-status or unskilled work – doctors employed as nurses or midwives, and nurses employed as domestic servants, for example. This protectionist attitude was undermined by willingness in other sections of the scientific and medical community to welcome European researchers and workers as potential modernisers to British practice, recognising that knowledge and training elsewhere in Europe often exceeded the state of affairs in Britain\(^1\).

In the 1930s, many refugee doctors elected to study in Scotland where it was possible to secure re-qualification in a year, as opposed to the 2-3 years required in England and Wales\(^3\). A number of medical refugees were initially interned following the outbreak of the Second World War, in measures designed to contain ‘hostile aliens’. However, the war would later provide further opportunities to practise as the requirement for doctors to secure British qualifications was dropped in order to meet medical staffing needs. Shortages of qualified

“This history highlights the contribution made by healthcare professionals from around the world to modern British medicine. It also reveals the barriers they faced and reminds us of the need to protect and promote the free movement of healthcare researchers and professionals in the wake of Brexit.”
and trainee nurses, meanwhile, incrementally overwhelmed earlier protectionist opposition to enabling refugees to train and practise – although these gains were tempered by ongoing restrictions placed upon the employment of refugee nurses4.

The establishment of the NHS in Scotland (and, separately, in England and Wales) in 1948 provided an opportunity for refugee practitioners to secure permanent posts in clinical specialisms. Shortages of staff and a failure to implement sufficient training places, produced - and, indeed, continues to produce - an ongoing reliance on overseas healthcare workers to ensure the running of the NHS. A number of refugees subsequently forged pioneering careers in Britain, many in the field of psychiatry, which lacked the status and prestige of some other branches of medicine. Annie Altschul, for example, fled Vienna in 1938 and then trained in general and psychiatric nursing in Britain. She became an influential figure in the development of mental health nursing and in 1976 was appointed as the first Professor of Psychiatric Nursing in Britain at the University of Edinburgh5. Eugene Heimler survived internment in several concentration camps during the Second World War before travelling to England in 1947 where he trained as a psychiatric social worker6. Having witnessed how futility destroyed people’s mental health during his imprisonment, Heimler argued that mental distress could be alleviated if people were given a sense of purpose, and put these ideas into practice in the developing field of community care to support people with enduring mental health problems. Felix Post fled Berlin and his medical studies in 1934, later qualifying as a doctor in London. He became one of the pioneers of old age psychiatry, helping to transform what had hitherto been a particularly neglected area of practice7.

In mid-century Britain, the BMA and many (but by no means all) other medical bodies protected what they perceived as the interests of British-born doctors, opposing both the employment of medical refugees and the introduction of the NHS, which they saw as an assault on private practice. The disparaging attitude adopted by many senior figures within the medical profession towards the potential value of medical refugees was summed up in 1933 by Lord Dawson, President of the Royal College of Physicians, who commented that “the number that could be usefully absorbed or teach us anything could be counted on the fingers of one hand”8.

By contrast, the BMA now campaigns to protect the NHS and seeks to do so in part by promoting a flexible immigration system which facilitates the entry of health and social care staff to the UK, and enables UK-trained doctors to work in the EU should they so choose, highlighting both the ongoing staffing needs of the NHS and the gains in medical knowledge and practice which accrue through the interchange of research, practice and teaching across different countries8. It can only be hoped that the Scottish and UK governments will also learn from the past.

Vicky Long is a Senior Lecturer in 20th Century British History at Newcastle University. She is currently working on a Wellcome Trust funded research project, ‘Decision Making in Pregnancy after 1970’ to examine the sociocultural context of prenatal screening and diagnostic technologies, and their impact upon women and their partners.

Food has been rarely considered in the negotiations leading up to the UK exit from the European Union (EU). This is despite the government committing, in 1996 and again 2005, to support the World Food Summit declaration on the Right to Food: “the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger”\(^1\). Food access may seem, for many in modern Britain, a given. However, our food system exists thanks to a now-fragile equilibrium built on trade deals and shared regulations, infrastructure and work with EU and international partners. Management and access to the food systems has important repercussions on health, wellbeing, and the environment. The decision to exit the EU in May 2019 could jeopardise this equilibrium and raises important questions, which must be urgently debated\(^2\).

Food, food security and health
In 2015, the First Minister pledged that Scotland would lead the way to deliver a more equal world. The global goals for sustainable development, zero hunger, good health and wellbeing, and responsible production and consumption, are central aspects of the debate on the future of the UK food system post-Brexit. Access to food is essential to sustain good health and wellbeing, and increased food costs may widen the health inequality gaps in Scotland. A third of the population now lives with being overweight or obese, which is associated with non-communicable diseases such as cardiovascular disease and cancer. The Scottish Dietary Targets have not been met, with the diet remaining too high in calories fats, sugar and salt, and too low in fibre, fruit and vegetables\(^4\). This gap is especially marked in most deprived households, with diets lower in fruit and vegetables, oil rich fish, total fat and fibre, but higher in energy density and sugar. In 2017, 8% of those surveyed by the Food Standards Agency lived in households classed as ‘food insecure’ and 13% in households ‘marginally food secure’\(^5\).

Our food, origins and costs
The food we eat comes from the UK (49%), the EU (31%) and with the remainder from international markets\(^6\). The EU is Scotland’s biggest market outside the UK (55% of imports). Trade deficits (difference between overall import and export) exist for all food groups in the UK, except beverages, with the largest global trade deficit for fruit and vegetables (£9.2 billion in 2016), followed by meat (£4.7 billion)\(^7\). Modelling future food cost considers access to the single market, trade deals with tariff and non-tariff measures e.g. border checks, custom costs. Other factors include supply chains costs, exchange rates, labour market costs. Lack of knowledge of future trade deals and infrastructure management limits the usefulness of the projections.

At present, there are no tariffs for import or custom barriers for EU goods. Without a trade deal agreement by December 2020, EU imports will be treated like non-EU imports with an average 22% tariff on foods (default framework by the World Trade Organisation). Food prices could rise by 3.5 to 7.1% depending on modelling scenarios\(^7\).

What about international trade?
Importing more foods from non-EU countries is a potential strategy post-Brexit. EU tariffs are currently high for non-EU “competition” products (e.g. dairy) – exiting the EU opens routes for supply, which may lead to lower or similar prices. However, lower standards in terms of animal welfare e.g. sow stalls, banned in the EU; use of antibiotics and hormones as well as feeds, higher carbon cost linked to transportation, all need to be considered. Increased imports risks undercutting UK products if the imported goods are much cheaper. A downstream risk is reducing standards to compete. The UK is a low volume market (compared to larger nations) and a high specification customer, which may not be attractive for countries exporting.

Can local UK production fill the gap?
Local (UK) food production depends on climate, pests and diseases, workforce and transport infrastructure, and increased production will not necessarily translate into increased food security. While the fruit supply has been stable in the last 30 years (17% UK-grown), the proportion of UK-grown vegetables has decreased.
from 83% in the 1980s to 54% in 2016\(^a\). If EU food became less affordable/imported, UK food sub-sectors might increase their UK market share (e.g. British pig products, selected fruit/vegetables)\(^b\). Modelling by the UK Trade Policy Observatory highlights that domestic production in the food processing industry will expand under all Brexit scenarios, from 0.9 to 9.2%. Conversely, the Food Foundation argued that increasing domestic production of fruit and vegetables could “result in cheaper produce for the consumer in the long run, a potentially more resilient supply and, given the perishability of fresh produce, could also result in fewer food miles and better-quality product”. There is also scope to rethink “responsible production and consumption,” the 12th global goal for sustainable development, with an estimated 1.35 million tonnes of food & drink wasted in Scotland in 2013.

**Coping with changes to the infrastructure**

Currently customs barrier checks may happen anywhere in the EU. After Brexit, the burden of checking whether standards are met will fall on the UK, unless a suitable deal is secured. Sanitary and phytosanitary checks on products from outside EU (11%) take up to two days. Increasing this volume (food from the EU) would stress the system due to the lack of capacity for ports and borders. Delays are likely to impact most on perishables (meat, dairy, fruit, vegetables) reducing shelf-life, leading to increased waste, decreased sustainability of the food chain, and increased transport costs.

The framework for future interactions with the European Chemicals Agency, the European Food Safety Authority or with assessments of pesticides, international food fraud and water quality remain to be established\(^c\). Responsibility for food safety and nutrition in Scotland sits with Food Standards Scotland (FSS), a non-ministerial government department of the Scottish Government. The UK Food Standard Agency’s (FSA) new framework “Regulating our Future” highlights major changes to the way inspections are carried out. These include a switch to private sector inspections, which may weaken food security and introduce conflict of interest, and increase stress on portal infrastructures.

### Moving forward – considering the future of regulations

The food supply is dependent on environmental health, health of soils, pollinators and marine environment – there will be a need to create a framework to replace the common agricultural and fisheries policies. EU law (involving the UK) has passed rules preventing the use of antibiotics in farming to ensure that efficacy of antibiotics against human diseases is retained – such a ban is not planned in the UK, with proposals for voluntary targets instead. Away from EU constraints, the UK has an opportunity to foster a stronger agricultural system and greater investment in local food infrastructure (including skills).

Discussions on trade deals and public health have not been very prominent to date in the negotiations and the EU has historically not succeeded in putting public health first – including failure to prevent advertising of health harming food and drink to children\(^d\). Impending new stressors will affect the UK food landscape. The UK risks becoming vulnerable to industry lobbies when negotiating alone, or may choose a low(er) regulation environment for increased competitiveness. Increased availability and cheaper prices for some categories of foods (processed foods high in fat and/or sugar) could have an overall negative economic impact through health harm. The recent lift of the cap on sugar beet (as part of the Common Agricultural Policy) led to an expected 31% increase in production and lower prices. The transition from a heavily regulated system to a free market is therefore risky\(^e\).

The Scottish Government plan for an Alcohol Minimum Unit Price (MUP) was delayed for several years due to challenges by the Scotch Whisky Association to the European Court of Justice, on the basis that it would disrupt a EU internal market. Hence, Brexit also represent an opportunity for leadership and improved public health, especially in Scotland. These opportunities include reviewing policies related to mandatory food labelling with the traffic light system; improved public health, especially in Scotland. These opportunities include reviewing policies related to mandatory food labelling with the traffic light system; minimum unit pricing right across the UK; ban of trans fats; regulation of herbicides and hormone-disrupting chemicals; tougher approach to high-sugar / high-fat products and advertising.

---

Emilie Combet is a Senior Lecturer in Nutrition at University of Glasgow. Her research is multi-disciplinary and focuses on how food impacts on health throughout life, from the time peri-conception to old age.

---

Leaving the EU and the potential impact on Nursing and Patient Care
By Siobhan O’Connor

On the 23rd of June 2016, 51.9% of those who voted in the United Kingdom’s referendum on whether to remain in the European Union (EU) chose to leave. The following year in March 2017, Article 50 of the Treaty on the European Union was invoked by the Westminster government which began the formal withdrawal process that is still ongoing. There has been much debate about the pros and cons of leaving Europe, including what impact it will have on the National Health Service (NHS) in Scotland and across the UK. Promises of £350 million in savings per week by Brexiters, who claimed this money would be invested in the NHS have yet to materialise. Instead, we are faced with increasing pressures on the health workforce. The healthcare workforce is made up largely of nurses, with over 57,000 working in the public sector across Scotland. A smaller number are midwives, just under 3,000. These two professions account for over 40% of the total number of staff in NHS Scotland. In addition, an estimated 16,000 nurses work in voluntary, private or other public sector settings such as nursing homes, residential care facilities and private hospitals or clinics. Nurses and midwives from the European Economic Area (EEA) account for 5.3%, or 36,259, of professionals registered with the Nursing and Midwifery Council (NMC) across all regions of the United Kingdom. These hail predominantly from Spain, Romania, Italy, Portugal, Ireland and Poland and make a valuable contribution to the healthcare sector, filling persistent shortages in the workforce. Theresa Fyffe, Director of the Royal College of Nursing Scotland, emphasised the risks that Brexit poses to this situation when she said, “Nursing staff from other countries make a huge contribution to caring for people in Scotland. Employers are concerned about the impact the vote to leave the EU might have on nurses from other countries who are such an important part of the workforce”.

Fahy et al identified this issue, the vulnerability of the healthcare workforce, in a recent analysis of three possible Brexit scenarios and the impact on health services in the UK6. They highlighted that if the legal status of European nurses and other professions are undermined in Brexit negotiations, such as their residency, voting rights, access to social welfare and other benefits, the UK may become a less appealing place to live and work. Although London and South East England were identified as being particularly susceptible to labour shortages, Scotland could also be affected. Already, there are reports of EU nurses leaving the

“The insular climate that has emerged during Brexit could cause other professionals internationally to pause for thought when considering whether to work in Scotland or not.”

Fahy et al identified this issue, the vulnerability of the healthcare workforce, in a recent analysis of three possible Brexit scenarios and the impact on health services in the UK6. They highlighted that if the legal status of European nurses and other professions are undermined in Brexit negotiations, such as their residency, voting rights, access to social welfare and other benefits, the UK may become a less appealing place to live and work. Although London and South East England were identified as being particularly susceptible to labour shortages, Scotland could also be affected. Already, there are reports of EU nurses leaving the
country due to the uncertainties around Brexit. If this continues the loss of nursing staff could have serious implications on patient safety and the quality of care delivered in both hospital and community settings.

The free movement of workers across Europe has greatly benefited the health service in Scotland. However, the insular climate that has emerged during Brexit could cause other professionals internationally to pause for thought when considering whether to work in Scotland or not. Nurses were recently added to the shortage occupation list, a list of occupations kept by the Home Office where there are not enough resident workers to fill vacancies. If tighter visa controls are introduced post-Brexit, EU nurses may need to apply for Tier 2 visas, making it costlier and more complicated to come and work in the UK. Currently, people can apply for permanent residence once they have been working full-time in the UK for five years, after which they can make an application for citizenship. If residency regulations become more restrictive or the current system of mutual recognition of qualifications across Europe is weakened or voided due to Brexit, attracting EU nurses to work in Scotland may become more difficult. Clinical vacancies and unfilled nursing posts due to difficulties with recruitment and retention of staff would only add to the pressures in the NHS and could lead to poorer quality patient care.

Furthermore, a substantial proportion of employment law originates from the European Union and provides a level of protection for nurses and other professionals working in the health sector. For example, the EU Working Time Directive safeguards working hours by limiting the numbers worked per week and stipulating rest periods. The Royal College of Nursing emphasises that this framework helps protect nurses from fatigue during shift work or long working hours and ensures minimum health and safety standards in all public and private healthcare facilities. If our withdrawal from the European Union means this and other employment directives are withdrawn or restricted, it could compromise the health and safety of nurses and lead to problems in delivering a range of acute and primary care services.

A comprehensive strategy in relation to nursing and the NHS post-Brexit has yet to be revealed, and piecemeal progress to date could hamper long-term efforts for a sustainable health workforce. Both Scottish and Westminster governments need to work closely together to protect the legal status of EU nurses currently working here and those we want to attract and retain in the future. Therefore, immigration, employment and residency rights should be high on the agenda to protect the nursing workforce and the health services they deliver to citizens.

Siobhán O'Connor is a Lecturer at the School of Health and Social Care, Edinburgh Napier University. Her research interests focus on the use of a range of technologies to support nurses and patients in the community to manage chronic disease.

Will Brexit impact on Health Protection and Security from Infectious Diseases?

By Professor Fiona Henriquez

Health protection and health security in the UK has been fundamentally shaped by our membership of the European Union (EU). Health protection encompasses protection from infectious diseases, in particular pandemics, through surveillance and vaccination. Health security is focused on the intelligence surrounding potential planned bio-threats and battling the emergence of antimicrobial resistance. In this article, an overview of current European agencies in this remit is presented with a discussion of the impact on the UK after Brexit.

The ECDC

The European agency responsible for strengthening the region’s defences against infectious disease is the European Centre for Disease Prevention and Control (ECDC), located since March 2018 in Sweden. It aims to strengthen public health systems in Europe; support the response to public health threats and provide evidence for decision-making processes. The ECDC performs a wide variety of activities from surveillance to epidemic modelling and response, scientific advice, public health training and communication. It has a number of programmes that monitor antimicrobial resistance and healthcare associated infections, emerging food, water and vector-borne diseases and sexually transmitted infections through different systems: The European Surveillance System (TESSy), Epidemic Intelligence Information System (EPIS), Threat Tracking Tool (TTT) and the Early Warning Response System (EWRS)1.

As part of the EU, the UK links to the ECDC through its devolved health protection departments i.e. Public Health England, Health Protection Scotland, HSC Public Health Agency of Northern Ireland and Public Health Wales. The ECDC sets competencies for the Field Epidemiology Training Programme in the UK (FETP) and it has participated in a number of investigations of outbreaks in the UK such as influenza and chlamydia, thus collecting evidence and intelligence for predictive modelling and prevention design for future outbreaks.

The EMA

The European Medicines Agency (EMA) fosters scientific excellence in the evaluation and monitoring of medicines for both medical and veterinary use. It facilitates development of new medicines, including vaccinations and access to medicines through a series of regulatory mechanisms. The EMA is also responsible for authorisation of their marketing in Europe and the surveillance of their safety. It is currently based in London, UK; but with the announcement of Brexit, the agency will be relocating to Amsterdam, Netherlands. It is likely that pharmaceutical companies based in the UK, seeking to launch new medicines and vaccines will have to apply separately for regulatory approval in the UK and in the EU2. This would greatly impact on the industry. It will be particularly concerning for innovation too. This is because many companies in the pharmaceutical industry are SMEs (Small Medium Enterprises) that depend on the UK’s Venture Capital Fund, financed in part by the European Investment Bank and the European Investment Fund2.

Vaccination

Vaccination is considered to be the most successful way of preventing infectious and communicable disease. Many individuals in Europe, including the UK, follow a recommended vaccination programme. However, the phenomenon of ‘vaccine hesitancy’ is increasing, with a worrying trend of vaccine refusal3,4. This has resulted in an increase of infectious disease outbreaks that would otherwise be contained. For example, measles cases have tripled in one year in 2017 and 87% of these involved unvaccinated cases5. The only EU countries to reach the 95% target of vaccination in 2016 (this target is considered to be the most effective at preventing the spread of disease) were Croatia, Hungary, Lithuania, Portugal, Slovakia, Spain and Sweden6. According to the

RSE YOUNG ACADEMY OF SCOTLAND BREXIT IMPACT REPORT
European Parliament, the most effective way of promoting vaccination engagement is to support national vaccination programmes through the ECDC and they have also welcomed plans for EU countries to buy vaccines through a European partnership, which should decrease the cost. The ECDC has been instrumental in collating all initiatives and interventions that address vaccine hesitancy, with information about hesitant populations and a toolkit for healthcare workers to support their work in vaccination programmes.  

Vaccine hesitancy is also a UK phenomenon. A recent study focused on reasons for non-vaccination against influenza by parents of school age children revealed that hesitancy is based on a number of factors, including concerns about side effects, perceptions that their child/children do not need to be vaccinated and also due to faith reasons because of the presence of porcine gelatine in the vaccine. The support from the ECDC is important to promote work to increase vaccine confidence. One such project is based at the London School of Hygiene and Tropical Medicine. The Vaccine Confidence Project (VCP) aims to monitor public confidence in immunisation programmes by building an information surveillance system for early detection of public concerns around vaccines. It also applied diagnostics to data collected to determine the risk level of public concerns in terms of their potential to disrupt vaccine programmes; and, finally, it provides analysis and guidance for early response and engagement with the public to ensure sustained confidence in vaccines and immunisation. Whilst it is based in the UK, it functions on a global level with many partners, including the ECDC and the EMA.

**Reconfiguration of an established relationship**

There have been a number of papers and reports concerning the impact of Brexit on health protection and health security in the UK. In this article, the longstanding relationship is described with examples of how data is shared and expertise is developed in many different areas. Whilst all reports recognise the difficulty in providing any type of recommendation to the Department for Exiting the European Union (DexEU) as much depends on the next couple of months, there is definite support to ensure that the UK maintains an effective partnership with the EU with an aligned approach on public health standards. Learned communities, such as the British Medical Association, highly recommend the fullest possible access to the ECDC in particular, after Brexit. There are concerns about the impact of Brexit upon surveillance and the control of communicable diseases across Europe. In addition, the UK has already been informed that it will no longer be able to participate in the EU-wide FETP, compromising the training of future public health experts with a diverse portfolio of knowledge and experience. Ultimately, there is a common wish amongst public health professionals that the UK stays associated with the ECDC and other relevant agencies as much as possible, in order to influence policy and surveillance measures within the EU and also ensure the quality of medical equipment, medicines and vaccines. The close association will also protect the UK public health infrastructure as the alignment with the EU would foster continuity. This is critical, in particular in view that infectious agents do not have borders.

_Fiona Henriquez is a Professor of Parasitology at the University of the West of Scotland. Her work has led to 31 peer-reviewed publications, funding from both industry and charity funding bodies and world-wide collaborations with other academics, NHS and industry (UK, USA, Spain, Brazil and Italy)._
Water Quality in Scotland post-Brexit

By Dr Helen Bridle

Water plays a key role in public health, perhaps most obviously through the provision of safe drinking water. There are also impacts in terms of supply of water of sufficient quality for other activities such as food preparation and washing as well as safe environmental waters, e.g. for bathing. The UK operates under a number of EU regulations relating to water quality which could be impacted by Brexit.

Drinking Water

There is little concern amongst the industry in relation to the lowering of drinking water standards. The general public expect a high quality of drinking water and the UK has taken a leading role in the EU in determining this so it is likely drinking water quality regulations will be maintained. However, depending on Brexit timing the implementation of revised legislation under the EU Drinking Water Directive might not pass into UK law, and therefore the UK will have the choice of whether to adopt the new standards or not. The proposed changes include addition of further substances, such as Legionella, chlorates and endocrine disrupting chemicals, in monitoring. The expected outcome is that the proportion of the EU population facing high health risks associated with drinking water would drop from 4% to less than 1%. However, the potential benefits to the UK might not be as great as feedback to the proposed legislation has called for greater flexibility for local providers to determine what are appropriate and relevant substances for local conditions. These proposed variations may reduce the overall health benefits from improved water quality.

Rather than quality standards, the UK water industry is concerned about the economic impact of Brexit and in particular investment opportunities, which could have a knock-on effect on water quality and affordability. The European Investment Bank has lent £5.5 billion to UK water infrastructure projects over the last eight years. Given that investment in infrastructure needs to be maintained, particularly tackling challenging issues such as treated water leakage losses or upgrading of treatment and supply systems, there is concern about future access to low-cost finance. In Scotland, the investment system is different, with Scottish Water borrowing supported by the government. Therefore, Brexit should be less of a concern for Scottish Water, with the major issue raised in their most recent report being that of the impact of general economic uncertainty on the sector. Other worries relate to the supply chain and access to skilled labour, which might reduce the access to, and quality of, implementation of new technology.

In terms of considering different Brexit scenarios some academic studies have been undertaken looking at the energy-food-water nexus with the main conclusion about Brexit impacts on water being related to water demand rather than pricing or quality. In particular, more hard Brexit scenarios

“The UK water industry is concerned about the economic impact of Brexit and in particular investment opportunities, which could have a knock-on effect on water quality and affordability.”
are linked with a reduction in demand due to changes in net migration.

**Bottled Water**

Bottled water forms a lucrative subsection of the drinking water market with an estimated value to the UK economy of around £2.7 billion per year\(^5\). While not a direct public health concern there will be problems for UK bottled water suppliers in accessing EU markets, e.g. natural mineral waters will no longer be automatically guaranteed import rights and agreements will have to be reached with individual member states. This could have indirect public health effects through the economic impact, especially since many of the 86 suppliers of natural mineral waters in the UK are based in rural areas with little other industry.

Furthermore, the new Drinking Water Directive proposal has caused major concern amongst bottled water producers since it specifically states a desire to reduce bottled water consumption. Feedback to the proposal highlights that water consumption on average is too low, e.g. 60% of the UK population drinks less than one serving of water a day and suggests that both tap and bottled water consumption can contribute to increasing hydration, along with reduction in consumption of unhealthier alternatives, and therefore benefit public health\(^6\)\(^7\).

**Bathing Water**

One of the main worries about Brexit and water quality relates to environmental legislation and in particular the Bathing Water Directive. Friends of the Earth has highlighted the slow pace the UK took in adopting these regulations and under Brexit scenarios where the UK leaves the European Economic Area there will be no obligation to comply with them\(^8\). Although the UK law is unlikely to change in the short-term there could be a reduction in water quality due to reduced funding to deliver and enforce the regulations, e.g. lower budgets for testing and approaches such as declassification of certain bathing waters. Additionally, mechanisms for enforcement of the regulations may also be weakened. However, these factors might be mitigated by the fact that in adopting the existing legislation significant investments to improve quality have already been made. Longer-term, regulations could change, which has been recognised as an opportunity to adopt higher standards or achieve identical quality through better approaches, as well as a risk, as government comes under pressure to relax regulations due to implementation and delivery costs.

**Scotland**

Water quality is a devolved matter, so there is potential for Scotland and the rest of the UK to take different approaches which could result in cross-border issues. Differences could arise with regards to aligning with new EU legislation, continuing to monitor and enforce existing regulations or working towards higher standards. The Scottish Environmental Protection Agency (SEPA) has stated a commitment to continuing to improve Scotland’s environment\(^9\).

Overall, it seems likely that there is no great water-related risk posed to public health from Brexit, though there are a number of key issues to be resolved. Economic factors are the main short-term concern with longer-term regulation change a possibility. Scotland could adopt a different approach to the rest of the UK, with potential cross-border issues, though offering Scotland the opportunity to select locally appropriate solutions and take an internationally leading role in water quality.

---

*Helen Bridle is an Associate Professor at Heriot-Watt University and holds a Royal Academy of Engineering/EPSRC Fellowship investigating the detection of waterborne pathogens.*

---

Brexit and the Future of Health Research and Innovation

By Siobhan O’Connor and Dr Maria Ana Cataluna

Scientific research and innovation has always had a culture of collaboration, with colleagues sharing knowledge, skills, equipment and other resources across institutions and borders in the United Kingdom and beyond. Since the Brexit referendum there has been much debate around the impact that leaving the European Union might have on the health research landscape and the people and industries that rely on it. There are a number of key areas that could change significantly which may impact on the Scottish health service, higher education and the economy.

**Workforce Mobility**

The free movement of workers and students across Europe has benefited research and innovation in the UK. Thousands of people with specific scientific expertise have come to work in Scottish universities, the National Health Service (NHS), pharmaceutical and other related healthcare industries, many through European-funded programmes like the Marie-Sklodowska Curie Fellowships. These researchers bring a wealth of expertise with them enabling new diagnostics and treatments to be created, tested and, if successful, put into clinical practice, forming an important part of Scotland’s economic growth strategy. Furthermore, research staff in the UK’s higher education sector are highly international. Recent figures showed that EU (non-UK) academic staff in medicine, dentistry and health was as high as 13% in Scotland. This includes physicians, nurses, midwives and allied health professionals from pharmacists, to physiotherapists and occupational therapists, who conduct research into pressing health problems like cancer, diabetes and stroke. Many of these EU professionals combine clinical roles in the NHS with research, so they can continue to care for patients and involve them in developing, testing and implementing new treatments and services.

Moreover, much of the research in the biological and physical sciences underpins discoveries in health, while many researchers working in engineering and technology also work in the development of new diagnostic and treatment tools. Taking a broader perspective, it becomes clear that the number of European academic staff involved in health research in the UK is likely to be significantly higher than 13%. Equally, it is important not to forget that freedom of movement is a reciprocal right, and UK-based researchers and innovators have also benefitted (and are still benefitting) from the vast opportunities that this affords. Indeed, many Scottish researchers visit colleagues across Europe and work in European universities and health services to build up specialist knowledge and skills that can benefit the UK.

With Brexit underway there is a fear that changes to immigration laws and the status of current EU workers may undermine our ability to attract and retain talented scientists from Europe and further afield. For example, if their rights to residency, housing, education, social welfare or other legal entitlements change, a ‘brain drain’ may occur where some of our brightest researchers may choose to leave, with reports of this already happening. Moreover, in 2018 a freedom of information request to the Home Office unearthed the refusal of 6,000 applications for Tier 2 visas for skilled workers in the span of only a few months (including many NHS positions), which lead the Campaign for Science and Engineering to claim that current immigration structures and targets are not fit for purpose. In addition, the Brexit vote itself may have left a lasting impression that the UK no longer values its links with other countries and is now more inward-focused. This perception, as well as current rhetoric around immigration, may discourage other international researchers and their families from coming to live and work here and could affect existing collaborations. Selby et al have argued that changes to research funding and regulation after Brexit could cause current EU-UK cancer research partnerships to dissolve, leaving patients without access to new cancer treatments from clinical trials.

**Funding**

Another critical issue for health research and innovation post-Brexit concerns the amount of funding Scotland receives. Although the UK contributed €5.4 billion to EU research and development between 2007 and...
Maria Ana is an Associate Professor at Heriot-Watt University, where she leads a research group focused on novel ultrafast lasers and photonic systems, as well as their applications to sensing and imaging.

Siobhan O'Connor is a Lecturer in the School of Health and Social Care at Edinburgh Napier University. Her research interests focus on the use of a range of technologies to support nurses and patients in the community to manage chronic disease.

Health and Wellbeing

2013, it received €8.8 billion from European funding programmes during this time. It is worth noting that Scotland receives higher levels of EU funding per head of population that any other part of the UK. This income contributes to the economy in many ways and is often generated by European researchers working in Scottish universities and businesses. The UK government has offered to underwrite funding for current EU projects and has expressed a desire to remain part of forthcoming European research funding programmes. As yet, there is still no long-term commitment to supporting the existing level of European research funding which provides jobs, drives innovation and leads to new healthcare products and services that benefit patients. Without this, damage could be done to Scotland’s reputation affecting its ability to attract international research and innovation staff and a wide range of medical industries, reducing its competitiveness in global markets.

At present, Scottish universities, businesses and public sector organisations have collectively received €468 million in European funding from the current Horizon 2020 programme. Senior UK researchers have been able to participate in discussions at European level about priorities for health research, enabling strategic areas to be funded. A potential knock-on impact of Brexit is being absent from the negotiating table in Brussels. This may mean we cannot influence how and where European research funding is spent. Leaving Europe could mean Scotland is in a weaker position long-term to direct strategic health research priorities. This could affect our ability to attract research funding that supports leading science and contributes to improvements in the health service and patient care.

Regulation

Regulatory frameworks and standards that govern health research such as those related to data protection and clinical trials could also be negatively affected by Brexit. Although Eurosceptics consider EU directives and frameworks to be overly bureaucratic and impinging on the freedom of the UK, they often help to standardise processes and systems across the continent. This makes it easier for researchers to work together, for example on multi-country clinical trials to test new drugs and other treatments. This is particularly important for rare diseases as UK patient populations are too small, and larger samples of people from across Europe allow these types of illnesses to be studied and understood so that better diagnostics and treatments are developed. In addition, the pharmaceutical industry in the UK has warned that being outside of Europe could undermine future research, investment and jobs as there will likely be an additional administrative burden around clinical trials and drugs manufacturing related to the potential complexity of the regulatory environment post-Brexit.

This may affect Scottish patients’ access to new medicines, jeopardising people’s health long-term. The importance of free movement of staff, funding and regulatory frameworks to the vibrancy and strength of Scotland’s health research landscape cannot be over emphasised, but these are only some of the issues around research and innovation that could be affected by Brexit. It may also mean we lose access to vital European networks and infrastructure that support health research. Therefore, it is important that Scottish researchers continue to voice their opinions and influence the tone of the Brexit debate to ensure negotiations with Europe in this area are fruitful, and mitigate risks where possible. Playing an active role in shaping the future of Scotland post-Brexit is our collective responsibility and one we must participate in to safeguard health research and the people, industries and patients that rely on it for a better future.

Maria Ana is an Associate Professor at Heriot-Watt University, where she leads a research group focused on novel ultrafast lasers and photonic systems, as well as their applications to sensing and imaging.

Siobhan O’Connor is a Lecturer in the School of Health and Social Care at Edinburgh Napier University. Her research interests focus on the use of a range of technologies to support nurses and patients in the community to manage chronic disease.

The impact of migration on public services was one of the key issues which framed the debate prior to the Brexit referendum. Despite media speculation that migrants add pressure on health services, there is little systematic evidence on migrants’ use of services and their views of services available. Data on migrants’ health is scarce for two reasons: migrants are not a homogenous group, and nationality is not recorded consistently when services are provided, mainly because public services in the UK are free at the point of use. Research shows though that migrants tend to be generally healthy when they move to a new country, making low use of health services.

In the last decade, with the expansion of the European Union, over 3 million migrants have moved to the UK from the other EU states. While some argue that this had led to pressure on public services, including education and health, others have raised concerns over migrants’ low uptake of health care. Eastern European migrants, for example, generally engage with health services less regularly than the majority of the population1 and are mainly healthy, but present an increased risk of illnesses such as depression, anxiety and heart conditions2. There are also structural barriers to good health among migrants, including low income which can lead to poor nutrition and living conditions, isolation and lack of transport to access services, inadequate information on services, often due to a language barrier or a practitioners’ lack of cultural sensitivity3.

For the last two years, I have been leading Here to Stay? Identity, belonging and citizenship among Eastern European settled children and young people in the UK, with ESRC funding. The research examines the difficult position young people from Central and Eastern Europe who moved to the UK as children (the so-called ‘1.5 generation’) find themselves in, in the context of Brexit. We collected data through an online survey with over 1,000 young people across the UK, focus groups and family case studies. One of the aspects we were interested in was young people’s access to health services and their perceived well-being.

We asked young people how satisfied they were with services they accessed in the UK. Over half of those responding (60%) felt satisfied with public services, while 10% were unsatisfied. While just over a half of our participants said they access their GP ‘a few times a year’ (56%) and the same for their dentist (55%), many said they ‘rarely’ or ‘never’ do so (37% for GP, 40% for dentist). 1 in 3 said they never accessed a hospital and while 16% said they have a mental health concern, only 5% said they have a mental health concern, only 5% accessed regular counselling support. However, access to health services in the UK does not give the full picture of migrant families’ use of health services. Over a third said that they had visited a GP/doctor or dentist in their country of birth since living in the UK, whilst 24% said they had used a hospital in their country of birth since moving. Young people who had lived in the UK either for less than 5 years or for over 15 years were also more likely to access doctors, hospitals and dentists in their countries of birth. Access to healthcare has always been an important aspect in families’ decision to move to the UK in the context of EU mobility. In my previous research, I showed how
European families had a ‘pick and mix’ approach to healthcare, using health services in the UK when they trusted provision, could access specialist, high quality care quickly and understood the rules of engagement with practitioners, and going abroad when they trusted more the service systems they were familiar with before migrating.4

In the confusing context of Brexit, EU-born young people and their parents are concerned about how secure their future access to health care will be in Brexiting Britain, not just for themselves, but also for their extended family, such as grandparents who might visit and fall ill. They are worried the NHS might be forced to charge migrants with unclear status, those in insecure employment or not working. Any barriers put in place to restrict access to public services for certain migrant groups, together with some migrants’ precarious status, serve to compound their disadvantage and contribute to their marginalisation. Contrary to some speculation of ‘health tourism’ to abuse the NHS system, migrants seem more likely to be uncertain of entitlements and rely instead on transnational access to health care or informal networks of support. This suggests that policies which emphasise restrictions on provision of healthcare for migrants, combined with an increasingly hostile environment, may result in migrants’ uncertainty over entitlements and a tendency to not engage with services or rely on emergency services. In our study, 77% of young people said they had experienced some level of xenophobia, racism and discrimination. A hostile, anti-immigration environment where families do not feel welcome or entitled to access public services is more likely to make people decide to leave, with direct consequences for Scotland’s workforce.

For some migrants, barriers to engaging may also result from different expectations of health care and cultural beliefs or stigma associated with certain conditions, such as mental ill health4. Young people in our study reported high rates of mental ill health, with 16% disclosing a mental health concern like anxiety or depression. Bullying and prejudice, which many said they experience on a regular basis, as well as the insecurity created by their uncertain status in post-Brexit Britain, are significant risk factors for their health and wellbeing. As EU nationals, many have fear over their status in the UK post-Brexit and their entitlement to public services, such as education and healthcare. Political, social and economic forces shape the conditions under which individual and community characteristics influence people’s health. In the context of Brexit, an insecure status can be seen as an additional factor to the other well-known social determinants of health. In order to address these issues, we need health policies which ensure provision is not selective, discriminatory or inaccessible to certain groups to continue Scotland’s mission for a fairer and more equal society.

Daniela Sime is a Reader in Education & Social Justice in the School of Social Work & Social Policy, University of Strathclyde. She is leading on a ESRC-funded research project which formed the basis of this piece – see www.migrantyouth.org

“This is the UK – speak English!”. Although but a fleeting remark in September 2016, two years on, my nine-year-old son still remembers being reprimanded by a stranger for speaking French with his French-speaking father in our Edinburgh supermarket. Such linguistic intolerance can be placed in the broader context of growing tensions in Scotland and the UK shortly after the Brexit vote earlier that year. It is not of course an isolated incident but marks the growing acceptability to question ‘otherness’.

One of the motivations to vote ‘Leave’ in the Brexit referendum was a desire to curb immigration. While this was fuelled by perceived strains on jobs and public services, it was also linked to a growing discomfort about speaking and hearing other languages in a predominantly “Anglophone” Britain. We find numerous examples of this reported in the media both in the lead-up to Brexit and in the aftermath. Pre-Brexit, we heard of Polish workers being banned from speaking Polish in the workplace;¹ the Leave campaigners called for an English only policy for new migrants coming to the UK;² insults were levied on a Muslim woman in Wales who was told to speak English when in fact she was speaking Welsh;³ there were reports that Nigel Farage disliked sharing trains with people speaking languages other than English⁴. In a post-Brexit context, we continue to read about similar acts of linguistic exclusion and intolerance. While many of these take the form of verbal abuse, incidents of physical violence on the basis of language have also been reported⁵.

Acts of linguistic intolerance are of course not new in themselves and not specific to immigrants. In Scotland, Gaelic speakers⁶ are frequently subjected to derogatory commentary in certain parts of the media and by the wider public⁷. Similarly, it is not uncommon to hear speakers of Scots being ridiculed for not speaking ‘proper’ English⁸. Indeed, linguistic intolerance is not restricted to the use of a certain language but also applies to the way of speaking that language. This is often tied up with the ideology of nativeness and whether or not you are a so-called ‘native’ speaker. For ‘non-native’ speakers or ‘new speakers’ of a language, speaking with an accent can have serious consequences in terms of legitimacy, credibility and in turn access to jobs, educational opportunities or a fair trial in court⁹. Post-Brexit, comment on accent could be perceived as threatening.

Like all other forms of intolerance, linguistic intolerance is something that cannot and should not be ignored. In a post-Brexit context, political discourse around immigration has created a climate which has the potential to exacerbate harassment and intolerance towards individuals and groups who are not only perceived as visibly different but also audibly different as ‘new speakers’ of English or as multilingual speakers of other languages. Language is a key component in defining both our individual and collective identities. Denying someone the right to speak their own language or making fun of their accent can have deep and long-term effects on well-being, confidence, and sense of self and mental health.

Behind these acts of linguistic intolerance are beliefs and ideologies about language which have become so deeply engrainged in the way we think that they are no longer questioned but simply seen as the norm. An example of this unquestioned way of thinking about language is the ideology that monolingualism is the norm. Multilingualism, in contrast, is at best exotic and at worst dangerous and out of place. Linked to this is the ideology of anonymity whereby hegemonic languages such
as English hold authority as the unquestioned normal language – the lingua franca or the neutral language – the language which belongs to everyone and is seen as appropriate for use in the public sphere.

English has become the language from ‘nowhere’ for millions of non-native speakers around the world who have now made it their own. However, for some, English has also come to represent a particular culture, sometimes neoliberal ideologies and sometimes situations of injustice or domination. There is no such thing as a neutral language in the same way that there is no such thing as not having an accent.

It is fair to say that despite occasional statements from EU and UK representatives, language has not been at the forefront of any serious public debate on the implications of Brexit. This debate urgently needs to take place. It is now urgent to ensure that the public policy norms that have up to now guided the EU and the UK’s approach to linguistic diversity continues to function in a sustainable and equitable manner. In 2008 the Group of Intellectuals was set up to advise the European Commission on the contribution of multilingualism to intercultural dialogue. At the time they proposed the idea of a personal adoptive language arguing that for those Europeans whose mother tongue holds a dominant position in the world (such as English, French, German, Spanish), acquiring a personal adoptive language would be of great importance, so as to avoid isolation in monolingualism.

Scotland is a multilingual society in which, along with Gaelic and Scots, there are over 100 other languages used. Although a lot of that multilingualism is not recognised and is almost completely absent from the public sphere, to its credit Scotland has made some headway in developing multilingual strategies in favour of linguistic diversity. It has, for example, adopted the EU-wide goal of mastery of Mother Tongue plus two languages. No such goals exist for the UK as whole, which is yet to clearly articulate the importance of recognising languages as essential skills for global citizenship, not to mention for diplomacy, security, trade, soft power and social cohesion.

Language is key when it comes to accessing education, employment, social services and for community participation. Brexit will have linguistic consequences for immigrants, particularly with regard to English language requirements for citizenship and asylum applications. There is a real need to understand the potential social tensions that can emerge from the unequal access to participation of speakers of different languages in a multilingual society such as Scotland. Post-Brexit, there are also likely to be important implications for the provision of translation and interpreting services for immigrants in public services (including health care) and official contexts. Issues around language learning provision for newcomers in primary and secondary education will also need to be addressed.

Inequalities on the basis of language pose a potential challenge to integration, social cohesion and economic collaboration, as well as to the full participation of territorial minorities (e.g. Gaelic, Scots, British Sign Language) and immigrant minorities (e.g. Polish, Mandarin, Urdu etc.) in the social, economic and artistic life of Scotland. A shared understanding of these complexities across a range of contexts including education, healthcare, youth culture and the workplace is needed in order to sharpen our knowledge of how to tackle the challenges and opportunities that contemporary multilingualism brings to Scotland and to guide policy on language after Brexit.

Bernadette O’Rourke is a Professor of Sociolinguistics at Heriot-Watt University and Chair of EU COST Action ‘New Speakers in a Multilingual Europe.’

1 ‘Speak English’ Polish factory workers banned from speaking mother tongue as it ‘isolates’, Express, 2 July 2016
2 Migrants must have good English in post-Brexit UK, says leave campaign, The Guardian, 1 June 2016
3 Welsh woman on bus shuts down racist who told Muslim passenger to ‘speak English’, BBC, 21 June 2016
4 Farage ‘felt awkward’ on train, Evening Standard, 28 February 2014
5 Woman attacked on London underground for speaking Spanish, The Independent, 13 April 2018
7 Why does Gaelic make people so angry? BBC Scotland news, 8 September 2015
9 For more information, see The New Speakers Network, http://www.nspk.org.uk/
The landscape of Higher Education after Brexit

By Siobhan O’Connor and Kate Walker

As Brexit continues to dominate the political landscape and negotiations with the European Commission wax and wane, a key concern is the impact the decision to leave Europe will have on the landscape of higher education in Scotland. Several aspects of teaching, learning and graduate employability have close links with Europe and its institutions, particularly student and workforce mobility, and funding.

Student mobility

Current agreements grant freedom of movement to citizens of EU states, including students. In 2016/17, EU citizens made up 9% of the student population in higher education institutions in Scotland, a larger percentage than any other country of the UK. This equates to just over 21,000 students. In health education, the number of student places is controlled to ensure an adequate supply of physicians, nurses and other professionals in the workforce. Some 7,000 EU students were enrolled in health care, medicine and health safety degree programmes at higher education institutions across Scotland in 2016/17.

Full-time undergraduate EU students are entitled to free tuition fees to enable them to attend university, like their Scottish counterparts. While estimates put the cost to the exchequer of this free education at £93 million, European students bring direct economic benefits in terms of the money they spend renting accommodation and paying for food and living expenses throughout their studies, estimated at £156 million a year. Many also work part-time in the tourism, food and drink, retail and other sectors, supporting the economy. Any significant changes in the number of EU students post-Brexit may require a rapid policy response that balances the allocation of university places and tuition fees with student spending power.

For the moment, there is some stability for EU students seeking to pursue a degree programme in Scotland. In February 2018, the Minister for Further Education, Higher Education and Science announced that the Scottish Government would cover the costs of tuition fees for the duration of study for all eligible European citizens who begin their studies in the academic year 2019/20. This extended earlier commitments to students who began in 2017/18 and 2018/19. The fall in value of the British pound against the Euro may also make it more affordable to live and study in the UK over the next few years. While this short-term guarantee could help bridge the gap until the complexities of Brexit are ironed out, the long-term impact of exiting Europe could leave higher education, health and social care services, and Scotland in general less well-resourced.

Membership of the EU and its multilateral programmes means students enrolled in Scottish universities can also travel and study across the continent more easily. An important EU initiative that facilitates this exchange of students is the ERASMUS+ (European Community Action Scheme for the Mobility of University Students) scheme. It is funded through the European Commission with a budget of over €2 billion per year and pays tuition fees and some living expenses for participants. Importantly, students can earn ECTS credits abroad which contribute to course completion in Scotland. In 2014/15, over 1,600 students from Scottish higher education institutions went to study in another European country through the ERASMUS+ programme. Such opportunities enrich students’ learning experiences, enhance their employability through the acquisition of new knowledge and skills, build social networks and afford insights into a range of perspectives and cultures. In addition, Scottish organisations have been very successful in attaining funding through this scheme, with €21 million being awarded in 2017 alone, to support a range of education, training and youth work initiatives. In light of Brexit, continued access to the ERASMUS+ programme would help ensure young people can develop both personally and professionally through...
bilateral student exchanges across Europe.

**Workforce mobility**

The Scottish higher education sector also has a large number of European academic staff, almost 17%, employed at all levels from Teaching Assistant, to Lecturer, and full Professor. At present, these EU citizens are entitled to live and work in the UK without a visa. They can also access social welfare benefits and are entitled to other conditions of employment, due to the reciprocal agreements in place that support the free movement of workers across borders. Many bring with them specific skills and expertise that are not available locally, helping fill important roles in teaching that can improve student outcomes and give them a competitive advantage in the workplace. The uncertainty surrounding Brexit negotiations and the rights of EU workers in the UK is a concern. For example, immigration laws may change and obtaining a visa in the future may become necessary. If this becomes a complex and costly exercise it could deter people from coming to work in Scotland, ultimately impacting on the quality of teaching and student outcomes. European staff and students also add to the cultural and social diversity of university life, enriching the learning experience for everyone. Studying and working alongside those from other nations can improve one’s intercultural competencies and communication skills, which are essential for employability in a global environment.

**Funding**

Scotland currently benefits from a number of EU funding programmes, one of which is the European Regional Development Fund (ERDF). This supports a number of areas including youth unemployment, education and business innovation which enhance many activities in higher education. Scottish higher education institutions receive around £5.5 million a year from the ERDF to build infrastructure that enables them to engage more with industry and improve capacity for commercialising new products and services developed through research. For example, the University of Strathclyde received over £6.5 million over a number of years to invest in setting up a new Technology Innovation Centre in Glasgow, helping create jobs and attract further investment from entrepreneurs and businesses. In addition, Colleges Scotland has received significant funding through the ERDF, approximately £200 million over the last 10 years, that has been invested in further education colleges in Glasgow and Lanarkshire. The European Social Fund (ESF) is another important scheme that benefits Scotland. The college sector received almost £25 million in 2017/18 from the ESF to fund youth employment and training initiatives that enable more students to enter the workforce. The uncertainty around Brexit at present means these funding streams may not be accessible once the UK leaves Europe. This could reduce the opportunities for young people to gain much needed qualifications and employment.

As universities consider their options in the wake of Brexit, it would be worthwhile to copper-fasten the mobility of EU students and staff and secure access, where possible, to European development funds to ensure high quality teaching, learning and graduate employability continues in Scotland.

---

Kate Walker is an independent consultant in education development. She applies detailed knowledge of schools policy and practice to support education reform. Kate previously worked for the British Council and has also held roles in professional services in three UK universities, and schools in the UK and Switzerland.

Siobhan O’Connor is a Lecturer in the School of Health and Social Care at Edinburgh Napier University. Her research interests focus on the use of a range of technologies to support nurses and patients in the community to manage chronic disease.
recommendations

The prospect of Brexit presents a diverse range of challenges and opportunities for the health and wellbeing of citizens of Scotland. Some are immediate and will need to be addressed during the next six months of complex political negotiations. Others are more long-term and will evolve during any transitional period and beyond March 2019. Based on the articles in this report, we have made a number of recommendations for stakeholders and policy makers concerning the impact of Brexit on Scotland:

skilled workforce

- Prioritise workforce planning to ensure enough doctors, nurses, allied health and other professionals operating in the health sector are trained and employed in key acute and community posts across Scotland.

- Support the recruitment and retention of European and international healthcare students, researchers and practitioners by streamlining immigration and visa regulations and ensuring accessible routes to permanent residency and citizenship.

- Remain part of EU research frameworks and programmes to encourage bilateral exchanges of staff and students which help develop knowledge and skills for research and clinical practice.

- Invest in public health training programmes to ensure an adequate supply of professionals with expertise in important areas of public health.

employment rights

- Safeguard the working conditions of all healthcare staff in the public and private sector by retaining EU employment law.

funding

- Honour funding for current EU research and infrastructure projects and negotiate access to ongoing and future EU research programmes such as Horizon 2020 and Framework Programme 9.

- Maintain strategic European clinical and research networks to maximise international collaborations and continue to influence EU funding policy decisions.

- Retain and enhance private and public financing that funds key public health infrastructure.
regulation

- Ensure regulations related to clinical trials of healthcare products and services remain closely aligned to EU processes and systems to support multi-country research.

- Maintain working relationships with the European Centre for Disease Prevention and Control (ECDC), the European Medicines Agency (EMA) and European Food Safety Authority (EFSA) so that addressing infectious diseases, accessing medicines, and checking the quality of food and drink can continue to be coordinated and managed.

- Protect natural resources such as water and air quality, essential for human, animal and environmental health, by maintaining and strengthening cross-border cooperation and investment in these critical assets.

trade and markets

- Negotiate to remain part of the EU internal market so Scottish based businesses can continue to be competitive in selling healthcare products and services across Europe.

- Establish trade agreements, if access to the EU internal market is impractical, that maintain a competitive advantage and minimise any outward flow of health and associated industries abroad.

- Offer funding and incentives to small and medium sized enterprises working in the health and care sector in Scotland to support innovation and entrepreneurship.

education

- Consider establishing campuses at European universities to ensure teaching and research partnerships can continue with Scottish higher education institutions.

- Foster strategic relationships with other countries such as Canada, Australia, Brazil and China to attract more international students to Scotland.

identity and international diplomacy

- Promote a sense of citizenship in Scotland that has diversity and inclusivity at its core, and highlight the value this brings to the NHS and wider society.

- Highlight the contribution the health sector as a whole (i.e. higher education, research, clinical practice and industry) brings to the Scottish economy and the important role European partnerships play in this.
more from the Young Academy of Scotland on Brexit...

Brexit: The Impact on Scotland

Published in September 2017, YAS’s first edition of the Brexit Impact Report Each seeks to assess how communities, companies and policy makers might face up to the challenges presented by the Brexit vote in Scotland and how to make best of any opportunities.

Areas covered by the articles include: Identity and Citizenship, Children and Immigration, Politics, Employment Rights, Creative Industries, Entrepreneurial Scotland, the Economy, Education, Research Funding and Legal Issues.

The report concludes with a set of 20 recommendations for Scotland after Brexit.
The Brexit Observatory seeks to assess the impact of the Brexit vote on individuals in Scotland working in further/higher education, research and innovation. As the multiple implications of the Brexit vote on people’s lives are hard to translate in statistics alone, the Observatory reports the findings of a series of case studies of people in the research-innovation-skills ecosystem.

This report is intended to inform policy makers, as well as the public, as Brexit negotiations progress.

Both the first Brexit Impact Report and The Brexit Observatory may be found on our website, www.youngacademyofscotland.org.uk