

The senior timebomb



The UN has warned that the number of people aged 60+ will surpass 1 billion within the coming decade, which poses a number of challenges for our healthcare system, its financial stability, workforce and resources. Here, *International Innovation* explores the benefits of transatlantic research in preparing for the ageing 'timebomb'

THE RELATIONSHIP BETWEEN the EU and US is one of the most important bilateral affiliations in the world. Both are perceived as leaders on the world stage; dominating international trade and using their eminent positions to influence key policy-making decisions. They work together to generate mutually profitable opportunities, economic growth and global competitiveness. Aside from their economic, political and trade relations, the two regions often cooperate in their response to common challenges such as dwindling energy supplies, climate change, supporting less developed countries and providing adequate healthcare for all.

The health sector is faced with several complex challenges. For half a decade, both sides of the Atlantic have been in the midst of economic turbulence, which in turn has impacted negatively on their healthcare systems. Both the EU and the US are keen to create a more competent, efficacious framework. With the EC encouraging EU-US collaboration through a number of incentives they aim to establish fertile ground for research, development and innovation in the healthcare arena.

RAPID AGEING

Escalating life expectancy rates place enormous pressure on US and EU healthcare resources, and this presents a major concern; the number of elderly patients requiring treatment has increased dramatically, which consumes already strained healthcare budgets and exhausts the sector's workforce and facilities. Furthermore, new evidence shows that people aged 65 and over in the EU represent 16 per cent of the population – a figure set to rise to 25 per cent by 2030. Similarly in the US, inhabitants aged 65+ account for 12.4 per cent of the overall population, predicted to increase to 19 per cent by 2030. Even more startling is the fact that statisticians predict that those aged over 60 will outnumber children aged 0-14 for the first time by 2050. In light of these figures, and considering elderly populations are the most frequent users of healthcare services, it is imperative that senior citizen care undergoes significant transformation on an international scale.

NEURODEGENERATIVE DISEASES

Among the many age-related diseases – including osteoarthritis, osteoporosis, cardiovascular disease, diabetes, circulatory conditions such as stroke – neurodegenerative diseases (NDs) are among the most debilitating and affect a large proportion of the elderly population. Alzheimer's, Parkinson's, Huntington's and motor neurone diseases all occur through progressive loss or death of neurons in the brain. These conditions can be severely distressing for patients, and currently no cure is available. Moreover, as the ageing population grows, so will the extent to which societies are affected by the challenges associated with NDs.

According to the National Institute on Aging in Washington, DC, the direct and indirect costs of caring for a patient with Alzheimer's disease amount to more than US \$100 billion per year, while the current annual expenditure of caring for people with dementia in Europe currently totals nearly €130 billion. The US and Europe have undertaken several projects to address this issue, and through their efforts, hope to evaluate the costs, value of care and distribution of resources across the ND sector.

TACKLING NDS TOGETHER

The EU Joint Programme – Neurodegenerative Disease Research (JPND) was established by the EC to pool national and international research efforts to tackle the challenges of NDs. As one of the largest global research initiatives, JPND's mission is to increase collaboration between participating countries; enable early diagnosis for better target treatment; improve scientific understanding of NDs; find cures; and develop valuable methods of care for patients with NDs.

A conference organised by JPND took place on 9 November 2012 at the American Association for the Advancement of Science (AAAS) headquarters in Washington DC to discuss the US's accession to JPND. During the event, participants examined the potential of transatlantic research collaboration in the field of NDs. A number of science counsellors from embassies in France, Poland, Austria, Finland, Germany, Ireland, Italy, Spain and Sweden, as well as members of AAAS, took part in the conference.

It was hoped that the event would demonstrate the attractiveness of Joint Programming Initiatives in fostering EU-US relations, as well as other countries. Canada, for example, has been strongly committed to and involved with JPND for the past year. Further meetings have been organised between the EU and US through JPND's Management Board to identify mutual areas of interest in the ND field.

ACROSS THE ATLANTIC

In January 2011, US President Barack Obama signed the National Alzheimer's Project Act (NAPA), establishing it as a new law and a

new hope for those involved with the disease – patients, researchers, organisations, etc. The main objectives of NAPA are to:

- Develop and maintain a national plan to defeat Alzheimer's disease
- Coordinate effective research and services across federal agencies
- Ensure rapid development of treatments to prevent, cure or reverse the disease's effects
- Improve early diagnosis and efficacy of care and treatment
- Provide equal services to high-risk ethnic and racial minority populations
- Collaborate internationally to tackle Alzheimer's worldwide

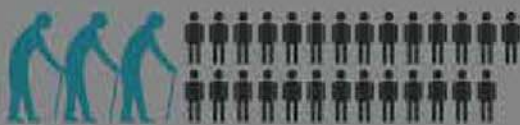
Under the guidance of NAPA, the US Department of Health and Human Services (HHS) drew up the *National Plan to Address Alzheimer's Disease*, providing clear, comprehensive listings of federal activities and recommendations for programmes and high-priority areas in the field of Alzheimer's disease. The report emphasises the importance of ongoing research and clinical enquiry in treating, preventing and reversing or delaying the effects of the disease. HHS will oversee the process of translating scientific research into clinical practice, ensuring it is done rapidly and effectively. The Obama administration invested \$50 million in new Alzheimer's disease research last fiscal year, and is set to invest \$80 million in 2013.

COLLABORATION

A major obstacle to the advancement of research on NDs is the relative lack of common standards and mechanisms for the validation of potentially important findings in pre-clinical, clinical and population-based studies. To better understand these mechanisms involved in NDs and identify new therapeutic approaches, EU-US collaboration presents a number of political, operational and economic opportunities to progress in this sector. In response to this need, in 2010 the Canadian Institutes of Health Research, the Deutsches Zentrum für Neurodegenerative Erkrankungen in Germany and the UK's Medical Research Council created the International Network of Centres of Excellence in Neurodegeneration (COEN) – a funding initiative to support collaboration in ND research. COEN and JPND work closely to build a collaborative research community, promoting excellence and critical mass in the ND arena.

Many efforts – like COEN, BILAT-USA and JPND – to coordinate global partnerships have been made to tackle the issues associated with the global ageing population, and a global challenge of this magnitude requires an international, collaborative response. Because population rise is expected to lead to an increase in health and social care, it is paramount that we prepare our healthcare systems adequately. It is hoped that the considerable investments afforded by EU-US relations will allow ND research to continue apace, leading to new therapeutics and treatments in the future.

Ageing: the statistics



Nearly **one in 10** people are currently over 60 years old



By 2050, **one in six** people will be over 60



People aged 65 and over in the EU currently represent **16 per cent** of the population, a figure set to rise to **25 per cent** by 2030



In the US, inhabitants aged 65+ account for **12.4 per cent** of the overall population, predicted to increase to **19 per cent** by 2030

