

Alzheimer's Research UK: Breaking the misperception around dementia

Dr David Reynolds is the Chief Scientific Officer for Alzheimer's Research UK, and a long-serving peer of dementia research. He recently discussed his role with *Research Features*, emphasising why science cannot afford to forget about dementia.

Dementia is a condition that has tormented science for countless years. But now, finally, fresh treatments and cures may be within reach.

That is according to Dr David Reynolds, the Chief Scientific Officer of Alzheimer's Research UK – one of the largest dementia-focused research institutions worldwide.

He recently sat down with us at *Research Features* to discuss the exciting scientific developments being made within dementia research, highlighting the importance of fundraising initiatives to raise support.

Hello David – thank you for speaking with us! How would you describe your role as Chief Scientific Officer of Alzheimer's Research UK (ARUK)?

Alzheimer's Research UK is the UK's leading dementia research charity and one of the largest fundraising charities in the world focused on finding solutions to dementia through research. As such, the charity has ambitious research plans and fundraising targets to make those plans a reality.

My role as Chief Scientific Officer is to direct the Research Strategy at ARUK, to ensure we fund the highest quality research through the most rigorous processes and that we have our finger on the pulse of the changing

research landscape. I want us to be in a position where we can move quickly to fill knowledge gaps and translate important new findings towards benefits for people with dementia and their families.

What are Alzheimer's Research UK's core principles in terms of history, heritage and background?

The charity was started in 1992 as 'Alzheimer's Research Trust', by a small team of influential people shocked by the lack of investment in research. The first grant was awarded in 1998 to Professor Michel Goedert at the University of Cambridge, whose pioneering research has revealed key insights into the pathology underlying the diseases that cause dementia. Since that time, the charity has funded over 650 projects, investing over £66 million of funding into research.

In 2010, our Dementia 2010 report threw into stark relief the huge impact of dementia on

society. Revealing a cost to the UK economy of £23 billion a year – more than the cost of cancer and heart disease combined – the report acted as a wake-up call for government over the urgent need for more research funding. A year later, in 2011, we changed our name to Alzheimer's Research UK and our work has continued to grow from strength to strength. Over the years, we've built a reputation as the charity thinking differently about dementia, using creative campaigns and ambitious research initiatives to challenge misperceptions, shape the research landscape and drive people to get behind this important cause. In 2014, we launched our Drug Discovery Alliance with three institutes at UCL, Cambridge and Oxford – the first of its kind for dementia.

Which areas of dementia are you currently researching?

We're a biomedical research charity, which means that much of the research we fund focuses on the biology of the diseases

The dialogue around dementia is changing. For years, research has been on the backfoot, which has not been helped by misperceptions that dementia is just 'a bit of forgetfulness when people get older' ”



behind dementia – like Alzheimer’s disease, vascular dementia, dementia with Lewy bodies and frontotemporal dementia. Our knowledge of the pathological changes driving these diseases has grown hugely over the past few decades and is now informing clinical and lab-based research in our portfolio looking at preventions, treatments and diagnostics. Over the past few years, we’ve seen a significant shift in the focus of the research we fund. Whereas five years ago it was necessary to focus on supporting key discoveries in unravelling the causes of dementia, we’re now able to put greater emphasis on translating these breakthroughs towards tangible benefits for people with dementia and their families.

Why is it so important to find treatments and cures for dementia-causing diseases?

Dementia has now overtaken heart disease as the leading cause of death in the UK, but it’s not an issue just confined to this country. There are a staggering 47 million people across the world living with dementia and with life expectancy rising in many countries, this number is set to increase. There are, of course, strong economic arguments for investment in research for new treatments. A treatment that could delay the onset of dementia by five years would cut the number of people affected by the condition by one third – as well as the cost to the UK economy.

But looking behind the statistics tells an equally powerful story. Each number represents a person with a story, a history and a family around them. Dementia puts immeasurable strain, not just on the person but on those around them who often have to put their lives on hold to keep everything together. It’s been almost 15 years since the last dementia drug was licensed and that’s just not good enough. We must continue to ensure that dementia remains at the top of global political agendas and that there is sustained funding for pioneering research that will deliver this progress for those who need it most.

What impact do you think Alzheimer’s Research UK has had on dementia research since it was first founded in 1992? Which do you think have been your most significant breakthroughs or accomplishments?

Our researchers have made real progress in unpicking the complex biology of diseases like Alzheimer’s. Our funding has revealed over 21 new risk genes for Alzheimer’s – discoveries that are now pointing researchers towards key processes



Alzheimer Research UK show dementia in a different light during their #santaforgot advertising campaign

such as inflammation in the disease. We were also the first to open a dedicated Stem Cell Research Centre focusing solely on harnessing this emerging technology to model key processes in Alzheimer’s and screen potential new drugs.

In terms of diagnostics, we’ve funded innovative studies looking at how to detect biomarkers in blood to predict those most likely to develop the disease, as well as supporting teams using sophisticated

algorithms to reveal subtle changes on brain scans that could increase the accuracy of diagnosis. We’ve supported follow-up studies on failed clinical trials of new Alzheimer’s drugs that are now shaping the ongoing search for new treatments to slow or stop the disease.

I’m proud that our funding has supported people and projects that are building our core understanding of the diseases behind dementia and informing future clinical

It’s been almost 15 years since the last dementia drug was licensed and that’s just not good enough. We must ensure that dementia remains at the top of global political agendas ”

reality. Our Dementia Consortium and Drug Discovery Alliance partner academic researchers with dedicated drug discovery expertise, with the aim of fast-tracking promising targets towards clinical trials.

By partnering with pharmaceutical and biotechnology companies, we can ensure that we’re not wasting time covering already-trodden ground and that the targets we are pursuing have the greatest potential to work in patients.

Why are these collaborations so important within scientific research?

Having worked in the pharmaceutical industry and in academic research myself, I can see the value that each sector brings to partnerships. While academic scientists often have the freedom and creativity to pursue really innovative ideas, the bioindustry sector has the know-how to turn those ideas into medicines and diagnostics that work in the clinic.

Bringing these sectors together has proven effective in catalysing the search for new medicines in disease areas like cancer and I’m confident we will see the same benefits in dementia research too.

Have there been any exciting developments recently in terms of clinical trials for potential treatments?

Although the number of clinical trials for diseases like Alzheimer’s is low compared to other common diseases, we are seeing some promising drugs coming through the pipeline. In 2013, leaders of the G8 countries set a global ambition to ‘find a disease-modifying treatment for dementia by 2025’ – a target that has focused attention across the world on this issue.

Many of the current Alzheimer’s treatments in clinical trials target the amyloid protein, which builds up in the brain early in the disease. Following on the heels of some high-profile failures of anti-amyloid drugs in clinical testing in recent years, efforts are still continuing with these drugs to see if they can show benefits. While we hope they do, we also need to be conscious of the fact that 99% of clinical trials in Alzheimer’s have failed over the past decade and we must have an effective back-up plan. That’s why ongoing drug discovery initiatives are so important.

We need to make sure we have a diverse pipeline of drug targets progressing towards

clinical trials – giving us the best chance of success for people with dementia.

Dementia diseases, such as Alzheimer’s, have recently been named the biggest cause of death in England and Wales. How do you see the landscape of Alzheimer’s research changing over the next ten years? Do you think a cure could be found?

Personally, I feel that dementia is coming out of the shadows and rightly so. For years, research has been on the backfoot and this has not been helped by enduring misperceptions that dementia is just ‘a bit of forgetfulness that happens when people get older’.

I believe that the dialogue around dementia is changing and thought-provoking initiatives like our #sharetheorange and #santaforgot campaigns are helping to change the conversation. I firmly believe that research can deliver effective treatments and preventions for people with dementia – we’re already on the right track.

The next decade will see a new era for dementia research and I’m excited to be part of that.

• If you would like to find out any more information and view Alzheimer’s Research UK’s fantastic Santa Forgot advertising campaign, please visit their website at www.alzheimersresearchuk.org.



Contact

Alzheimer’s Research UK
3 Riverside, Granta Park
Cambridge
CB21 6AD

T: 0300 111 5555

E: enquiries@alzheimersresearchuk.org

W: www.alzheimersresearchuk.org

@ARUKnews

/alzheimersresearchuk

**Alzheimer’s
Research
UK**
The Power to Defeat Dementia