

# Impact Report

## 2025



# Introduction



**Liberty Harrison**

Interim CEO, BRACE



## Dementia research in 2025 and beyond

Dementia sadly touches the lives of far too many people, robbing loved ones of those dearest to them.

BRACE was set up in 1987 to find answers to dementia - to better understand its causes, achieve earlier diagnosis, and find new treatments. Ultimately, our aim is simple: to defeat dementia, together, with your help.

Real progress is being made, and, in these pages, you can learn more about the latest BRACE-funded breakthroughs and the valiant efforts researchers are taking to tackle this condition.

## Dementia is the UK's biggest killer

Dementia is the UK's leading cause of death. Each year it claims more lives than any other condition.

For decades it was assumed that dementia is an inevitable part of ageing, but it is not. It's an illness in much the same way as cancer or diabetes with serious physical symptoms. That assumption has held back progress for too long.

Getting older should not mean developing dementia. It should not mean being disabled to the point of needing 24-hour care. This is not the quality of life anyone would wish for their loved ones.

## Real progress is being made

For the first time, three major developments are happening at once. We are at a tipping point of real progress and that has only been possible because of people like you supporting research.

## Earlier diagnosis

Earlier, quicker and more reliable methods of diagnosis are being developed at speed. On pages 6 - 7 you can read about Fastball, the BRACE-funded early Alzheimer's test.

New Alzheimer's blood tests are also being developed as part of a nationwide initiative.

Both the Fastball test and blood biomarker tests could be available on the NHS within a few years if research results continue to be positive.

## First disease-modifying treatments

Donanemab and lecanemab are two breakthrough drugs that can slow the progression of Alzheimer's disease in its early stages. They are not yet available on the NHS but are already being used in many countries, showing for the first time that slowing the disease is possible. Promisingly, the benefits could be for as long as four years.

## Prevention is possible

Research suggests that around 40-45% of dementia cases may be preventable by tackling risk factors such as hearing loss, smoking, high blood pressure, obesity and social isolation. Nearly half of all dementia cases could one day be avoided.

At BRACE, we are proud to contribute to the fight against dementia. Thank you to our supporters for joining us in this fight.

# BRACE Strategy

In 2025, the charity funded more than £1 million pounds in research which is the largest amount that BRACE has ever funded in a single year. None of this would be possible without the generosity of our supporters and the hard work of our researchers - thank you.

## Our four aims

- To understand what causes dementia in its various forms.
- To achieve earlier, more accurate diagnosis of dementia.
- To find new and more powerful treatments, and ultimately a cure.
- To educate by sharing dementia research and knowledge with the public.

## Where is research funded?

The charity funds world-class research across key institutions in South West England, South Wales, and the Bristol Brain Centre.



UNIVERSITY OF  
**BATH**



University of  
**BRISTOL**



Cardiff  
Metropolitan  
University

Prifysgol  
Metropolitan  
Caerdydd



University  
of Exeter



UNIVERSITY OF  
**PLYMOUTH**



Swansea  
University  
Prifysgol  
Abertawe

**UWE  
Bristol**

University  
of the  
West of  
England

# Our Research Focus



Pilot projects



PhD Studentships



The South West Dementia Brain Bank



Dementia Research Nurse



Consultant Senior Lectureship

# Fastball EEG Test

Early Alzheimer's test detects memory decline, from home.

A BRACE-funded research project has shown that the Fastball EEG test can be used in patients' homes for the first time.

A simple brainwave test developed at the University of Bath has been shown to detect signs of memory impairment linked to Alzheimer's disease, years before a diagnosis is typically possible.

Fastball is a three-minute passive test that records electrical activity in the brain while participants view a stream of images. The research has shown the test can reliably identify memory problems in people with Mild Cognitive Impairment (MCI) - a condition that can lead to

Alzheimer's. This follows the group's previous study in 2021 that demonstrated Fastball was sensitive to memory impairment in Alzheimer's disease.

Crucially, the research team has shown for the first time that the test can be administered in people's homes, outside of a clinical environment. Researchers say this opens the door to wider screening and monitoring using accessible, low-cost technology.

With the development of the breakthrough Alzheimer's drugs, donanemab and lecanemab, an early diagnosis is more important than ever before. The drugs are clinically proven to be most effective in the early stages of Alzheimer's. Yet in England, an estimated 1 in 3 people with dementia remain undiagnosed, delaying access to treatment, support, and vital research opportunities.



Diagnosis



The study was led by Dr George Stothart, pictured with the test. He is a BRACE-funded researcher at the University of Bath. He said:

“We’re missing the first 10 to 20 years of Alzheimer’s with current diagnostic tools. Fastball offers a way to change that - detecting memory decline far earlier and more objectively, using a quick and passive test.”

“There’s an urgent need for accurate, practical tools to diagnose Alzheimer’s at scale. Fastball is cheap, portable, and works in real-world settings.”



# Why are dementia drugs failing?

Development of new ageing-related models of dementia using African Turquoise Killifish.

Dr James Murray and his team at Swansea University are developing a new approach that could address: why promising dementia drugs keep failing in clinical trials.

## Why current research models fall short

Most drug development models use mice or rats to study dementia, but Dr Murray believes those models are flawed, as mice and rats do not naturally develop dementia like humans. This means that drugs developed on these kinds of animals might not work in the same way in humans.

## Why use animal models?

Scientists use animal models only when absolutely necessary, and the research is expected to yield findings that benefit both humans and animals.

Animals are used in this research because:

- They share similar genetics with humans
- Their biology shows how dementia and related diseases develop and progress
- Using only human or animal cells will not show how the living body responds to dementia and treatments.

## A better model for testing treatments

Dr Murray's team is developing a new research model using Turquoise Killifish (*Nothobranchius furzeri*) - small fish with a naturally short life span of only a few months, that age rapidly, and naturally develop physical characteristics associated with dementia.

The research team are working with Stanford University to use a special gene editing technique called CRISPR/Cas9 to edit specific Killifish genes. The fish then develop memory and thinking problems similar to human dementia, offering a more accurate way to develop and test dementia drugs.

Swansea University is one of only a few UK laboratories pioneering this approach.

## Future impact of research

While immediate treatments will not emerge from this project, Dr Murray hopes it will create a valuable research model that could ultimately lead to breakthroughs helping millions of people affected by dementia around the world.

The model could also support research into other health conditions such as cancer research, liver disease, obesity and macular degeneration.

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**Dr James Murray**

Senior Lecturer in Mechanisms of Ageing and Ageing-Related Diseases

“We hope this model will help researchers design drugs that actually work when they reach patients. Thanks to BRACE Dementia Research’s significant support, we can pursue research that could transform our understanding of dementia and how we tackle it.”

## Causes

# BRACE in Numbers 2025

For the first time, in the charity's history, BRACE awarded

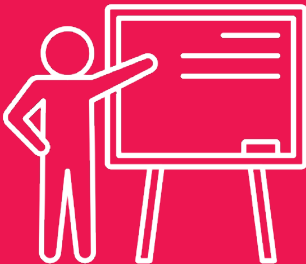
## £1 million

to research in 2025



# 1

Consultant Senior  
Lectureship



# 8

new research  
projects funded



# 10

ongoing  
PhD projects



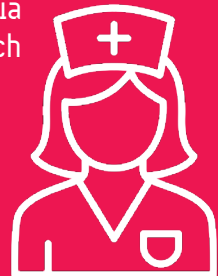
# 8

ongoing  
pilot  
projects



# 1

Dementia  
Research  
Nurse



# 11

projects looking specifically into Alzheimer's disease



# 3

projects looking into dementia diagnosis



# 8

projects looking into the causes of dementia



# 7

projects looking into treatments for dementia



# 3,522

brain tissue samples sent out from the South West Dementia Brain Bank



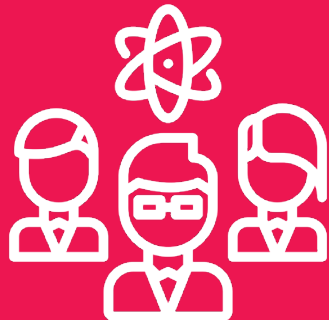
# 18

public information talks



# 3

roles funded at the South West Dementia Brain Bank



# Let's Talk Dementia 2025



For the second year in a row, BRACE hosted 'Let's Talk Dementia' in May 2025, alongside Alive Activities and Bristol Dementia Action Alliance.

A much-needed free, public information event on 'all things dementia'. There were short talks by dementia experts, a wide range of exhibitors such as solicitors, care providers and even robots sharing their knowledge with attendees! People living with dementia were also invited to take part in a range of dementia friendly activities.

Professor Andrea Tales, a researcher from Swansea University whose work has been supported by BRACE, spoke about 'the less well-known symptoms of dementia', offering great insight into sensory changes such as vision and perception changes, and more.

Grandfather John, 'Pops,' also took to the stage alongside his granddaughter Ariana, aged 10, to share their experiences of dementia. John spoke about turning his diagnosis into something positive to help children, like Ariana, understand more about dementia.



"It was a very impressive event! The talks were of a very high standard. It was very well organised and welcoming. The most informative day ever and of course extremely important to do. It all helped me enormously and I assume many others."

## Education





# Could gut hormones be key to treating dementia?

Characterising T-Cell responses in dementia - silencing proinflammatory signalling via gut-brain peptides.

At Swansea University, Dr Jeff Davies' innovative research is focussing on ghrelin, a stomach hormone best known for regulating appetite. The hormone also plays a role in the brain's immune system. The team will pursue the positive benefits of ghrelin in the hope of developing a dementia treatment.

## Why is the stomach hormone important?

Ghrelin exists in two forms: one has positive effects and the other negative effects on the brain. The first, known as acylated ghrelin, is protective and encourages new brain cells and reduces inflammation. The second, unacylated ghrelin works against these benefits. It blocks the positive effects of acylated ghrelin and has been found to impair memory function - a key symptom in Alzheimer's disease.

Crucially, higher levels of unacylated ghrelin have been found in people with Parkinson's disease dementia, suggesting this may play a direct role in cognitive decline and in dementia.

## What will the research involve?

Building on findings from a previous BRACE-funded pilot project, the researchers will investigate ways to increase the 'good ghrelin' through a targeted drug pathway.

Prof Davies and his PhD student, Jessica Stoneman, will use donated immune cells from people that have different types of dementia, such as Dementia with Lewy Bodies, Alzheimer's and Parkinson's with dementia.

They will study the immune cells to see how each type of ghrelin affects brain health before testing a drug-like molecule that the team has already developed.

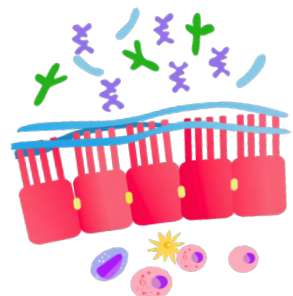
The ‘drug’ encourages acylated ghrelin’s brain protective properties and if positive results are found in the immune cells with dementia, it is hoped that this approach could create a new treatment pathway to reduce brain inflammation and treat dementia.



## Prof Jeff Davies

Professor of Molecular Neurobiology and Research Lead at the School of Medicine

“There are very few treatments for dementia because we do not fully understand the condition. This additional funding offers the team the chance to build on the research we have previously conducted into gut hormones and further investigate how they interact with immune cells and affect brain health. We hope this research will help take us one step closer to achieving new drugs and treatments for people living with dementia.”



## Treatment

# BRACE PhD Students

**Jessica Stoneman**

BRACE-funded PhD Student

“During my PhD, I’ll be looking at immune cells which enter the brain, and how these are altered in forms of dementia such as Alzheimer’s disease and Parkinson’s disease. I’ll also be looking to see if a hunger hormone, ghrelin, can help mediate these effects of the immune cells and calm them down to potentially reduce the effects of dementia.



In the UK there’s very little research being done into the gut brain axis, especially in the frame of dementia, so I’m really excited to see how my work can help contribute to this novel field.”





## Sophie Alderman

BRACE-funded PhD Student

“Thank you BRACE for giving me the opportunity to study this much-needed area of the menopause and dementia risk. By researching the effects of the menopause, which is a significant change that most women go through, I hope to provide new understanding of the role menopausal symptoms may play in the development of Alzheimer’s disease. If successful, this improved understanding could lead to different medical approaches and help to reduce the risk of dementia in millions of women.”

## Antonio Fusciardi

BRACE-funded PhD Student

“BRACE funding has been incredibly impactful to us in the Binge group, it has allowed us to perform research looking at Alzheimer’s disease from a relatively new perspective that is rapidly gaining momentum in the field. This has allowed us to explore theories and hypotheses that despite being overlooked by many researchers, may in fact hold a key aspect to understanding Alzheimer’s and neurodegenerative diseases in general.”



# Fastball Medical Showcase

## BRACE Exhibits Alzheimer's test, Fastball, in Parliament.

BRACE exhibited an early Alzheimer's test at the Association of Medical Research Charities (AMRC) Showcase event in Parliament.

Oliver Hermann, a BRACE-funded PhD student from the University of Bath, demonstrated the groundbreaking Fastball test to MPs and Lords including Lord Bethell, and representatives from other medical charities.

Dr Zubir Ahmed MP, Minister for Health Innovation and Safety, and Rt Hon Kit Malthouse MP, Chair of the All-Party Parliamentary Group for Life Sciences, spoke about the vital role charities play in the UK research ecosystem, not only as major funders, but as trusted partners, catalysts for innovation, and champions of patients.

Charities like BRACE are significant funders of medical and health research in the UK. In 2024, AMRC members collectively invested £1.6 billion in UK research.

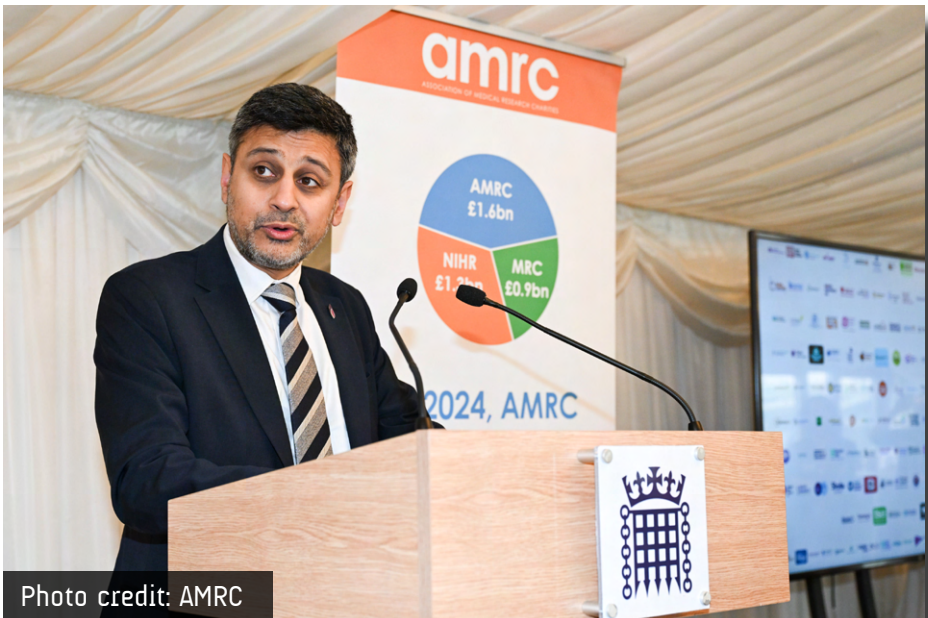




Photo credit: AMRC

Oliver Hermann said:

“Having the opportunity to exhibit the Fastball test in Parliament at the AMRC Medical Research Charity Showcase is incredible, as it offers the chance for the test to be shown to MPs and policymakers who recognise the power of medical research and its impact on the greater good for society.

BRACE funding has made Fastball possible, and I hope it will one day be available for anyone seeking a dementia diagnosis.”

Liberty Harrison, Interim CEO at BRACE added:

“I am incredibly proud of the impact BRACE has on improved dementia diagnostics. Fastball shows how public generosity and charitable funding can drive innovation in research, advancing medical breakthroughs that can make a real difference to people’s lives.

Earlier and more reliable diagnostic tools offer researchers the chance to tackle dementia in its infancy, increase understanding of the dementia pathways, and support the development of treatments.”

# Thank you

Our mission to find a cure is made possible by our supporters, volunteers and partners. BRACE is extremely grateful to our valued Corporate and Trust and Foundation partners. Many thanks to each, and every, supporter for their inspiring commitment.

If you would like to learn more about our finances, please visit the Charity Commission website:  
[www.gov.uk/government/organisations/charity-commission](http://www.gov.uk/government/organisations/charity-commission)

