



LAUGH EMPOWERED PSCI

Welsh Government SMART Expertise funding supports development of new products to comfort people with advanced dementia.



- **LAUGH:** Ludic Artefacts Using Gesture and Haptics
- **EMPOWERED:** Evaluation and Making: Playful Objects for Wellbeing, Emotional Regulation and Engagement for Dementia
- **PSCI:** Post Stroke Cognitive Impairment
- **AHRC:** Arts and Humanities Research Council
- **CARIAD:** Centre for Applied Research in Inclusive Arts and Design

HUG by LAUGH® provides comfort to patients living with dementia and post-stroke cognitive impairment

The LAUGH project – a global collaboration by a Welsh university with researchers from universities in Australia and England, funded by AHRC – has developed a range of innovative objects to improve the quality of life of people living with advanced dementia.

Three years of in-depth research team saw the development of six innovative and playful objects, each with the potential to offer health benefits to persons with neurodegenerative diseases.

The project builds on wellbeing research that shows that happy people in residential care have increased life expectancy, are less likely to fall and require less medication. The **LAUGH EMPOWERED PSCI** project will see one of the six prototype objects evaluated in a hospital and residential care home setting following Welsh Government SMART Expertise funding.

Providing both physical and mental health benefits to those socially isolated and unable to communicate as a result of the condition, the funding will be used to develop playful objects to bring comfort, pleasure and reconnect with the people around them.

A total of £185,212 has been provided by the Welsh Government's innovation team – these funds will be used to develop the project's flagship product, HUG®: a soft, wearable sensory device embedded with electronics designed to provide comfort when cuddled by a patient.

Spearheaded by Professor Cathy Treadaway from Cardiff Metropolitan University's CARIAD, HUG® is being evaluated alongside experts from NHS Cardiff & Vale University Health Board and Sunrise Senior Living.

Designed as a playful object that can be cuddled, it is also equipped with an electronic beating heart – and plays the owner's favourite music. Dr Ben Jelley is currently evaluating the device with 20 patients at the Stroke Rehabilitation Centre at Llandough Hospital. A further 20 HUGs® are being trialled with residents living with dementia at Sunrise Care Home, Cardiff to extend the evaluation of the product.

"As the Director of Memory Care for our organisation, I lead on ensuring that we provide evidence-based cutting-edge resources that will enable our residents to live well with dementia.

"That is why I was delighted when Professor Cathy Treadaway invited us to be involved in this very exciting project to enhance well-being of our residents who are living with more advanced dementia. It is also a wonderful opportunity to support our residents and their families to contribute to new knowledge in this field.

"We began our project in May 2019 and gradually introduced HUG® over 3 months and now have 15 residents using it. Ten of the residents have shown an improvement in well-being, which is evident not only in their scores but also in the experiences reported by staff and families. Five of the residents have shown a small improvement in cognitive function, too."

Jackie Pool,
Director of Memory Care from Sunrise Senior Living

Key achievements:

- Significant Welsh Government SMART Expertise funding totalling £185,212 – supporting Welsh organisations to innovate, introduce new products and succeed.
- Three years of detailed and extensive research funded by UK Arts and Humanities Research Council (AHRC) – with one Welsh university playing an important role in R&D for prosperity and growth in Wales.
- Development and production of playful objects sensitive to the requirements of people living with advanced-stage dementia.
- Supporting the future treatment of people living with dementia through successful collaboration with the NHS.

LAUGH is an excellent example of how industry partnerships can work with Welsh Government funding to translate innovative research-based ideas into production. With just under a year until completion of the project, it remains ambitious about the prospect of further funding, which would enable continued testing and development of products to benefit people living with dementia.

“Finding something for people with dementia to do that connects them with who they are and the people around them is very important. That’s what our products aim to do: provide comfort, joy, pleasure and re-connection. We focus very much on engaging the senses. Most people in the late stages of the disease are confined to a chair or bed; if you can increase someone’s wellbeing, it often impacts on their health in a really positive way.”

**Professor Cathy Treadaway,
Cardiff Metropolitan University**



Project Timeline:

- **2015 – 2018:** LAUGH research begins with funding support from AHRC, in order to develop HUG®.
- **September 2018:** HUG by LAUGH® is selected as a finalist in the ‘Outstanding Dementia Care Product 2018’ category at the National Dementia Care Awards 2018.
- **2018 – 2020:** Evaluation of HUG by LAUGH® by NHS and Sunrise Senior Living.

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