



# Case study

## Reducing dehydration in dementia patients

### THE CHALLENGE

Dementia is a progressive condition which currently affects around 570,000 people in England alone, predominantly those in the over 65 age group. Patients suffering from this condition can often become malnourished and dehydrated as they literally forget to eat and drink throughout the day. Although care homes schedule regular water drink breaks to ensure patients remain fully hydrated, patients living alone remain at risk.

Frazer-Nash was awarded an SBRI contract to develop a product that would alert dementia patients at regular intervals, reminding them to take a drink. This would reduce the threat of dehydration, enabling them to live more independently.

### OUR SOLUTION

To understand the issue from a range of perspectives, we assembled a stakeholder group comprising a lead clinical consultant, district nurse, private care home provider and community telecare service provider. These discussions gave us a deep insight into the issues faced by dementia patients, and highlighted the functional requirements of the new system in order to address these. We then took this insight and brainstormed a number of options with our design engineers.

The outcome will be an innovative product that will issue regular 'alerts' to dementia patients, reminding them to drink regularly throughout the day. These alerts will be in the form of flashing light, beep or recorded voice reminder from a family member or familiar person.

Another important feature of the device is that it can also record the amount and frequency of water consumed throughout the day, with the added option of notifying carers or clinician if the patient did not drink sufficiently.

Two design concepts are currently being taken forward to prototype and these will be tested by the stakeholder group, including dementia patients. Feedback gained from these tests will be used to develop the product to its full potential.

### ADDED BENEFITS

Our research was based on an 18 month study funded by Anglian Water to investigate the effects of a structured hydration programme on the elderly. This research found that regular drinks of water improve the patient alertness and mood. In addition, they recorded a 50% reduction in falls and marked improvements in sleeping pattern.

For more information, please contact [customercontact@fnc.co.uk](mailto:customercontact@fnc.co.uk) or visit [www.fnc.co.uk](http://www.fnc.co.uk)

### Client

Small Business Research Initiative (SBRI) and NHS South East Coast Strategic Health Authority.

### Business need

Design and manufacture a product to remind dementia patients to drink regularly to avoid dehydration.

### Why Frazer-Nash?

Frazer-Nash has a highly skilled design team with a proven record of developing medical products – from generating concepts and analysing design to delivering working prototypes.

