

Volume 14, 01 November 2014

Publisher: Igitur publishing

URL: <http://www.ijic.org>

Cite this as: Int J Integr Care 2014; Inter Digital Health Suppl; [URN:NBN:NL:UI:10-1-116506](https://nbn-resolving.org/urn:nbn:nl:ui:10-1-116506)

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Poster Abstract

## The design and implementation of a computer supported assessment of Dementia - ACEmobile

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### Abstract

**Introduction:** There is increasing need to be able to reliably diagnose Alzheimer's Disease (AD) in the NHS. With an aging population, the number of patients expected to have dementia is predicted to double by 2030 ([www.dementia2010.org](http://www.dementia2010.org)). Despite developments in NHS memory clinic services, currently, 50% of patients with dementia may never receive a formal diagnosis and many do not receive a diagnosis until they are in the moderate/severe stages. There is a need to develop measures to assess dementia that are valid, sensitive, reliable and, importantly, fit for use in routine care. The demand on the NHS dementia care pathway, with high numbers of referrals and limited clinician time, means assessments need to be quick, easy to administer and cost effective.

The Addenbrooke's Cognitive Examination Revised (ACE-R), recently updated to the ACE-III, is one of the most widely used bedside cognitive assessments in the UK, with demonstrated efficacy in the diagnosis of AD. It is commonly used the routine NHS assessment of cognitive impairment associated with the onset of dementia (Larner 2007). Estimates suggest that over 150 clinical and research centres in the UK and internationally routinely use the ACE-R (Mioshi et al, 2006). The traditional paper-based version takes 10-15 mins to complete and is subject to administrator and scoring errors, and is time-consuming to analyse. To support the clinical use of the tool, a computerised version of ACE-III was developed – ACEmobile.

**Method:** In developing ACEmobile a range of steps were necessary including design, usability testing, acceptability feedback, implementation considerations, NHS data governance, validation testing and software security. These were all undertaken with continual consideration of best clinical practice and optimal patient benefit. ACEmobile was designed by clinicians for clinicians.

**Results:** ACEmobile is a tablet based software package developed to support the administration of the Addenbrooke's Cognitive Examination - III (ACE-III) in the assessment of dementia. The tool is designed to guide the dementia clinician through the administration, to autoscore the patient's responses and to generate a report to be added into the clinical notes. The development of

ACEmobile has been led by a small team of clinicians with a vision to support local, national and international dementia assessment, at no cost to the clinical users. ACEmobile provides a tool for collecting anonymised assessment data on an international scale, supporting research and being supported by research.

**Conclusion:** ACEmobile is free to download and use around the world and represents a joint venture between the NHS (Plymouth Hospitals NHS Trust) and an academic institution (Plymouth University).

## **Keywords**

**dementia; assessment; computerised; cognition; app**

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## **PowerPoint presentation:**

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