



Government backs new high tech early dementia assessment service to reduce time to diagnosis from 18 months to 3 months

Novel digital healthcare system to be trialled from early 2013 combines world-class computer-based tests of memory and thinking with computerised analysis of MRI brain scans used in leading international research centres but not routinely in the NHS. The project brings this into the community via mobile Brain Health units and into NHS Memory Clinics – resulting in fast track referrals and greater access to care.

LONDON 31 October 2012: London based world-class medical imaging company IXICO and leading British developer of neuropsychological tests, Cambridge Cognition today announce the award of a grant from the Government-funded Biomedical Catalyst to allow the two companies to build and test a prototype national dementia early diagnosis service with the potential to provide a paradigm shift in diagnosis and care.

The project aims to demonstrate in its initial phase next year that time to diagnosis can be cut by an average of 15 months, and if deployed nationally from 2014, can raise diagnosis rates themselves closer to the Prime Minister's Dementia Challenge target of 80% - a doubling of the current average rate. IXICO, Cambridge Cognition, and their project partners at King's College London, Universities of Brighton and Sussex and Imperial College London also believe they can demonstrate significantly lower NHS and social care costs and increased time efficiency.

GPs will refer patients who need further assessment for possible dementia to one of two Brain Health Centre types – one based in a hospital Memory Clinic (located at The Maudsley Hospital, part of South London and Maudsley NHS Foundation Trust), and the second a mobile community based service, which might be parked outside local health centres ensuring convenience for patients and their families. GPs will have already ensured that only patients who need further investigation are referred to the Brain Health Centres by using Cambridge Cognition's new CANTABmobile™ software on an iPad, which, in less than 10 minutes, differentiates between patients with normal and abnormal memory.

Patients attending a Brain Health Centre will receive an MRI brain scan and a more detailed cognitive test on an iPad, the secondary care version of the CANTABmobile™ medical software. Innovative computer algorithms based on machine learning will analyse the brain scans to precisely assess signs of brain shrinkage, and combine this with an assessment of blood vessel damage in the brain and the CANTABmobile™ results. The resulting report gives a clear, easy-to-follow traffic light call to action for the Brain Health Centre staff to communicate back to the patient's GP.

The advanced technologies combined by IXICO and Cambridge Cognition provide a decision support tool for early diagnosis of dementia, by providing easy to understand, actionable information for health care providers, including GPs, leading to rapid treatment and support for British dementia patients – that can add 18 months to independent living.

The companies have worked with top UK academic centres at King's College London, Imperial College London and the Brighton and Sussex Medical School run jointly by the Universities of Brighton and Sussex, to develop the Brain Health Centre project to be trialled in two areas in the South of England in early 2013. One hundred patients will initially be assessed at each centre.

press release

the brain health centre

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Page 2.

The Alzheimer's Society will support the project by ensuring the needs of patients and their carers are fully considered in the project, and by undertaking an initial impact assessment on the 200 patients assessed in the two trial Brain Health Centres. In Health are able to support the project with MRI scanning capacity.

The Brain Health Centre project leaders aim to deploy across all UK communities with below average diagnosis rates in 2014.

The Brain Health Centres combine cutting edge digital technologies, hitherto only available to pharmaceutical companies conducting expensive clinical trials, and aims to make this available cost-effectively to all patients being investigated for possible dementia in the NHS. IXICO and Cambridge Cognition are world leaders in the provision of such services. The Brain Health Centres integrate these into an NHS patient pathway that works seamlessly with GPs and secondary care Memory Clinics in hospitals. Moreover, the Centres can be deployed without putting significant demand on existing NHS resources.

National Clinical Director for Dementia Professor Alistair Burns says: "I am very impressed by the Brain Health Centre project which has the real potential to contribute to making the UK a world leader in dementia care by raising diagnosis rates - a key ambition of the Prime Minister's Dementia Challenge."

"Combining innovative technologies in this way should help us to spot early signs of dementia, giving us time to offer patients better support and care."

According to Senior Lecturer and Honorary Consultant Neurologist Dr Dennis Chan, the Brain Health Centre initiative will accelerate access to the kind of evaluation currently only available in regional centres of excellence in hospital clinics such as his own so that patients are being cared for sooner than has ever been possible before.

Dr Chan, whose clinic is based at Hurstwood Park Neurological Centre in Haywards Heath, receives patient referrals from all over the South East of England. He says that Brain Health Centres have the potential to diagnose dementia in a much shorter time and in a way which is much more convenient for the patient.

"Waiting lists for facilities such as my own are months long, so the time to diagnosis via a Brain Health Centre is greatly shortened. In the future, the roll out of the Brain Health Centres would mean that referral to specialists in clinics like my own is fast-tracked, thus permitting earlier delivery of best care."

"One of the great strengths of the project is the provision of state-of-the-art diagnostic tools to patients based in the community, thus getting rid of regional inequalities. At the moment, people living in rural areas may not have the same chance of accessing the same diagnostic services as those who live close to university hospitals and research centres such as the one I work in."

Dr Chan also says that currently, diagnosis of dementia relies on traditional "pen and paper" memory testing and on visual inspection of scans, with the attendant risk of human fallibility. "The diagnostic approach espoused by the Brain Health Centres is "digital" – quantitative and rapid – in contrast to the current qualitative and slow "analogue" way."

"Computerised cognitive testing has much greater sensitivity to earlier disease than the brief pen and paper tests currently used in memory clinics. Similarly, quantitative 3D MR imaging may detect brain changes associated with different neurodegenerative dementias that may not be identified via the traditional approach of qualitative reporting on suboptimal scans."

press release

the brain health centre



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Page 3.

Jeremy Hughes, Chief Executive at Alzheimer's Society, says: "There are 800,000 people living with dementia in the UK, but fewer than half of people with the condition have a diagnosis. As numbers double and costs soar, developing new and earlier ways of diagnosing the condition is imperative."

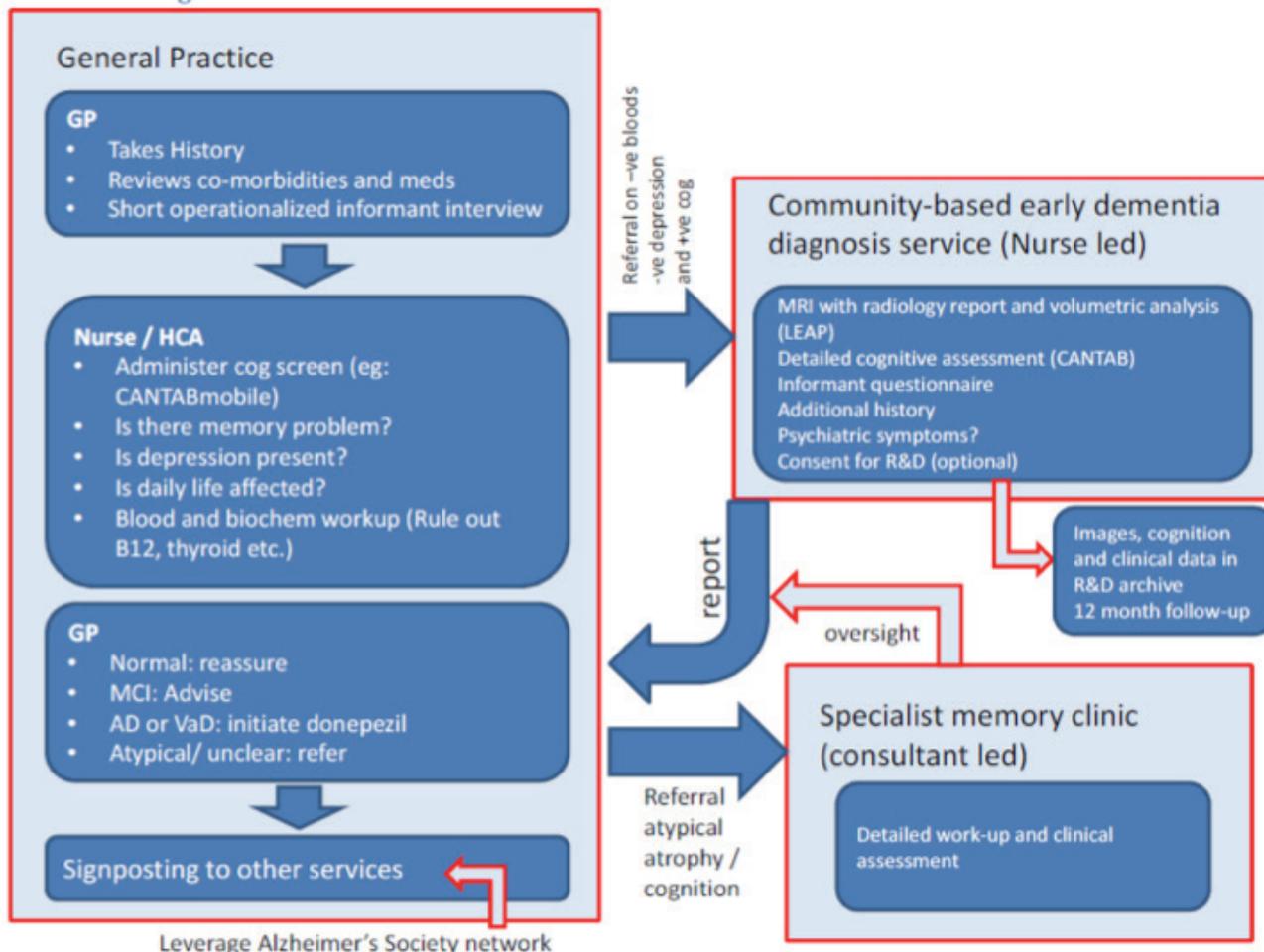
"This technology could potentially reduce the time people need to wait for a diagnosis significantly. After diagnosis, we also need to ensure that people are supported with information and services to enable them to gain the full benefits and support that a diagnosis can give."

Professor Derek Hill, CEO of IXICO Ltd, says: "Every four seconds, someone around the world develops dementia - and even more than this develop milder memory problems. There is an urgent need for scalable, high quality ways of making a timely diagnosis, enabling patients and their carers to rapidly access the right treatments and support. Current interventions can extend independent life, but with most people in the UK currently receiving no diagnosis at all, they are denied this help. Our approach will provide cost effective, scalable, high quality information to underpin rapid diagnosis."

Dr Andrew Blackwell, Chief Scientific Officer, Cambridge Cognition, says: "The digital healthcare platform we will use is scientifically innovative, in its combination of diagnostically relevant information from multiple domains to provide clinically-actionable information in a semi-automated way. It will demonstrate a new model for service provision, enabling the systematic collection of sophisticated data by non-specialist staff, the co-ordination of patient's results through GP surgeries, our mobile community centres and hospital memory clinics. Most importantly, this advanced information will be related to GPs and other health care professionals in a simple, useful way that will aid effective and rapid communication to patients and carers." Andrew Blackwell, Cambridge Cognition.



Schematic diagram of service



In all, 60% of the £3.3 million funding for the project has been awarded following a Government competition for grant funding from the Biomedical Catalyst programme, managed by the Technology Strategy Board and the Medical Research Council. The rest of the money will be invested directly by IXICO and Cambridge Cognition.

Their academic partners for the project are Imperial College London, who will help develop the machine learning algorithms; University of Sussex's Brighton and Sussex Medical School, operating a Nurse-led mobile Brain Health Centre from a mobile unit; and King's College London who will run a Brain Health Centre within its own Consultant-led Memory Clinic based at The Maudsley Hospital (part of South London and Maudsley NHS Foundation Trust) and quantify the health savings of the project; The Maudsley Hospital were the first in the country to use automated image analysis in clinical practice.

*YouGov survey, commissioned by Cambridge Cognition in August 2011 of 1,011 UK GPs across the UK.



Notes to Editor:

About IXICO:

IXICO Ltd is a leading medical imaging company that provides software solutions and services to deliver imaging biomarkers in clinical trials, research studies and health care diagnostics.

IXICO's clinical trial technologies include its TrialWire™ electronic data transfer portal and its TrialTracker™ Image Management System. This technology optimises imaging trial workflows and ensures regulatory compliant image handling for clinical trials. It also provides a platform for imaging informatics and is deployed at major UK academic institutions. IXICO's quantitative brain image analysis platform quantifies brain atrophy for research purposes, and pending medical device approval, provides a decision support tool for the diagnosis of dementia within the EU. This technology can transform the diagnostic process in healthcare and enable health care providers to offer better care to patients and their families by identifying people at risk of developing disease and monitoring disease progression. IXICO is committed to developing solutions for the diagnosis of dementia and other neurological diseases as stand-alone tools and in combination with other technologies.

As a full service Imaging Contract Research Organisation (ICRO), IXICO offers comprehensive capabilities with global reach predominantly in the CNS, Oncology and Musculoskeletal fields and across all major imaging modalities. IXICO provides a variety of central assessments that can be used as imaging endpoints in clinical trials to assess subject eligibility and drug safety and efficacy, and has designed its systems to address the critical areas of imaging in clinical trials from data acquisition to image analysis and reporting.

About Cambridge Cognition:

Cambridge Cognition is a world leading provider of computerised cognitive assessment products. The company's range of touch-screen CANTAB™ neuropsychological tests, originating from work at the University of Cambridge, and highly validated in several hundred peer-review publications, are used by both academic scientists in their research, and clinical researchers in the pharmaceutical industry, to maximise knowledge of cognitive function. In addition, the company is committed to broadening the access to this technology and is developing clinical healthcare products under the CANTAB Mobile brand, which will improve the monitoring, management and maintenance of cognitive health and wellbeing. Using these assessments, clinicians can identify and stratify patients in order that patient referrals are accurate and efficient, enabling health and social care providers to deliver more effective advice, treatments and care – leading to better outcomes for patients and their families.

About CANTABmobile™:

CANTABmobile™ is a new assessment for memory aimed at GPs and physicians in hospitals that was launched by Cambridge Cognition in May 2012. It is medical software that is downloaded onto an iPad in the form of an App, and helps GPs to understand whether a patient has a clinically relevant memory problem comparing the test results to a stored database within the App of over 5000 patients. Currently available with over 20 languages, the product is being piloted within a variety of clinical and community settings within the NHS and deployed in a number of Clinical Commissioning Groups. For further information: www.cantabmobile.com



About the Biomedical Catalyst

The Biomedical Catalyst, announced by Prime Minister David Cameron in December 2011, is a programme of public funding designed to deliver growth to the UK life sciences sector. Delivered jointly by the Medical Research Council and the Technology Strategy Board, the Biomedical Catalyst provides responsive and effective support for the best life science opportunities arising in the UK. The programme is open to UK academics and SMEs and seeks to support those opportunities which demonstrate the highest scientific and commercial potential, irrespective of medical area. For further information please visit: <http://www.innovateuk.org/content/competition/biomedical-catalyst.ashx>

About InHealth

MRI scanning services are provided by InHealth across the UK from mobile and fixed site facilities. InHealth (www.inhealthgroup.com) is a leading provider of diagnostic and imaging services operating, predominantly in the UK, in partnership with the NHS. It works with strategic health authorities, acute trusts and mental health trusts, primary care trusts, general practitioners and independent providers. InHealth employs over 1000 staff directly along with an extensive network of clinical and radiology specialists.

Its market leading services include MRI, CT, Nuclear Medicine, Audiology, Ultrasound, DEXA and Cardiac services. InHealth has extensive experience of designing, building, equipping, staffing and efficiently operating facilities with state of the art equipment and technology and quality accredited services.

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