

V I R T I



Implementation Toolkit

Virti

Mental Health

Digital tool providing mental health support and immersive training services to health professionals and patients at scale.



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What is it?

Virti is a virtual and augmented reality platform that transports users into a realistic environment and assesses their behaviour to reduce anxiety and improve performance. The platform is both patient and physician facing and is being used to scale cognitive behavioural therapy to patients suffering with anxiety and post-traumatic stress disorder. The system uses 360° video and augmented reality and can be used on mobile devices alone and/or paired with affordable headsets.

Simulations are high-quality, flexible, evidence-based and cost-effective alternatives to traditional teaching methods; providing users with challenges to perform under pressure and learning opportunities not available in their local institution. The assessment platform collects objective data points about the performance of the health professionals to better quantify ability and standardise training, consequently improving engagement and performance.

What's the problem?

- Medical students and health professionals experience heightened levels of stress and anxiety and report experiencing negative thoughts and emotions ([Regehr et al., 2013](#)). 50% of students experience high levels of anxiety and stress ([Bayram et al., 2008](#)).
- These levels of stress manifest in a number of ways with a concomitant increase in reported rates of stress-related mental health issues in undergraduate and graduate student doctor and nurses, reduced student satisfaction and lower levels of academic performance ([Stallman et al., 2010](#)).
- The mental health of all students around revision time has been highlighted as a major concern with Bristol and University of West England spotlighted. Anxiety and stress impact academic performance through evidence linking them to memory impairment, which interferes with an individual's learning and information recall ([Bremner et al., 1998](#)).
- By the end of training the average healthcare worker will have sat a minimum of six mandatory tests as part of clinical training each costing upwards of £500 with further expense if they are failed. With 1.7 million health professionals this is a large social and financial burden.
- A survey of 300,000 nurses in training by Health Education England (HEE) demonstrated the stress that mandatory exams cause and have highlighted personalised support systems as the number one ask of nursing staff ([Health Education England](#)).
- Scaling mental health support services that traditionally rely on 1-to-1 face-to-face support is notoriously difficult. Educating support staff themselves around delivery of quality mental health training is also limited by scale with Maudsley Simulation the only provider of mental health training to trainers and staff in the UK.

What's the evidence?

- Virtual Reality (VR) simulation has been shown to reduce cost and improve safety in advanced life support training ([Buttussi et al., 2013](#)). VR can improve patient safety and reduce healthcare costs through the improvement of the medical provider's competencies ([Al-Elq et al., 2010](#)). The expected revenue, in terms of better patient care and prevention of error, provides a decisive argument for investing in VR development ([Graafland et al., 2012](#)).
- The core platform methodology and impact has been validated through a multi-centre cohort study demonstrating improved user engagement with mental health reporting, improved academic outcomes for learners and reduction in anxiety scores during exam times.
- Several studies have demonstrated improved learner performance, reduction in time needed to deliver training, reduction in skills fade and improved learner confidence when using the platform compared to traditional teaching methods ([Judd et al., 2018](#), [Judd et al., 2018](#), [Judd et al., 2018](#)). For which they have won awards from SimGHOST in the USA and the Association of Medical Education.
- Using Virti, learning retention rates can be as high as 75% compared to just 10% for reading or a lecture, 20% for a video and 40% in person. Virti reduces the time spent in training or therapy sessions by 40%, reduces skill-fade by 52% and improves confidence by 77%.
- Internal health economics evidence demonstrates savings of upwards of £300,000 per year per trust on scaling mental health training services through the platform.
- The Virti-patient trial involved 45 students with anxiety disorder, was carried out over 8 sessions and included both relaxation and exposure techniques. Psychometric tests were administered to each user before and after treatment and anxiety scores were significantly decreased.
- A second trial looked at delivery of mental health service training through the platform, demonstrating improved confidence and performance outcome measures ($p < 0.05$) when compared to existing mental health training.
- Virti is uniquely placed to help scale existing mental health services via the platform as evidenced by work with Alder Hey Children's Hospital and South London and Maudsley NHS Foundation Trust.
- Virti won the Start-up Award at the UK Healthcare Business Awards, the [Royal College of Surgeons Edinburgh Triennial Surgical Innovation Award](#), the [Start-up Award](#) at the Mayor of London MedTech Business Awards and also beat other VR healthcare competitors in the [VR Awards](#).

How can I adopt Virti?

Virti is sold into NHS trusts and private institutions via their post-graduate deaneries as a learner support tool and also directly in departments for patient-facing digital therapeutic delivery. Marketing support will be provided in the form of trade-shows, publications and social media advertising. Onboarding assistance along with workshops and 9-5 support will also be provided by Virti. Pricing structure is dependent on the number of users.

To move forward and adopt Virti please email Max for a demonstration: max@virtti.com

Who else is using it?

Virti is being used in Liverpool, Cambridge, South West London and Edinburgh hospitals and a number of universities including Liverpool University, Bristol and Cambridge and trusts including Maudsley and South London and John Radcliffe Oxford. Virti has also been adopted in the United States with Texas Medical Centre and Cedars-Sinai Medical Centre using the platform. In the UK, staff support services, key educators and postgraduate deans have been engaged at NHS trusts, together with outreach to psychology and psychiatry departments directly.

Over the next year Virti plan to continue scaling into NHS trusts and medical and nursing schools to help support staff, employees and students. Currently in use by 1 in 3 health professionals, Virti are aiming to process 1 million users by 2020 and cover at least 45% of UK sites (currently 15%).

Endorsements

“Simple and fun are two words that describe the platform. This will revolutionise how we, as med students and health professionals, learn to perform under pressure before entering a clinical environment with patients benefitting. Using the platform has made me more confident in my practice.” - **Sarah Humphries, Final Year Med Student**

“The ability to market training courses through the Virti platform to a much wider audience will help to transform our business and develop new revenue streams by commercialising existing, non-profitable courses” – **Andrew Jackson, Trauma Surgeon**

“Virti is the most effective tool available for teaching emergency, life-saving skills such as CPR and basic life support under pressure. We can now train people anywhere in the world how to save lives; whether you are in New Zealand or Tibet the platform is easily accessible” – **Brad Knowles, Chief Resuscitation Officer**

“What we wanted to do was increase the exposure to simulated training environments without having to actually take the students to the training centres in the region, which usually costs a huge amount of money and is logistically hard to arrange.” - **Paul Duvall, Director of Technology Enhanced Learning, School of Medicine, University of Liverpool**

What is the NHS Innovation Accelerator?

The NIA is an award-winning national accelerator which supports committed individuals (‘Fellows’) to scale high-impact, evidence-based innovations across the NHS and the wider healthcare system.

The NIA is an NHS England initiative delivered in partnership with England’s 15 Academic Health Science Networks (AHSNs) and hosted at UCLPartners. Launched in 2015 to support the delivery of the Five Year Forward View, the NIA is highlighted in the NHS Long Term Plan, published in January 2019.



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