



AQUARATE

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Aquarate prevents hydration-related illnesses and improves quality of patient care.

With Aquarate we will enable happier, healthier, hydrated patients whatever their age or the type of care they need.



Aquarate system for care settings

Aquarate's connected devices track patient fluid balance and deliver real time, accurate data to **electronic patient records**.

AQi Cup and Lid
AQi Mug
AQO Toilet Sensor



Class 1 medical device

A hydration monitoring system which monitors fluid inflows and outflows of patients **linked real time to patient records**.



Dashboard
Web App



Third Party
Hospital Integration

Aquarate system at home

Aquarate's connected devices track your fluid ins and outs to give real time, accurate data to assist your **hydration and wellbeing**.

AQi Cup and Lid
AQi Mug
AQO Toilet Sensor



A hydration monitoring system which monitors fluid inflows and outflows generating your **real time hydration data**.



Aquarate
Hydration App

AQi Cup, Mug & Lid

AQi Cup and Mug have been designed with 100's of healthcare professionals and patients to create a design right for their environment.

- **Automatically records**
Patients drinking pattern is automatically recorded providing an understanding of hydration behaviour and drinking times.
- **Analysis**
As the data goes directly into care systems it can be used to assist with fluid management and care plans and increase general hydration levels.
- **Wash Mode**
AQi precisely records water intake. AQi Cups know when they are being washed and don't record this as water intake.
- **Wireless charging**
Once charged for 3-4hrs the cup lasts for days
- **Smart warnings**
When it is time to recharge the device a warning light will appear on the cup and on the patient record.



AQO Tracker

AQO will track a patient's urine output. This new technology clips into a toilet bowl connecting directly with patients.

- **Automatically records**
Patients urine output pattern is automatically recorded providing an understanding of hydration behaviour and urine output times.
- **Analysis**
As the data goes directly into care systems it can be used to assist with fluid management and care plans and increase general hydration levels.
- **Easy to install**
- **Continuous recording**
- **Retro fit to all toilet types and commodes**



Next 12 months?

We aim to have a ready to market, MRHA and CE approved products **which have been most importantly tried and tested with our users!**

With each product testing:

1. approx. 20 users to prove functionality
2. approx. 200 users to prove accuracy, reliability and time savings at larger scale with clinical study to run in parallel to prove business model
3. approx 2000 users to prove whole system with MHRA

Users

Innovation partnership with the Royal Liverpool and Broadgreen Hospital Trust through the Global Digital Exemplar (GDE) Program. Pilot and clinical research in progress with:

- Mr Mike Fisher - Consultant Cardiologist and Innovation Director
- Mr David Walliker - CIO

In talks with Wirral CCG regarding a prepaid trial across care homes and assisted living

- Martyn Kent - Head of Primary Care Transformation

Planned feasibility studies with:

- Aintree Hospital Foundation Trust
Abraham Abraham - Renal Consultant
- Wirral University Teaching Hospital Foundation Trust
Jacqui Cooper - Chief Nursing Information Officer
"yes would be very keen to see anything that improves fluid balance documentation"
- East Lancashire Hospital Trust
Heather Coleman - Clinical Effectiveness Lead
"I met with the Deputy Medical Director & Patient Safety Lead. They are very keen to support".

Market

BOX 1. COMPLICATIONS

Common complications associated with dehydration

- Low blood pressure, dizziness and increased risk of falls
- Urinary infections and incontinence
- Skin conditions
- Pressure ulcers
- Poor oral health
- Nausea and reduced appetite
- Constipation and kidney stones
- Renal failure
- Cognitive and physical impairment
- Hospital-acquired delirium
- Poor management of diabetes
- Community-acquired pneumonia
- Cardiac disease
- Two-fold increase in the mortality of stroke patients

Source: Royal College of Nursing and National Patient Safety Agency (2007)

BOX 2. COSTS

Annual NHS costs of dehydration or associated complications

- Proper hydration alone could lead to savings of **£0.95bn**; dehydration accounted for 83,000 bed days in 2004-2005
- Pressure ulcers account for 4% of the NHS budget at **£1.4-2.1bn**
- Falls cost £15m
- Malnutrition costs £7.3bn
- Urinary tract infections account for an additional 798,000 bed days and figures from the 1990s suggest costs of £124m
- Constipation accounts for 135,273 occupied bed days

Source: NHS Institute for Innovation and Improvement (2010) and NHS Information Centre (2011)

BOX 3. RISK FACTORS IN OLDER PEOPLE

- Reduced sense of thirst
 - Reduced renal function
 - Increased longevity
 - Female gender
 - Physical weakness and disabilities
 - Communication problems
 - Onset of dementia
 - Fear of incontinence linked to oral fluid intake
 - Multiple pre-existing medical conditions
 - Medications, in particular diuretics
- Source: Wakefield et al (2009); Mentis (2006)



AQUARATE

Team

- Founder/MD – Rebecca Taylor (23) - Product Designer
- Exec Chair – Andy Davidson (44) – Sentric Music, Lucid Games
- Sales – Ben Carter (37) – ex Possum assisted living products.
- Regulatory – Bryan Griffiths (53) - Consultant, ex ConvaTec
- Engineering – Tom Carvalho (26) – Electrical Engineer
- Manufacturing partner - Altimex Ltd
- We are Nova - corporate co founder www.wearenova.co.uk

To be joining as Aquarate's first hires:

- **Product Manager** To manage product development with internal team and manufactures
- **Electronic engineer** To develop devices both cup and toilet sensor device
- **Marketer** Managing the marketing and communications.
- **Clinician** Providing medical expertise to the team/assisting with evaluations and sales.

Currently Achieved

Funding to date and milestones achieved

- £300,000 invested to date
- Cup and Terminal Prototype designed and built
- Aquarate Trademark
- Aquarate Patent pending
- Cup and Terminal prototype due to be evaluated in 1 hospital in July 18
- Clinical evaluation plans show we are on the right track.
- Solid foundation to run into the second year
- Clear understanding of users / markets / problem / how solution works