

How did **Portsmouth Hospitals NHS Trust** reduce its mortality?

Queen Alexandra Hospital (QAH) in Portsmouth pioneered a new approach to keeping patients safe, which over the past seven years has resulted in a fall in hospital wide mortality at the Trust by 15.5%, equivalent to 350 fewer deaths per year.

The Learning Clinic enabled the team in Portsmouth to deliver these improvements by developing Vitalpac – a system that enables doctors and nurses to identify deteriorating patients by increasing the reliability, completeness and timeliness of observations. At each point that Vitalpac was deployed in different wards, there was a notable drop in mortality.

The problem

Not identifying deteriorating patients quickly

Hospitals need to identify patients who are deteriorating and escalate care as quickly as possible, to reduce the risk of avoidable harm and preventable death.



Professor Gary Smith, a consultant in critical care at Portsmouth identified that existing approaches at Portsmouth were ineffective:

“ All calculations and recordings were made using paper-based charts, which were incomplete, delayed or prone to error, particularly when calculating the early warning score (EWS) which helps determine how ill a patient is. We needed something more proactive and accurate.”

The solution

Reduce risk by eliminating paper system

The Learning Clinic developed Vitalpac through close collaboration with the Trust's clinical teams, to eradicate observation errors and radically improve patient safety. Vitalpac replaces the error-prone paper based observation system with touch screen technology. It's fast, accurate and reliable – observations are 98% complete and take 40% less time to record. Calculating a patient's Early Warning Score (a way to identify deterioration) using Vitalpac reduces errors by 80%.



Paul Schmidt, a consultant in Acute Medicine in Portsmouth describes how the team embraces Vitalpac and how it changes nurses' and patient's lives:

“ Vitalpac improves our speed, completeness, responsiveness and reliability in recording observations. It's easy to recognise patients in need of escalation. Clinicians are on side as Vitalpac is so simple to use and they see the positive effect on their patients. Vitalpac is now part of our 'business-as-usual', we could never go back to using paper.”



Timeline

2004

Trust identifies problem with patient observations and escalation, trust-wide mortality at 7.6%

Trust approaches The Learning Clinic to develop solution

2005

2006

Vitalpac launched on first ward

2007

2008

2009

Vitalpac rolled out to all wards

2010

2011

Mortality rate falls by

15.5%

The results

A sustained hospital-wide fall in mortality

Each time that Vitalpac was rolled out on a ward, there was a noticeable drop in mortality. The initial roll-out onto the Acute Medical and Acute Surgical Units led to a rapid fall in crude mortality rates from 13.64% to 11.2% (equivalent to over 200 fewer deaths per year). The drop accounted for a fall in hospital-wide mortality from 7.6% to 6.99%. Once build of a new hospital site was complete, Vitalpac was rolled-out to other wards. At this point, hospital-wide mortality reduced further to 6.42%, equivalent to an additional 150 fewer deaths per year.



Queen Alexandra Hospital has sustained this considerable reduction in mortality. Medical Director at Portsmouth Hospital NHS Foundation Trust (PHT), Simon Holmes said:

“ Everywhere that Vitalpac has been deployed, we’ve seen a demonstrable drop in mortality. This is very important to our board who always seek to improve and maintain performance at the hospital. Staff at ward and manager level are also excited and motivated by the changes in the hospital’s outcomes. While Vitalpac started as a track and trigger system, the opportunities for improvement throughout hospital activity now seem endless and we look forward to working with The Learning Clinic to figure out the next area to focus on.”

PHT SEASONALLY ADJUSTED MORTALITY RATES AND PATIENT OBSERVATIONS

- Before the introduction of Vitalpac across the hospital, the hospital experienced many peaks and troughs in its mortality rates
- Vitalpac is rolled out across the hospital from Jan 09, when the peaks and falls even out and overall the mortality rate starts to fall
- The relationship between the number of Vitalpac observations (bottom line and triangle points) and smoothing and declining mortality rates is clear
- Following full Vitalpac roll-out and increased consistency in observations, the trust sustained a lower mortality rate, with less variation from January 2009

