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TOUGHBOOK IN ACTION. IMPROVING PATIENT SAFETY AND QUALITY OF CARE WITH THE TOUGHBOOK CF-H1 MCA

When medical experts pioneered a revolutionary new technology system to improve patient safety and quality of care at Portsmouth Hospitals NHS Trust they decided that the Panasonic Toughbook CF-H1 mobile clinical assistant met the requirements.

Working in partnership with clinical systems specialist The Learning Clinic Ltd, Professor Gary Smith and his team at the Queen Alexandra Hospital in Portsmouth were keen to develop a state-of-the-art software solution that could record, store and analyse vital signs data, enabling clinicians to monitor the condition of their patients in real time throughout a hospital stay.

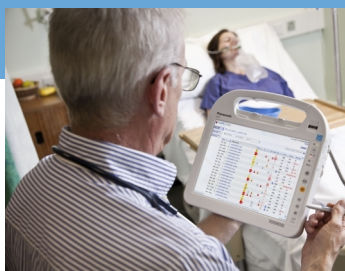
Portsmouth Hospitals **NHS**
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VitalPAC replaces the paper chart at the foot of the patient's bed.

"Our idea was to capture and analyse vital signs data at the patient's bedside and to combine them in an early warning score. This would allow us to identify deteriorating patients more quickly and consistently - helping us to save more lives," explained Professor Smith, a Critical Care consultant and the Medical Lead for Patient Safety in the hospital.

To achieve this goal, it was necessary to move away from traditional paper charts, which are often inaccurate and difficult to read, and to look to a technological solution. The result was VitalPAC, a clinical system from The Learning Clinic, which replaces the paper chart at the foot of a patient's bed.

Using the VitalPAC solution, nurses enter a patient's vital signs into a Personal Digital Assistant (PDA) at the bedside. These data are then transferred over a wireless network to a central server and displayed in real-time on Panasonic Toughbook CF-H1 mobile clinical assistants around the wards of the hospital for nurses and doctors to be able to quickly view. The information is also accessible to clinicians from anywhere in the hospital via a PC.

The vital signs of patients are collected as part of routine observations throughout the day. Using this real-time information, the VitalPAC system automatically generates an early warning score for each patient, advising the hospital medical staff of the patient's severity of illness, how regularly future observations should take place and specific actions required as a result of combining these data with the patient's haematology and biochemistry results. VitalPAC can quickly identify deteriorating patients and advise if further escalation is appropriate, for example to a consultant or the critical care outreach team.

The Panasonic Toughbook CF-H1 mobile clinical assistant's display allows easy review of patient data on wards, once it has been collected on the PDAs. "The visual displays are clear and bright, so the graphs and colour-coded risk scores are clearly visible to the nurses and doctors on the wards," explained Professor Smith. "Most importantly, the device has a reliable and responsive touchscreen."

The CF-H1 allows easy review of patient data on wards

The CF-H1 is also very easy for the doctors to carry around from bed to bed because of its integrated handle, lightweight design and long battery life. And lastly, the CF-H1 has been designed specifically for medical use, so it is easy to clean and disinfect to meet Hospital Safety Certifications and is tough enough to stand up to 90cm drops and the day-to-day exposure of life on a busy hospital ward.

Up to 3,000 observations a day are now being recorded at the hospital on the VitalPAC system, which allows doctors and nurses to spend more time at the bedside and less time on paperwork, to monitor the patients in real-time from anywhere in the hospital and to rapidly identify deteriorating patients for earlier intervention. The system has also been invaluable in patient monitoring and screening for infection control such as MRSA and prevention of Deep Vein Thrombosis.

The system is also gaining national recognition with the Trust winning the 2006 NHS Connecting for Health 'Leadership in Health Informatics' accolade and the "best use of IT and technology" in the 2010 Patient Safety Awards for its VitalPAC implementation. Even more importantly, the system appears to be playing an important role in helping to save lives at the hospital. Since VitalPAC has been implemented at the Queen Alexandra Hospital official standardised mortality rates have fallen.

CF-H1 technology future-proofed

Professor Smith and The Learning Clinic see potential to develop the VitalPAC system even further using the RFID reader capability of the Toughbook CF-H1 to allow medical staff to log-on to the system using their staff identity smartcards. It could also be possible to allow medical staff to scan a patient's RFID-tagged identity bracelet to bring up patient records on the device quickly and accurately when at the bedside.



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