The new heart of connected monitoring:

Royal Papworth Hospital NHS Foundation Trust Case Study

Customer
Royal Papworth Hospital NHS Foundation Trust

Location
Cambridge, UK

Solution
BeneVision N Series Patient Monitoring

Customer Profile
Royal Papworth Hospital is the UK's leading heart and lung hospital, treating more than 100,000 patients each year from across the UK. Since the UK's first successful heart transplant in 1979, the hospital has established an international reputation for excellence. The hospital performs more heart and lung transplants than any other UK centre, which also makes it one of the leading cardiothoracic transplant centres in the world.

Introduction

Royal Papworth's new state-of-the-art hospital has been built on the Cambridge Biomedical Campus, providing most patients with their own private, en-suite rooms. While there will be significant benefits in terms of patient privacy and infection control, monitoring patients in this single room environment required careful consideration. To provide the highest levels of visibility and safety, the hospital has installed a vast quantity of connected Mindray patient monitoring, including: 400 BeneVision N series devices, 3 eGateways, 18 workstations, 5 central stations and 12 slave screens for the theatre department.

Challenges

The hospital required continuous patient monitoring, within the new en-suite, single rooms and throughout patient transfers to ensure maximum patient visibility and safety.

As a specialist heart and lung hospital, Royal Papworth required the National Early Warning Score 2 (NEWS2) protocol to be adapted for their unique cohort of patients.

The pioneering theatre team needed a monitor that could become 'the data hub' - integrating a variety of devices and offering clear visualisation of multiple data sources.

The need for seamless data

A key benefit for Royal Papworth is the ability for the N1 monitor to follow the patient throughout their care journey, helping ensure seamless data and patient safety at all times. When a patient is moved, the Mindray module simply unplugs from the side of the monitor and can be used as a transport monitor. It can then be 'plugged' into the host monitor at the bedside, in the new location, creating efficiencies, as there are less patient leads to disconnect, reconnect or clean.

"We worked with Mindray to develop a slick and sensible monitoring setup, and the support that Mindray gave us was exemplary."

Dr Florian Falter,
Consultant Anaesthetist,
Royal Papworth

"If you can achieve small time savings for each transfer, by not having to connect and reconnect the monitoring, the efficiency savings quickly add up."

Eamonn Gorman,
Chief Nursing Information Officer and EPR Manager, Royal Papworth

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The Solutions

EPR connectivity: Over 400 BeneVision monitors are interfaced with the Lorenzo electronic patient record (EPR), enabling patient information to be viewed throughout the hospital. In theatres and CCU the monitors are also interfaced with MetaVision.

Patient lookup: Patients can be admitted, monitored and discharged on all monitors using ADT patient lookup, capturing seamless data direct to the patient record throughout their care journey.

NEWS2: Automated NEWS2 calculations at the bedside, with bespoke on-screen instructions to aid clinical decision-making and ensure correct protocols are followed.

Through seamless integration with a third-party mobile alerting system, the Royal Papworth response team can now react to NEWS2 triggers and patient deterioration quicker.

iView: The theatre solution includes Mindray's iView function – a modular PC that allows BeneVision monitors to display data from any hospital informatics systems, such as PACS and pathology results.

Data integration: The Mindray BeneLink Interfacing Module offers the ability to integrate the monitors with third-party devices such as: anaesthesia machines, defibrillators and heart-lung perfusion systems.

12-lead ECGs: Caregivers now use Mindray monitors to acquire 12-lead ECGs quickly at the bedside, while saving them to the EPR at the touch of a button.

The Outcomes

- The flow of patient data directly from the monitors into the EPR helps save time and reduce errors. This releases time to care, through more efficient workflows and the reduction of manual transcription.
- Staff can now avoid patient misidentification at the point of care, with positive patient identification on-screen. This provides caregivers with the assurance that the correct care is provided to the correct patient, using accurate patient information.
- Staff and management are provided with confidence in the accuracy and process of capturing patient observations and calculating NEWS2 scores; which can now also be audited.
- Enhanced patient safety through rapid identification of deterioration; the automated notification process is helping to speed up intervention and ultimately helping save lives.
- NEWS2 compliance qualifies for the UK Department of Health's Commissioning for Quality and Innovation (CQUIN) payment, through the system's ability to provide timely detection of deterioration in patients, particularly around sepsis.
- By becoming a 'data hub', BeneLink has streamlined equipment in theatre, integrating multiple third-party devices into a single display. This allows simultaneous viewing of a variety of parameters for rapid insight into the patient's status.
- Integrated 12-lead ECGs has created time efficiencies and eliminated the need for standalone ECG devices, maximising the investment and streamlining equipment inventory.

Conclusion

The hospital now has comprehensive patient monitoring, throughout the patient journey, reducing the gaps in data to ensure maximum patient visibility and safety. A winning combination of Mindray's state-of-the-art technology, a flexible approach and willingness to go "the extra mile", has resulted in high levels of clinical approval. Close collaboration with clinical partners at Royal Papworth will ensure the technology remains cutting-edge and evolves with the changing demands of the hospital for years to come.

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Results from this case study are specific to the organisation featured. Results in other cases may vary.

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