

Detecting early signs of patient deterioration in general care settings

Our solution helps to identify the subtle changes in a patient's condition to enable clinicians to intervene in time to make a difference

Need

The late detection of patient deterioration – leading to slow transfer to the intensive care unit – is a significant predictor of death (4x times higher in-hospital mortality), 60% higher hospital costs, and 50% longer length of stay.¹

Solution

IntelliVue GuardianSoftware with early warning scoring (EWS) automatically acquires patient vital signs, calculates an early warning score customized to the individual needs of the hospital, displays it at the point of care, and notifies responsible caregivers.

Benefits

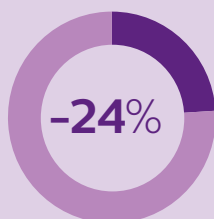
Up to 17% of patients in the medical surgical areas of the hospital will experience postoperative serious adverse events.³ But which ones? Manual checks of vital signs by nurses can be time consuming, intermittent, and open to human error.

IntelliVue GuardianSoftware uses a patient-oriented workflow to simplify equipment and caregiver assignment. It automatically acquires vital signs and automates early warning scoring (EWS) calculations. It is designed to identify early signs of events such as respiratory failure, sepsis or cardiac arrest, in order to enable clinicians to respond quickly and effectively.

A prospective study using Philips IntelliVue GuardianSoftware supports the use of an automated EWS system with notifications to provide improvements in key patient-centered clinical outcomes.



Hospital mortality including readmissions²



ICU readmissions rates²



Severe adverse events²



Cardiopulmonary arrests²



ICU mortality of patients transferred to the ICU²



66%

of cardiac arrest patients show abnormal signs up to 6 hours prior to an adverse event...



...yet physicians are only notified

25%

of the time⁵

Awareness when it counts

Fewer beds in intensive care units can result in seriously ill patients arriving to general care units sooner. Due to a lack of resources and low nurse-to-patient ratios, healthcare professionals face a difficult dilemma: how to identify potential clinical deterioration and intervene early?

IntelliVue GuardianSoftware uses advanced algorithms to combine data from devices such as Philips vital signs monitors and the Philips wearable biosensor, which measures vital signs such as heart and respiratory rate.

Automated early warning scoring allows caregivers to trigger an appropriate and early response from the Rapid Response Team at the point of care. The use of these teams is gaining popularity due to their success in reducing unexpected transfers to the intensive care unit (ICU).⁴

Customer case study

Nurses on general wards at Ysbyty Gwynedd, the General Hospital in Bangor, faced the same pressures felt by general ward staff in many hospitals: manual patient health audits took up a lot of their time, and the growing number of hospitalized patients with multiple chronic conditions added to that strain.

Thanks to the IntelliVue Guardian solution as implemented, nurses at Ysbyty Gwynedd are now able to detect patient deterioration much quicker. There has been a reduction in serious events by 35%, and a cardiac arrest reduction of more than 86%²

“Philips uses a philosophy of care with the Early Warning Score that was already familiar to our teams, and the workflow was modeled on what we would normally do,” says Dr. Chris Subbe, Consultant in Acute, Respiratory and Intensive Care Medicine at Ysbyty Gwynedd.

At Ysbyty Gwynedd, the general hospital in Bangor, Wales, the installation of the Guardian solution as we implemented it has been associated with a **reduction in cardiac arrests of more than**

↓ 86%²



1. Young, MP, et al. Inpatient transfers to the intensive care unit: delays are associated with increased mortality and morbidity. *Journal of General Internal Medicine*. 2003 Feb;18(2):77-83.
2. Subbe, C.P., Duller, B. & Bellomo, R. *Crit Care* (2017) 21: 52. doi:10.1186/s13054-017-1635-z
3. Bellomo R, Goldsmith D, Russell S, Uchino S. Postoperative serious adverse events in a teaching hospital: a prospective study. *Med J Aust*. 2002; 176:216-218.
4. van Galen LS, et al. Delayed Recognition of Deterioration of Patients in General Wards Is Mostly Caused by Human Related Monitoring Failures: A Root Cause Analysis of Unplanned IC Admissions. *PLoS ONE*. 2016; 11(8)
5. Franklin C, Mathew J. Developing strategies to prevent in-hospital cardiac arrest: analyzing responses of physicians and nurses in the hours before the event. *Crit Care Med*. 1994;22(2):244-247

