

# Implementation of an Early Warning Scoring System to Identify Patients With Cancer at Risk for Deterioration

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Early warning scoring systems are tools for nurses to help monitor their patients and improve how quickly a patient experiencing a sudden decline receives clinical care. Nurse leaders and frontline staff at a major academic medical center implemented a new early warning system that gives clear guidelines to nurses, nursing assistants, and other clinicians about vital-sign parameters and changes in patients' mental status.

## At a Glance

- The early warning scoring system has been implemented on two inpatient units and in an outpatient infusion clinic.
- Nurses and patient care technicians carry color-coded cards that remind them who to notify and how frequently to reassess after a patient is found to have abnormal vital signs.
- Nurses and other staff members reported that they perceive improved interprofessional communication and greater confidence in their ability to recognize subtle signs that a patient may be at risk for rapid deterioration.

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With clinicians striving to improve patient outcomes and reduce preventable adverse events, attention needs to be paid not only to caring for the patient in immediate distress, but also to predicting if a patient is in danger of deterioration and intervening in a timely manner. Clinical personnel are trained to recognize and initiate a code blue, but are they trained to identify aggregate warning signs that are far subtler than an absent pulse, yet nonetheless critical determinants of patient decompensation or even mortality? This column

discusses the experience of the Johns Hopkins Hospital Sidney Kimmel Comprehensive Cancer Center (SKCCC) in creating and implementing an effective early warning scoring system with the goal of significantly improving the identification of and intervention with deteriorating patients and enhancing communication among nursing staff, patient care technicians, and providers.

Research shows that the inability of clinical personnel to recognize signs of patient deterioration (e.g., unusual change in vital signs, change in level of consciousness) and to document and

communicate abnormal findings in a timely and actionable manner leads to potentially preventable morbidity and mortality (Stewart, Carman, Spegman, & Sabol, 2014). Patients can have physiologic changes as many as eight hours prior to an arrest event (Stewart et al., 2014), but these early warning signs are too often unrecognized or simply ignored. Although patient care technicians and other frontline personnel are well positioned to identify and intervene with deteriorating patients, such personnel are often not equipped with decision-support algorithms that could easily assist in the early identification of a patient showing warning signs of decompensation.

After the unexpected death of a patient in 2014, nursing staff members at SKCCC, a National Cancer Institute–designated comprehensive cancer center, asked themselves, “What would it look like if we had intervened sooner?” (Mooney, Olsen, & Shelton, 2014). SKCCC did not have a standardized tool to alert nursing leadership and providers about deteriorating patients. Nursing staff members determined that an early warning scoring system could improve detection and communication of deterioration, and facilitate escalation of care for these acutely ill patients. A pilot started in March 2014 on two designated units.

## Literature Review

After reviewing the literature, the nursing leadership at SKCCC found examples of successful early warning scoring systems, such as the Modified Early Warning System (MEWS). First introduced by Morgan, Williams, and