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## Monitoring cardiorespiratory instability: Current approaches and implications for nursing practice

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As we report in (Bose, Hoffman, & Hravnak, 2016), unrecognized in-hospital cardiorespiratory instability (CRI) risks adverse patient outcomes. Although step down unit (SDU) patients have continuous non-invasive physiologic monitoring of vital signs and a ratio of 1 nurse to 4-6 patients, detection of CRI is still suboptimal. Telemedicine provides additional surveillance but, due to high costs and unclear investment returns, is not routinely used in SDUs. Rapid response teams have been tested as possible approaches to support CRI patients outside the intensive care unit with mixed outcomes. Technology-enabled early warning scores, though rigorously studied, may not detect subtle instability. Efforts to utilize nursing intuition as a means to promote early identification of CRI have been explored, but the problem still persists. Monitoring systems hold promise, but nursing surveillance remains the key to reliable early detection and recognition. Research directed towards improving nursing surveillance and facilitating decision-making is needed to ensure safe patient outcomes and prevent CRI.

### Biography

Eliezer Bose, PhD, is an Assistant Professor (tenure-track) at the University of Texas at Austin. Having trained as an Adult-Gerontology Acute Care Nurse Practitioner, his research work is focused on studying patterns of cardiorespiratory instability in acutely ill patients using time-series analysis and machine learning techniques in order to enable bed-side nurses to preemptively intervene, thereby preventing failure to rescue of the hospitalized patient.

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