

## **Big data in intensive care**

Intensive Care has a long history of using mortality prediction models and severity of illness scores but as large amounts of data from electronic medical records become more available, there is increasing opportunity to create predictive algorithms for many different situations (e.g. ICU readmission, length of stay, pressure injuries, ECMO and many others). The applicability of these algorithms to clinical practice depends on the context for their use, knowledge about where they were initially developed and the predictive validity of the model itself. For instance, qSOFA has little use within in the ICU to identify patients with infection who are at risk of death but may have value screening patients in the Emergency Department. Well calibrated prediction models are essential for comparative benchmarking of outcomes. However, prospective application of prediction models to determine access to care or specific choice of treatment is potentially problematic even with highly discriminatory models.