Algorithm Can Assist ICU Discharge Decisions

According to a new study, an innovative intensive care unit (ICU) algorithm could assist clinicians in their decision making when it comes to discharging patients from crowded ICUs, a new study shows.

Researcher Ashok Palagiri, MD, an internist at Mercy Medical Center in St. Louis, Missouri, who presented the findings at the Society of Critical Care Medicine 43rd Critical Care Congress, explained that when there is a high census in the ICU decisions needed to be made, and this system could be helpful.

The algorithm, which assigns patients a discharge readiness score of low, moderate, or high risk, was developed by researchers at Philips Healthcare after compiling statistics on dozens of variables that affect how patients fare after being discharged from an ICU.

To test its accuracy, Dr. Palagiri and his team evaluated almost 1900 patients in 25 ICUs at 13 hospitals in 4 states, continuously updating the readiness scores for each patient.

Dr. Palagiri confirmed that each incoming new point of data was updated right away, creating a trend of the readiness score going up or down.

The researchers reviewed the charts of 37 patients who died and 13 who were readmitted within 48 hours of discharge; 1 patient was in both categories. Of the 37 who died, 32 had orders for comfort measures only at the time of discharge. None of the patients classified as low risk died or was readmitted. Four of the readmitted patients were classified as high risk.

In order to ascertain whether there could be discordance between physician and algorithm ratings, the researchers involved two intensivists, tasked them with reviewing the charts of 135 patients and generating their own discharge readiness ratings, without knowledge of the readiness score generated by the algorithm.

Of the 28 patients with low scores generated by the algorithm, the intensivists rated 22 as low and 6 as moderate.

Ahmed Badr, MD, an anesthesiologist at West Penn Allegheny Health System in Pittsburgh who was not involved with the study, questioned the usefulness of the algorithm based on that degree of agreement, saying it did not provide him with previously unavailable information. He further noted that such a system could be used to second-guess physicians.

Dr. Palagiri explained that the algorithm could help physicians choose who among similar patients to discharge when the ICU got extremely busy, stressing however, that it should not replace clinical judgment.

Dr. Palagiri and Dr. Badr have disclosed no relevant financial relationships. Some of Dr. Palagiri's coauthors are employees of Philips Healthcare.

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