Effect of environment of care within PIRO sepsis model: is tele-health the answer for health policy?

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Environmental characteristics were examined as part of PIRO multivariate regression models that included socio-demographic and acute physiologic factors. Examination of environmental characteristics revealed: There were 10,232 cases of sepsis, of any severity, in the database analyzed. Of the 10,232 patients in this sample, 5,643 met criteria for sepsis only (55.1%), 2,321 met criteria for severe sepsis (22.7%) and 2,268 met criteria for septic shock (22.7%). Patients only exist in one sepsis comparison control group; therefore, the highest level of illness is the default grouping.

Those admitted to ICU from the floor had higher likelihood of having a more severe level of sepsis (OR = 1.19, p = 0.006, 95% CI = [1.09; 1.31]). Those transferred from other acute care centers had higher odds of expiring during their hospital stay (OR = 1.71, p = 0.006, 95% CI = [1.16; 2.52]). Those admitted to ICU from the floor had the greatest odds of expiring (OR = 1.48, p = 0.000, 95% CI = [1.31; 1.68]).

Those coming from the floor to ICU are more likely to develop AAOD (OR = 3.19, p = 0.000, 95% CI = [2.89; 3.53]), transfers from another hospital to ICU were more likely to develop AAOD (OR = 1.70, p = 0.006, 95% CI = [1.14; 2.40]), and those coming from a step-down unit SOU were also more likely to develop AAOD (OR = 2.35, p = 0.000, 95% CI = [1.55; 3.55]).

Health/Public Policy: Considering, that 81.5% of sepsis was acquired during hospitalization in this study, and that these cases were of greater severity with the worst outcomes, astute surveillance of all in-hospital patients is imperative.

This risk of not intervening places patients in grave danger and negatively affects healthcare organizations; therefore, an examination of floor practice needs understanding: what is occurring during the course of care delivery that places patients at risk?

The hypothesis is that floor care is not conducive to keep patients safe from sepsis as the current health care environment demands exceed the necessary threshold.

Telehealth surveillance theoretically may create a more ideal practice environment. Tele-health’s live predictive analytics and cognitive affordances, can and may support efforts to prevent floor patients from descending into ICU.

Telehealth surveillance has demonstrated decreased mortality, decreased length of stay, enhanced quality and lives saved.