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Impact of Telemedicine on Mortality, Length of Stay, and Cost among Patients in Progressive Care Units: Experience from a Large Healthcare System

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Impact of Telemedicine on Mortality, Length of Stay, and Cost among Patients in Progressive Care Units: Experience from a Large Healthcare System

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Background

- Telemedicine has transformed care delivery in intensive care units (ICUs).
- However, due to increasing patient load affecting functionality of intensive care units (ICUs), there is an increasing need for step-down units, such as progressive care units (PCUs).
- While there are many studies about the effects of telemedicine in ICU, currently there are no studies on the effects of telemedicine in PCU settings.

Purpose

- To determine whether telemedicine intervention (TPCU) can affect hospital mortality, length of stay (LOS), and direct costs for progressive care unit (PCU) patients, compared to PCU patients without telemedicine intervention (NTPCU).

Method

- Retrospective study of adult patients admitted to the PCU at BHSF between 2011-2016. See Table 1.
- Statistical Analyses: General linear mixed models on overall and propensity score matched samples, survival analyses.

Results

- Our study showed that TPCU intervention significantly decreased mortality in PCU and hospital and PCU LOS, despite the fact patients in TPCU were older and had higher disease severity and risk of mortality.
- Increased post-PCU hospital LOS and total mean direct costs inclusive of telemedicine costs coincided with improved survival rates.
- Telemedicine intervention decreased overall mortality and LOS within PCUs without substantial cost incurrences.

Conclusions

- Our study showed that TPCU intervention significantly decreased mortality in PCU and hospital and PCU LOS, despite the fact patients in TPCU were older and had higher disease severity and risk of mortality.
- Increased post-PCU hospital LOS and total mean direct costs inclusive of telemedicine costs coincided with improved survival rates.
- Telemedicine intervention decreased overall mortality and LOS within PCUs without substantial cost incurrences.

Reference