FEATURE ARTICLES

Effect of a multiple-site intensive care unit telemedicine program on clinical and economic outcomes: An alternative paradigm for intensivist staffing

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The addition of a supplemental, telemedicine-based, remote intensivist program was associated with improved clinical outcomes and hospital financial performance.

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Abstract

Objective

To examine whether a supplemental remote intensive care unit (ICU) care program, implemented by an integrated delivery network using a commercial telemedicine and information technology system, can improve clinical and economic performance across multiple ICUs.

Design

Before-and-after trial to assess the effect of adding the supplemental remote ICU telemedicine program.

Setting

Two adult ICUs of a large tertiary care hospital.

Patients

A total of 2,140 patients receiving ICU care between 1999 and 2001.

Interventions

The remote care program used intensivists and physician extenders to provide supplemental monitoring and management of ICU patients for 19 hrs/day (noon to 7 am) from a centralized, off-site facility (eICU). Supporting software, including electronic data display, physician note- and order-writing applications, and a computer-based decision-support tool, were available both in the ICU and at the remote site. Clinical and economic performance during 6 months of the remote intensivist program was compared with performance before the intervention.

Measurements ar[...]

Hospital mortality for I[...]% vs. 12.9%; relative risk, 0.73; 95% confiden[...]3.63 days [95% CI, 3.21–4.04] vs. 4.35 days[...]hospital revenues (from increased case vo[...]

Conclusions

The addition of a supple[...]ociated with improved clinical outco[...]provements was similar to those reporte[...]ted intensivist staffing models; howeve[...]g may have contributed to the obse[...]nd the increased focus on ICU performan[...]this on-going multiple-site program, i[...]at telemedicine may provide a means for hos[...]t care using fewer intensivists.

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