Title: Implement mechanisms to reduce the inpatient days of acute beds and ICU setting in a university-based teaching hospital in Taiwan

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Objective:
Over-long hospitalization is a persistent issue in the hospital which manifested its impacts both in administration and medical care quality. Particularly, in Taiwan, owing to the sufficient covering by National Health Insurance, the concepts of necessity, cost, and equality of medical spends are gradually ignored in the population, and resulting into an increased unneeded inpatient days, a decreased utility of the beds, and increased unwanted outcome of patient, especially in ICU settings. Thus, we initiated active mechanisms to deal with the overlong inpatient cases in weekly base. This study is to measure the effectiveness of the mechanisms.

Methods:
We set up an ad hoc and collaborated committee for dealing with the cases of overlong inpatient began in March 2008. The committee members are leaders of medical affair, attending physicians, social workers, the nurses of discharge planning services. The committee was held once a week. The patent subjects selected for the meeting includes patents with inpatient days ≧60 days in general acute beds, and ≧30 days in ICU. We also set up a respiratory care center (RCC) as the back moving beds for the stable ventilator dependent patients since July 2008. We chose the related indicators and analysed with SPSS package to compared the result of 2008 with that of 2007 and to determine the effectiveness of these intervening mechanisms.

Results:
From March 2008 to January 2009, the committee approached 93 patients (57.4% from ICU) in 43 meetings. The discharge rate was 94% (87/93, 50 cases form ICU), and the average inpatient days for these discharged patients were 85 days. Comparing the data of 2008 with those of 2007, there is a significant decrease in the average inpatient days for the whole acute beds setting from 7.1days (2007) down to 6.7 days (2008), (t=34.5, p=.018) ; a decrease in the percentage of the patient number of overlong inpatient days among the total number of discharged patients from 0.9% (2007) to 0.8% (2008),(t=.17, p=0.037). For the ICU setting, there is a decrease in the percentage of patient with inpatient day over 14 days from 24.2% (2007) to 14.1% (2008)(p=.001), and a decrease in the percentage of the unscheduled return to ICU from 4.73% (2007) to 1.99% (2008)(p=.049). In the outcome indicators, we found the ICU occupancy was significantly correlated with the ventilator use(r =.397), and the ICU mortality(r =.370); the average ICU days was significantly correlated with the ventilator use(r =.384), the rate of ≧14 ICU days(r =.664) and the RCC established(r= - 0.344); the rate of unscheduled return to ICU was significantly correlated with the ventilator use(r =.341) and the rate of ≧14 ICU days(r =.379).

Conclusions:
From the results, we found the active committee and the RCC setting up had brought the significant impacts in inpatient and ICU settings. The inpatient days, care quality and outcome of each inpatient case was not just dependent on the disease itself, but the composition of physical, mental and social aspects should be aware. The committee is a model of team work and multidisciplinary efforts that serves to improve the effectiveness and efficiency of hospital resource. The use of RCC provides a effective pathway guiding the ventilation weaning and improve the use of ICU facility. Both active mechanisms in this hospital had successfully improve the quality control of the inpatient service.