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Introduction:

The purpose of this study is to describe the changes in pattern of intensive care (ICU) use over a 10 year period in Hungary. We attempt to analyze national data in order to improve resource use.

Methods:

Retrospective analysis of national data provided by the hospitals for reimbursement of care to the National Healthcare Fund of Hungary between 2000 and 2010.

Results:

Total number of active hospital beds decreased by 33.4% (from 65,532 to 44,300); however, the number of ICU beds increased by 9.8% (from 1,189 to 1,306) between 2000 and 2010. As a result, percentage of ICU beds to hospital beds increased from 1.89% in 2000 to 2.95% in 2010. ICU bed occupancy rate ranged between 58.43% and 63.78%; it showed no correlation with case mix index ($r^2=0.2799$). Number of ventilator days increased from 28.9% to 66.1%; it showed good correlation with case mix index ($r^2=0.9125$). Analysing 2010 data, we found significantly lower mortality in Level III units ($30\% \pm 18\%$) compared to Level II ($51\% \pm 20\%$) and Level I ($56\% \pm 19\%$) care ($p=0.001$ and 0.003), without significant differences in case mix index (Table 1). Mean ICU bed occupancy rate was 59.5% ($SD \pm 12\%$), length of hospital stay was 12.3 ($SD \pm 3.0$) in 2010. Geographic distribution of ICU beds per 100,000 population ranged between 7.3 and 27.4 (nationwide 12.9/100,000); it showed no correlation with Regional Gross Domestic Product values ($r^2= 0.4593$).

Conclusions:

Our data suggest that intensive care beds are not utilized; progressive level of care does not function and also, there are unnecessary regional differences in intensive care provision in Hungary.

Table 1 :

National data, Year 2010	Total No of units	Total No of beds	Case Mix Index (mean \pm SD)	p value
University Hosp. (Level III)	10	412	7,67 ($\pm 4,06$)	0.204
County Hospitals (Level II)	30	584	8,08 ($\pm 2,89$)	0.376
City Hospitals (Level I)	39	280	6,05 ($\pm 1,97$)	0.093

Distribution of intensive care services in 2010