



**Title** **Evidence Based ICU Bed Planning**  
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## Aim

The demand for ICU services is increasing in all western countries, and complaints concerning a lack of ICU beds arise – independent of the actual density of ICU services available. The demand for more ICU beds triggered a debate on whether it is possible to define an "objective" need. This assessment aims to analyze conventional and innovative planning approaches and to define the determinants of demand.

## Conclusions and results

In countries with a high density of ICU services – such as Austria – a better use of existing resources is recommended rather than an expansion of capacity. For a fair comparison, participation in national databases, registers, benchmarking, and quality assurance programs should be enforced.

Applying an "appropriateness" approach, the ICU data of an Austrian region (Tyrol) are being analyzed, and we are devising a plan for the region.

- Recent planning documents: A review of trends in recent planning shows that all planners calculate on the basis of existing styles of practice within their countries; the figures change only marginally. But while planners in countries with a relatively low ICU bed density (GB, Australia, Canada) report some need for an increase, planners in countries with a high density (USA, Germany, Austria) report a "satisfied need" and possibly an over-provision of ICU services.
- Innovative planners apply an "appropriateness of ICU use" approach in analyzing the scores (esp. TISS) and propose a more flexible organization of ICUs and a higher proportion of IMCU beds.
- Clinical and ICU management tools, such as admission and discharge guidelines, strategies to reduce treatment variability, certain organizational changes (leadership, horizontal hierarchy), and costing methods gain importance for better, more efficient, and coordinated use of ICU resources.

## Methods

Systematic review, multistep searches in MEDLINE, EMBASE, Cochrane, HTA Database, web searches, informal searches through planning and HTA networks; microplanning for an Austrian region.