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### IC Beds cf. Other Healthcare Provision in Four European Countries

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This paper describes differences in ICU provision (reported as beds per 100,000 population) in France, Germany, Hungary and the UK. These data are then compared to wider healthcare indices including markers of expenditure and healthcare provision. The large differences highlight the necessity to collect new international data to explain these differences.

This small study investigated Intensive Care provision in four countries, the United Kingdom (UK), France, Hungary and Germany, from data collected in 2000. There has been no published data on the provision of Intensive Care beds for about 7 years and thus this research provides a much needed update for this decade. Whilst there is little information to compare the differences internationally, the few available studies have reported the number of beds per 100,000 population (Burchardi et al. 1994; Rapoport et al. 1995; Miranda 1986).

It's difficult to assess the number of Intensive Care Unit (ICU) beds per 100,000 population due mainly to difficulties regarding ICU definition. In France, ICUs and intermediate care units are merged in the same unit, whilst in the UK, high dependency units (HDUs) are often organisationally separate from ICUs (consequently in table 1, HDU provision is included within the ICU totals in the UK figures). In addition most European ICUs admit a larger number of elective post-operative patients than the UK.

For France and Germany the number of ICUs available from national data was utilised and the median number of beds for each country was applied to this from the sample available. Population estimates were derived from a standard source ([www.populationworld.com](http://www.populationworld.com)) (see table 1). This data shows that the UK provides fewer ICU beds than the other three countries.

Table 2 shows other data on healthcare within the same four countries for comparison. GDP per capita is defined as a measure of the total goods and services produced within a specific territory and within a defined time period per person. When converted using cross country comparators, such as purchasing power parities or exchange rates, it can be used to compare simplistically the wealth of a country. The GDPs in France, Germany and the UK are similar, but the UK seems to expend approximately 30% less per capita on healthcare. As a percentage of GDP, Hungary and the UK spend considerably less than France and Germany.

Is this spending of the four countries reflected in markers of healthcare provision? Available markers include the number of hospital beds and physicians available per 100,000 population and if France and Germany were used as a standard, one would expect the number of hospital beds per 100,000 population in the UK to be 604. In fact, it is much lower at 421. The predicted number of physicians in the UK using the same model would be 259 whereas the actual provision is 212. Surprisingly, Hungary provides as many hospital beds and physicians as France and Germany, despite the GDP per capita of Hungary being lower. Hungary provides nearly twice as many hospital beds and 50% more physicians per 100,000 population than the UK.

Returning to ICU beds, if the number of ICU beds per 100,000 patients was also utilised as an indicator of healthcare provision, it is clear that the UK's healthcare expenditure per person is not reflected in the number of ICU beds provided. There is no gold standard as to how many beds should be provided per 100,000 population, but the frequent transfers that occur between ICUs and the cancellation of elective surgery in the UK, may well indicate an under provision of intensive care.

In conclusion, whilst the authors accept that the figures calculated for each country are estimates and may not be representative of the whole country and that it is difficult to calculate the number of ICU beds with the lack of an internationally accepted definition, we contend that the reporting of these figures represent a starting point for expanding and refining data collection for ICU at an international level, which is an essential step to explain the large differences observed.

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