

Differences in intensive care unit treatment between the USA and the UK reflect extremes of bed availability

Patients who receive intensive care services are very different in the USA than in the UK, according to a new study that compared admission and mortality statistics from intensive care units in each country (Wunsch et al, 2011). The study found that UK patients are much sicker upon admission to intensive care, whereas American patients are more likely to require continuing care after discharge and are often sent to skilled care facilities instead of home.

Dr Hannah Wunsch, assistant professor of anesthesiology and epidemiology at Columbia University, and colleagues examined data from Project IMPACT in the USA, and

Case Mix Programme in the UK, both large prospective datasets abstracted from clinical records of voluntarily participating intensive care units by trained data collectors, according to precise rules and definitions. The researchers merged the datasets and used variables that were confirmed to be defined similarly in both countries.

They analysed all medical admissions to intensive care units from 2002 to 2004, excluding surgical admissions, patients younger than 16 years, and readmissions to the intensive care unit during the same hospital stay.

The researchers then calculated the relative degree of ill-

ness of patients, length of stay, and hospital mortality and discharge status.

They found that overall patient age distribution was remarkably similar between the two countries, although the USA had proportionally more admissions over the age of 85 years (7.8% *vs* 3.2%).

However, the degree of illness of the patients before admission was strikingly different. Patients admitted to an intensive care unit in the UK were sicker patients who had been in hospital longer. Also, many more of the patients admitted in the UK were mechanically ventilated.

In contrast, US patients were more likely to be admitted to the intensive care unit straight from the emergency room than UK patients, indicating that fewer intensive care unit beds in the UK may necessitate patients spending more time in the general wards than in the US.

Hospital mortality for intensive care unit patients was substantially higher in the UK than in the US, even after accounting for severity of illness. However, when they compared subgroups of similarly ill patients – those who were admitted directly from the emergency room and who had been mechanically ventilated in the first 24 hours after admission – the mortality rates were similar.

‘These findings highlight the importance of comparing “like with like”, and how hard that can be when looking at heterogeneous patients cared for in different health-care systems,’ said Dr Wunsch.

Comparing hospital mortality between the countries was

also confounded by the trend for US intensive care units to discharge patients to ‘skilled care facilities’ rather than directly home, as was the case in the UK.

‘The US and the UK have very different discharge patterns, and the trend in the US has been to shorten hospital length of stay and discharge people earlier to other types of facilities,’ said Dr Wunsch. ‘If you look at hospital length-of-stay information it looks like [the US is] very efficient, but many of these patients are actually going to a skilled care facility where the mortality is a lot higher than among those who go home. The effect is that for studies of intensive care unit patients, there is a fair amount of mortality that occurs after intensive care that is outside of the hospital. This practice makes it hard to compare US hospital mortality to other countries that tend to keep people in the hospital until they either die or are able to go home.’

In spite of the difficulties in making direct comparisons between the countries, the study provides valuable information regarding the impact of intensive care unit resources on admission practices and demonstrates some large differences in health-care delivery. ‘The differences in the types of patients admitted to the intensive care unit, and the patterns of hospital care for these critically ill patients really are enormous,’ said Dr Wunsch.

Wunsch H, Angus DC, Harrison DA, Linde-Zwirble WT, Rowan KM (2011) Comparison of medical admissions to intensive care units in the United States and United Kingdom. *Am J Respir Crit Care Med* Mar 25 [Epub ahead of print]

New microtubule inhibitor for multiply treated breast cancer

Halaven (eribulin) is a novel treatment for patients with locally advanced or metastatic breast cancer who have progressed after at least two chemotherapeutic regimens for advanced disease. Prior therapy should have included two common types of chemotherapy, an anthracycline and a taxane, unless patients were not suitable for these treatments.

Eribulin is a non-taxane, microtubule dynamics inhibitor and a synthetic analogue of halichondrin B, a natural product isolated from the marine sponge *Halichondria okadai*.

It is a new class of agent and the first single-agent chemotherapy to demonstrate a statistically significant

overall survival benefit in patients with heavily pretreated advanced breast cancer compared to currently used treatments.

Patients treated with eribulin survived a median of 2.5 months longer than patients who received treatment of the physician’s choice (overall survival of 13.1 months *vs* 10.6 months respectively, $P=0.041$).

‘Eribulin addresses an urgent need for new treatment options for women with advanced breast cancer who have previously received multiple treatments,’ said Dr Andrew Wardley, consultant medical oncologist and Co-Chair of the Breast Group at The Christie Hospital in Manchester.