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## Mechanical Ventilation Across Countries



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Invasive mechanical ventilation (IMV) is a crucial component of intensive care in modern healthcare. However, it remains uncertain whether the rates of IMV usage differ between countries.

A recent study analysed data from 2018, focusing on patients aged 20 years and above who underwent IMV in England, Canada, and the United States. The study aimed to determine the per capita rates of IMV in adults within these three high-income countries with notable differences in per capita availability of ICU beds.

IMV rates were examined across different age groups, specific diagnoses (such as acute myocardial infarction, pulmonary embolus, and upper gastrointestinal bleeding), and comorbidities (such as dementia and dialysis dependence).

The study included 59,873 hospital admissions with IMV in England, 70,250 in Canada, and 1,614,768 in the U.S. The median age of patients in England and the U.S. was 65 years, while in Canada, it was 61 years. The proportion of male and female patients varied across the three countries.

The age-standardised rate of IMV per 100,000 population was the lowest in England, followed by Canada, and the highest in the U.S. When stratified by age, the per capita rates of IMV were more similar among younger patients but diverged significantly among older patients. Among patients aged 80 years or older, the crude rate of IMV per 100,000 population was highest in the U.S., followed by Canada and England.

Regarding comorbidities, a higher percentage of admitted patients who received IMV in the U.S. had a diagnosis of dementia compared to England and Canada. Similarly, a higher proportion of admitted patients in the U.S. were dependent on dialysis before receiving IMV compared to England and Canada.

Overall, findings from this study show that IMV utilisation in the U.S. was four times higher than in England and twice as high as in Canada. The most significant differences were observed in the utilisation of IMV among older adults, and there were substantial variations in patient characteristics among those who received IMV.

The variations in the overall use of IMV across these countries emphasise the need for a deeper understanding of the factors influencing the choices made by patients, clinicians, and healthcare systems regarding this limited and costly resource.

Source: [JAMA](#)

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