Cost utility analysis

In health economics the purpose of CUA is to estimate the ratio between the cost of a health-related intervention and the benefit it produces in terms of the number of years lived in full health by the beneficiaries. Hence it can be considered a special case of cost-effectiveness analysis, and the two terms are often used interchangeably.

Cost is measured in monetary units. Benefit needs to be expressed in a way that allows health states that are considered less preferable to full health to be given quantitative values. However, unlike cost–benefit analysis, the benefits do not have to be expressed in monetary terms. In HTAs it is usually expressed in quality-adjusted life years (QALYs).

A cost-utility analysis (CUA) was undertaken to compare early (≤24 hours since trauma) versus delayed surgical decompression of spinal cord in order to determine which approach is more cost effective in the management of patients with acute traumatic cervical spinal cord injury (SCI).

This study includes the patients enrolled into the Surgical Trial in Acute Spinal Cord Injury Study (STASCIS). Cases were grouped into patients with motor complete SCI and individuals with motor incomplete SCI. A CUA was performed for each group of patients using data for the first 6 months after SCI. The perspective of a public health care insurer was adopted. Costs were estimated in 2014 US dollars. Utilities were estimated from the STASCIS.

The baseline analysis indicates early spinal decompression is more cost-effective approach when compare to the delayed spinal decompression. When considering the delayed spinal decompression as the baseline strategy, the incremental cost-effectiveness ratio (ICER) analysis revealed a saving of US$ 58,368,024.12 per quality-adjusted life year (QALY) gained for patients with complete SCI and a saving of US$ 536,217.33 per QALY gained in patients with incomplete SCI for the early spinal decompression. The probabilistic analysis confirmed the early-decompression strategy as more cost effective than delayed-decompression approach, even though there is no clearly dominant strategy.

The results of this economic analysis suggests that early decompression of spinal cord was more cost effective than delayed surgical decompression in the management of patients with motor complete and incomplete SCI, even though no strategy was clearly dominant [1].

1)
Furlan JC, Craven BC, Massicotte EM, Fehlings MG. Early versus Delayed Surgical Decompression of Spinal Cord after Traumatic Cervical Spinal Cord Injury:A Cost-Utility Analysis. World Neurosurg. 2016 Jan 7. pii: S1878-8750(15)01779-9. doi: 10.1016/j.wneu.2015.12.072. [Epub ahead of print] PubMed PMID: 26773983.