ABSTRACT: In-Patient Hospital Costs of Stroke: A Focused Literature Review

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Objectives

Stroke is the third leading cause of mortality worldwide, with significant associated acute care hospitalization costs. The objective of this literature review was to delineate the costing methodologies employed for the estimation of in–patient hospital costs of stroke.

Methods

A PubMed search was performed using the keywords: hospitalization, cost analysis, acute stroke, and cost effectiveness; limited to publications in English from 2008 onwards. Inclusion criteria were patient–level data collection and detailed description of costing methodology applied. Cost–effectiveness and literature review studies were excluded.

Results

In total 22 articles were included in the analysis. Cohort studies comprised 45% of the sample,
followed by database analyses (32%), registered-based studies (9%), retrospective chart review studies (9%), and clinical trials (5%). Cost categories measured included direct medical costs (bed and staff, laboratory and imaging investigations, medications, rehabilitation and supportive nursing care), as well as indirect costs for the patients and their caregivers; in 2 studies the economic analysis was performed from a societal perspective. The resource utilization (excluding the database analyses) was identified in the medical records (80%), or from interviews (20%). Unit costs were primarily derived from national listings or hospital accounting files (36% each). The sample sizes (ranging from 100 to over 60,000 patients), as well as the total costs (ranging from US$500 to US$150,000 per patient and from US$70 to US$13,000 per day) varied significantly, as a result of the heterogeneous cost variables described.

**Conclusions**

Methodologies differed in approach, complexity and specific cost variables evaluated. Consequently, the total costs varied significantly across studies which makes direct comparisons of outcomes difficult. A trend towards more sophisticated economic analyses, such as real costs measured versus hospital reimbursement rates, or hospitalization costs before versus after stroke, was observed. A more standardized approach to evaluating in-patient costs of stroke care is warranted.