

Letter: Length of Stay Beyond Medical Readiness in a Neurosurgical Patient Population and Associated Healthcare Costs

To the Editor:

As in all areas of society, effective and efficient use of limited resources is essential in healthcare.¹⁻³ The cost of managing brain disorders constitutes the main economic burden on healthcare providers.⁴ Therefore, economic choices are increasingly discussed in neurosurgery and solutions are sought to reduce costs and increase efficiency. Furthermore, the importance of using resources in neurosurgery more economically has been made apparent during the ongoing COVID-19 pandemic.⁵⁻⁸ The release of the study by Linzey et al⁹ (published in *Neurosurgery* 88: E259-E264, March 2021), which explored causes of and solutions for excessive hospital stay in neurosurgery, comes at a time when this topic is more closely examined and widely discussed. According to the study findings, the most common causes of prolonged length of stay beyond medical readiness are inadequate rehabilitation and care facilities for postoperative patients, delays in insurance payments to healthcare providers, and family problems. On these points, however, neurosurgery should be compared with other surgical branches. Neurosurgery training is more demanding and takes longer than other surgical branches.^{10,11} This situation could cause neurosurgery patients to stay in hospital longer than is necessary for reasons such as the training needs of the medical students, complex resource allocation decisions, bureaucratic works, or other factors. Although studies show conflicting results, it has been shown that lengths of stay may differ between teaching and nonteaching hospitals.¹² In neurosurgery, patients who undergo not only emergency but also elective craniotomy are admitted to an intensive care unit postoperatively for close monitoring purposes.¹³ Hence, the neurosurgeons have to cancel operations if the intensive care unit cannot accommodate their patients postoperatively. In addition, the optimal use of the operating room varies according to the surgical specialty. For example, in ophthalmology or otorhinolaryngology, patients can often receive day surgery and they do not need an intensive care bed reserved for them postoperatively.

The health sector cannot be thought of in a traditional economic framework, as other fields, such as business, can. In neurosurgery, there is often a greater degree of uncertainty and unpredictability compared to other surgical branches.² Uncertainty can lead to adverse selections. The neurosurgeon cannot know precisely whether a patient will develop any neurological deficits after surgery and cannot always predict or determine the optimal discharge time. From the point of view of economics, there is asymmetric information in the so-called healthcare market. For example, it is often not possible for the physician to

know the patient's family circumstances, and the discharge status will be affected by the patient's or the relations' statement.

In conclusion, the unintended hospitalization of patients in neurosurgery differs from that observed in other surgical branches. To reduce unnecessary hospitalization beyond medical readiness in neurosurgery, many factors, such as resident training, intensive care equipment, rehabilitation facilities, and insurance, must all be considered, but this may not be as easy to do for neurosurgery as it is for other surgical branches. Insurance clearance delays may be reduced or simply not exist in situations where universal health insurance is in use.

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