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The unrecognized costs of delirium

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Delirium is the great psychiatric masquerader. Although typically characterized by a change in cognition in the setting of an impaired level of consciousness, this condition can present with a variety of abnormal mental experiences, such as mood changes, hallucinations or delusions. Despite the availability of relevant screening tools such as the Mini Mental State Examination, delirium is often mistaken for other psychiatric conditions, including dementia, schizophrenia and depression. The development of delirium has been observed to lengthen hospital stays, increase morbidity, and complicate transitions from inpatient to outpatient care.

Previous studies have identified a number of risk factors for the development of delirium, several of which (increased age, a diagnosis of dementia, medical comorbidity, and polypharmacy) are found in the growing Medicare population in the US. Data suggest that the risk of developing delirium increases with the number of risk factors present, that interactions among risk factors are common, and that delirium often has a multifactorial etiology (Inouye SK [1998] *J Geriatr Psychiatry Neurol* 11: 118–125). With estimates that by 2017 the US will be spending almost 20% of its gross domestic product on health care, which translates into US$4.3 trillion annually, it is understandable that attention has been drawn to the financial implications of preventing and treating delirium in the Medicare population.

In a recent paper, Leslie and colleagues described the economic impact of delirium in a cohort of patients 70 years old and over (Leslie DL *et al.* [2008] *Arch Intern Med* 168: 27–32); patients from a previous study who developed delirium during an index hospitalization were followed up for 1 year, and their total healthcare costs were estimated. When compared with a group that had not developed delirium, patients with delirium had higher costs and survived for fewer days in the year following the index hospitalization.

Expanding on the existing literature, Leslie *et al.*'s work illustrates that in outpatient courses of treatment, as well as in acute-care hospital stays, delirium can be a costly complication, in both economic and medical terms. This is an important finding because although delirium has been described in patients who are in nursing homes, comparatively few studies have examined delirium in other outpatient settings.

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The findings of Leslie *et al.* would be strengthened by serial assessments of the patients' mental state over the year for which costs were estimated. Delirium characteristically waxes and wanes, so this additional data would enable investigators to distinguish cases of chronic delirium from those that fully resolved. In those cases that did resolve, investigators could distinguish the costs directly attributable to delirium from the costs of ongoing treatment of chronic medical and surgical problems.

Additional studies should deepen our understanding of how the course of delirium in outpatients differs from the more familiar and better characterized inpatient course, and these studies should help to identify the specific factors involved in the prevention and treatment of delirium in outpatients. Despite the extensive literature describing delirium in inpatients, a recent systematic review concluded that there was little research evidence regarding the effectiveness of interventions to prevent delirium (Siddiqi N *et al. Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005563. doi:10.1002/14651858.CD005563.pub2).

Caring for older patients with chronic medical problems is challenging and costly. The work of Leslie and others on delirium compels those of us interested in disturbed mental states to teach the wider medical community about delirium—how to prevent it, how to recognize it, and how to treat it. In so doing, we could help to decrease the mortality and morbidity currently associated with delirium and increase our own understanding about an under-recognized, costly, and potentially reversible condition.

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Competing interests
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