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Research

Drug-Related Morbidity and Mortality: Updating the Cost-of-Illness Model

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Objective:

To update the 1995 estimate of \$76.6 billion for the annual cost of drug-related morbidity and mortality resulting from drug-related problems (DRPs) in the ambulatory setting in the United States to reflect current treatment patterns and costs.

Design:

For this study, we employed the decision-analytic model developed by Johnson and Bootman. We used the model's original design and probability data, but used updated cost estimates derived from the current medical and pharmaceutical literature. Sensitivity analyses were performed on cost data and on probability estimates.

Setting:

Ambulatory care environment in the United States in the year 2000

Patients and Other Participants:

A hypothetical cohort of ambulatory patients.

Main Outcome Measures:

Average cost of health care resources needed to manage DRPs.

Results:

As estimated using the decision-tree model, the mean cost for a treatment failure was \$977. For a new medical problem, the mean cost was \$1,105, and the cost of a combined treatment failure and resulting new medical problem was \$1,488. Overall, the cost of drug-related morbidity and mortality exceeded \$177.4 billion in 2000. Hospital admissions accounted for nearly 70% (\$121.5 billion) of total costs, followed by long-term-care admissions, which accounted for 18% (\$32.8 billion).

Conclusion:

Since 1995, the costs associated with DRPs have more than doubled. Given the economic and medical burdens associated with DRPs, strategies for preventing drug-related morbidity and mortality are urgently needed.



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