The Economic Impact of Schizophrenia

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Although schizophrenia afflicts 1.1% of the U.S. population, it imposes a disproportionately large economic burden due to expenditures for hospitalization, treatment and rehabilitation, and lost productivity. Cost-of-illness studies, using a variety of methodologies to calculate direct and indirect costs, have estimated that in 1990 the total economic burden of schizophrenia was $32.5 billion. Of this total, $17.3 billion was attributable to direct medical costs. By comparison, in the same year the total and direct medical costs for anxiety disorders, which are more than 10 times more prevalent than schizophrenia, were $46.6 billion and $10.7 billion, respectively. For affective disorders, almost 10 times more prevalent than schizophrenia, the total and direct costs were $30.4 billion and $19.2 billion, respectively. Effective treatments used early in the course of schizophrenia can help reduce the costs associated with this illness.

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The 2.6 million people aged 18 to 64 years in the United States with schizophrenia comprise a comparatively small proportion of those suffering from all mental illnesses: the 1-year prevalence in this age group for anxiety disorders is 15.2 million persons, and for affective disorders, 12.3 million persons. As a group, however, people with schizophrenia consume a disproportionately large share of resources. Schizophrenia is costly in medical care, treatment and rehabilitation, and reduced or lost productivity. Although its prevalence in the general population varies by gender and age, schizophrenia is most prevalent during highly productive periods—25 to 34 years of age in women and 18 to 24 years of age in men (Figure 1). Thus, the economic burden imposed by this disease needs to be examined both as a single entity and in relation to other chronic conditions, and comprehensive, research-based strategies formulated to use the resources available as effectively as possible.

Understanding cost-of-illness studies requires consideration of numerous conceptual issues (Table 1) and estimation issues (Table 2), as well as the sources of data used in estimating direct and indirect costs. The following discussion covers several issues in the calculation of direct and indirect costs of schizophrenia and the results of an Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) cost-of-illness study for 1985 with estimates updated to 1990.

CALCULATION OF DIRECT AND INDIRECT COSTS

In cost-of-illness studies, direct costs (i.e., medical expenditures) are estimated as the product of number of services and unit prices or charges. Direct costs involve mental health organizations (e.g., federal, state, and local psychiatric residential treatment centers), short-stay hospitals, office-based physicians, other professional services, nursing homes, prescription drugs, and support costs (e.g., net cost of insurance; costs of research, training, and program administration).

Indirect costs (i.e., morbidity and mortality costs) involve the value of lost output due to illness, disability, or death. Morbidity costs are the value of reduced or lost productivity. Morbidity costs developed in the ADAMHA study were estimated as a percentage of income lost based on calculations of a variety of factors, including the size of the population, the prevalence rate of the illness, average income for persons without the disorder, and impairment rates for persons with the disorder.

Mortality costs are the discounted expected lifetime earnings (adjusted for sex and age) of an individual who has died prematurely. Although important, “present value of lifetime earnings” is a complicated concept to calculate in cost-of-illness studies. Essentially, calculations take into account life expectancy, earnings, labor force participation rates (by age and gender), and the imputed value for housekeeping services with a discount rate (i.e., estimate of present value of future earnings) applied to the calculations. Although discount rates of 3% to 5% are used today,
costs in 1990 totaled $17.3 billion, or about 53.2% of the U.S. economy, about 3% of total personal health care spending for all illnesses.1 The costs of schizophrenia were updated to 1990 employing economic data and indices with known relationships to mental illness costs. Direct costs in 1990 totaled $17.3 billion, or about 53.2% of the total cost of $32.5 billion. Morbidity accounted for 32.9% of total costs, and mortality, 4.0%. Other costs, including those related to crime, social welfare administration, and family caregiving, accounted for 9.9% of the total.

About $6.5 billion of the $17.3 billion in direct costs represented expenditures for mental health organizations, and $2.6 billion for short-stay hospital care. Other treatment costs included $406 million for office-based physicians, $710 million for other professional services (e.g., psychologists, social workers), and $5.3 billion for nursing home expenditures. Prescription drug expenditures were $397 million, or about 2.3% of the direct costs (Figure 2). Amounts spent for prescription drugs represent a relatively small percentage of total direct costs. This percentage would probably be higher today because of the availability of newer antipsychotic agents.

The impact of “lifelong” sickness substantially affects current income, lowering that of men and women with...
The burden schizophrenia places on society is high, and although cost-of-illness studies provide estimates of costs, they should be interpreted as the lower limit of the true cost. For example, costs cannot be calculated for pain and suffering. Lost income among homeless and military populations and those under 18 years of age or over 64 years of age is not calculated, nor are capital costs of construction of facilities.

Despite these limitations, cost estimates indicate that substantial potential savings could be realized by the timely and appropriate use of treatment interventions. More attention needs to be directed at comprehensive, research-based strategies to reduce the prevalence and the costs of schizophrenia in the United States.

**REFERENCES**

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