Original Article

Health Economics Of Disease Burden: A Review

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Abstract

Applying economic theory and methodology to problems and occurrences associated with health is known as "health economics." Economic theory, and more specifically neoclassical microeconomic theory, frequently assumes that a competitive process of adjusting demand and supply of goods and services would result in the best distribution of limited resources. Both the public and policymakers should avoid from interfering with this procedure. If it isn't, economic incentives for shifting supply and demand will be thrown off, preventing market forces from reaching the allocative optimum. Economic assessment studies provide a systematic technique to contrast two or more health technologies that might be used in different ways by analysing the costs and outcomes of each choice.As an outcome comparison, one can use both general metrics like life years gained or utilities and disease-specific metrics like time to relapse or events averted. The first section, titled "Design of the Health Care System," covers research subjects in health economics. Healthcare finance strategies, health insurance market challenges, regulatory frameworks, and provider remuneration plans are all topics covered by health economics. It also has to deal with the economic assessment of medical advancements and therapies. Some of these topics include the costs of illness, cost-effectiveness and cost-utility studies, as well as the question of whether these concepts accurately reflect the value of human life. The purpose of this review is to talk about various facets of disease's health economics.

AN OVERVIEW OF HEALTH-ECONOMICS

Analysis of the economic cost of disease is distinct from but complementary to clinical or epidemiological approaches to disease burden assessment and can address a variety of policy questions relating to the effects of illness or damage. These questions range from the macroeconomic (i.e., the impact of a disease on the current gross domestic product or future growth prospects of a nation) to the microeconomic (i.e., the effect of illness on a household's income or a company's profits) level of households, businesses, or the government.

Resultant estimates for a particular disease, injury type, or compromised health state in the population and their distribution across a number of major drivers or categories of cost can be useful information for decision-makers regarding the complete breadth of economic losses.

Economic burden studies may help to identify potential strategies for reducing the cost of disease or injury through appropriate preventive action or treatment strategies, even though they are insufficient as a basis for setting priorities and allocating resources in health for which data on effectiveness are also needed. Since the introduction of a "cost-of-illness" paradigm in the middle of the 1960s, the quantity of economic impact studies on health has increased tremendously. Despite the fact that most research still employ some variation of this methodology, macroeconomic growth models have increasingly been used to better understand the dynamic and multifaceted nature of losses at the societal level.

Policymakers and scholars have paid increased attention to the microeconomic impacts of poor health, particularly at the household level in lower-income countries. Reviewing the large body of previous research reveals that there is a lot of methodological diversity and that many studies have a range of conceptual problems. The WHO is recommending a clear conceptual framework within which the economic impact of illness or injury can be taken into account and properly quantified in order to improve the consistency and coherence of economic impact studies in health. In view of these methodological shortcomings as well as the significant, ongoing demand for economic impact studies in health, this is being done.

A number of specific ways, including directly (because people prefer to be more healthy than less healthy), indirectly (by reducing the enjoyment or utility associated with such consumption), or by undermining other economic goals like generating income that allows people to buy market goods, can cause illness to affect one's ability to enjoy or benefit from the consumption of goods and services that are unrelated to their health.

The general consumption of health goods and services does not directly produce utility or welfare because people would prefer not to pay these expenditures in terms of money and time, hence the main direct determinants of economic welfare

can be summarised as leisure and health itself. The impact of disease or injury on these areas of economic welfare should serve as the basis for assessment. If economic impact studies are to have a clear economic meaning, they must be specific and consistent about which of these welfare categories are to be included. Is it the entire impact on economic well-being that is being assessed, or just a particular aspect or aspects of it?
At the macroeconomic level, for instance, the impact of illness on gross domestic product (GDP) is something that can be quantified and has a clear economic relevance. However, as cost-of-illness studies frequently do, combining health expenditures with output losses (some market, some non-market) and presenting this in proportion to GDP does not have a clear economic meaning.

It's also important to have a solid understanding of the appropriate counterfactual to use in economic effect analyses (the comparator situation against which economic losses can be assessed). Is it assumed that the condition, risk factor, or both never existed, or just that there won't be any more cases in the near, mid, or long term? Once more, the method to adopt will be determined by the question that needs to be addressed. For instance, an incidence-based approach, which only counts new cases, is better suited to determining the expected impact of a disease in the future, whereas a prevalence-based approach, which measures both new and pre-existing illness in a given year, is better suited to determining the total current economic burden of a disease.

The prevalence-based technique has traditionally been used in traditional cost-of-illness studies, which evaluate disease-related intervention costs for a specific year (but not future years) as well as the present value of lost production in future years due to fatalities in the current period. This method of cost calculation and counterfactual analysis looks strange and inconsistent.

MACROECONOMIC ANALYSIS OF THE CONSEQUENCES OF DISEASE

A macroeconomic approach to evaluating the impact of ill-health should be focused on determining the aggregate impact of illness and injury across diverse economic agents on three components of economic welfare (both now and in the future). These factors include leisure time, non-healthy food and beverage choices, and health status.

The primary focus of the majority of studies on the economic impacts on society has been on the gross domestic product (GDP), which indicates the potential for market consumption. While this has a clear definition, it's crucial to remember that GDP also includes spending on items and services connected to health.

As a result, this component should be removed, and the analysis's attention should instead be directed toward calculating the present value of discounted aggregate flows of current and future consumption of non-health-related goods and services linked to disease.

Illness or injury can significantly impact macroeconomic performance or output in three ways: increased health expenditures, lost productivity and labour, and fewer investments in the creation of human and physical capital. Although the cost-of-illness method is focused on how diseases affect society, macroeconomics doesn't seem to fit well with it. By focusing on health sector spending and lost labour productivity, CoI studies only provide a very partial picture of the true macroeconomic impact of disease. They also fail to consider the role that diminished capital accumulation, human capital investment, and demographic change play in slowing economic growth. We suggest, instead, use a broader, more dynamic evaluation of missing consumption opportunities.

MICROECONOMIC ANALYSIS OF THE CONSEQUENCES OF DISEASE

There is growing policy and academic interest in the microeconomic effects of illness or injury, with a focus on the deprivation and other effects that these conditions can have on household consumption potential. This is in contrast to concerns about the effects of illness on society or the general population. A ill person's household frequently spends extra money on medical equipment and services. They might also put in less time at the office in order to save money for market purchases. In reaction to this change in income or expenditure, households may reduce their consumption of non-health products or they may sell off household assets or savings.

Aside from lowering the stock of health itself, being ill may make it challenging to engage in non-market activities. Analysis of the trade-offs that households make between consumption in current and future time periods, as well as in their time allocation to market production, non-market production, health improvement, and leisure, is important to reflect time preferences as well as risk preferences.

An important economic impact of illness or injury at the microeconomic level of households, businesses, and governments is the incapacity of people to do their typical day-to-day responsibilities due to its affect on functioning.

In economic impact studies, the assessment and measurement of these production losses have generally relied on an input-based methodology (which assumes that the number of days missed from work fully matches to the market value of those lost days). Use of such an approach can be projected to overestimate these economic losses since it ignores the "coping tactics" or compensating mechanisms utilised by households or enterprises to decrease the unfavourable circumstances

imposed by illness.

An output-based method that evaluates actual (rather than expected) net losses in revenue or market/nonmarket production offers a more trustworthy and accurate basis for estimation.

RATIONALE OF MEASURING THE ECONOMIC CONSEQUENCES OF DISEASE

Measuring morbidity and death is important in determining the impact of disease on populations. But focusing just on the detrimental effects of morbidity and mortality only provides us with a limited picture of how ill health affects the welfare of people. In particular, poor health may come at a large financial cost. Often a significant factor in poverty, health "shocks" include unplanned increases in medical costs, functional capacity decreases, and lost income or productivity (1,2). Additionally, poor health may have a detrimental impact on academic achievement and, consequently, future income levels.

Lower rates of savings, lower rates of capital return, and lower levels of both domestic and foreign investment are all societal repercussions of poor population health that can and do limit economic growth (3). By assessing these many negative effects, decision-makers can gain an understanding of how much a specific sickness or, more generally, a bad state of health reduces or obstructs chances for economic production or consumption at the family or societal level. Contrary to these negative impacts, good health might encourage economic growth (4,5). The relationship between wealth and health serves as a key justification for higher investment in healthcare systems and services.

The proper assessment and value of the economic benefits that arise from the reduction or eradication of disease is, thus, a third important and more motivating argument for undertaking economic impact studies in health.

Economic impact studies can genuinely address a wide range of health policy concerns, both at the microeconomic level of individual consumers, enterprises, and governmental organizations as well as at the general macroeconomic level in terms of the impact of bad health on the GDP.

Measuring the financial effects of disease has a long history and doesn't seem to be going away anytime soon. For instance, the earliest year at which this type of work is referenced in official papers is 1951, just over three years after the World Health Organization (WHO) was established. Winslow (1951) stated that one way to convince governments to increase funding for public health is to collect and disseminate information regarding the potential financial benefits of public health initiatives.

The majority of studies conducted to date have used some variation of the cost of illness (CoI) approach, which was formalised by Dorothy Rice and colleagues in the late 1960s and subsequently revised on numerous occasions, to determine a national-level cost estimate of the impact of a specific disease (6-9). With this approach, the "direct costs" and "indirect costs"—or the value of lost output as a result of cutbacks in working hours—of certain illnesses are divided. Medical care costs, travel expenses, etc. are examples of direct costs. The costs of pain and suffering were referred to as "intangible costs" by Rice and colleagues, who made no attempt to put a dollar amount on them.

The overall cost the illness imposed on society is then determined by aggregating the direct and indirect costs, and it is occasionally expressed as a percentage of the gross domestic product of the relevant time period (GDP). The number of different methods used to estimate direct and indirect costs has made it difficult to compare findings across studies (10–12), and the use of a "human capital" approach to measuring lost production—which essentially multiplies the total period of absence by the absent worker's wage rate—lacks a solid theoretical underpinning and may well overestimate actual economic losses (13).

PERSPECTIVE AND CONCLUSION

The perspective is the vantage point used for costing and, if relevant, outcome measurement in an economic analysis of a health care technology. Every analysis must begin with a straightforward choice of viewpoint because it has a big impact on how the calculation turns out. Particularly, it has an impact on how costs are calculated. From the perspective of society, all costs and benefits, including lost productivity as a result of a medical condition, treatment, or diagnostic process, are taken into account. From the more constricted perspective of a health insurance or sickness fund, only their own expenses—indicated as reimbursement rates in various sectors of the health care system—are significant. From the perspective of a facility like a hospital, only costs incurred by the institution during the inpatient stay are considered. The three most important perspectives are societal, payer, and institutional.

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