


Living with chronic Asthma: Navigating lifelong care and healthcare costs

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Review Article	Abstract:	DOI: 10.62469/ijnhc.v02i04.001
<p>*Corresponding Author: Md Aminul Islam Ripon</p> <p>Citation: Md Aminul Islam Ripon; <i>et al</i> (2024); Living with chronic Asthma: Navigating lifelong care and healthcare costs. <i>iraetc j. nur. health care</i>; 2(4) 61-65.</p>  <p>This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International license.</p>	<p>Worldwide, asthma places a heavy strain on people with the disease as well as healthcare systems. This load can take many different forms, such as decreased living quality, higher healthcare utilization, and significant financial consequences. It is essential to comprehend the complex nature of this burden in order to create solutions that are both successful and preventative for asthma. This article examines the various repercussions of asthma, including how it affects daily activities, productivity, and the availability of healthcare services. In order to lessen the difficulties that people with asthma and healthcare systems encounter, we hope to raise awareness of the complexity of the condition's burden and make it easier to adopt focused interventions. Moreover, asthma has a greater social cost that affects healthcare systems and productivity in society as a whole. It need an all-encompassing strategy that incorporates patient education, medical management, and public health activities to address this load.</p> <p>Keywords: Lifelong care; Asthma; Costs; Expensive; Social impact; Living quality; Hospital cost.</p>	
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INTRODUCTION

Asthma has clearly been shown to be a global disease, however in the last two decades was defined as a real public health problem affecting countries from all over the world and populations of all age groups [1, 2]. Asthma prevalence and incidence have been rising globally in recent decades, mostly as a result of numerous environmental risk factors, many of which fall under the category of "modern lifestyle," rather than just genetics. Even in developing nations with low illness incidence in the recent past, the globalization of the economy may have played a substantial role in the rise in the prevalence of asthma [3, 4].

Asthma is a prevalent chronic illness that affects individuals of all ages worldwide. It is a major cause of early death and a decline in life quality for individuals of all ages, adding significantly to the burden of disease [5]. The most common chronic ailment among children and teenagers is asthma, which also contributes significantly to medical expenses for patients of all ages. Over the past few decades, the number of persons with asthma has considerably increased; there are already 300 million asthma sufferers globally, and that number is expected to rise by another 100 million by 2025 [6]. Asthma affects around 26 million Americans and is a prevalent condition that costs \$56 billion a year. The primary determinants of asthma's clinical and economic consequences are its severity and morbidity. Less than 10% of asthma patients have severe disease, yet rising asthma severity and morbidity is linked to worse quality of life, decreased work productivity, a higher chance of death, and a markedly larger use of health care resources and associated expenditures [7].

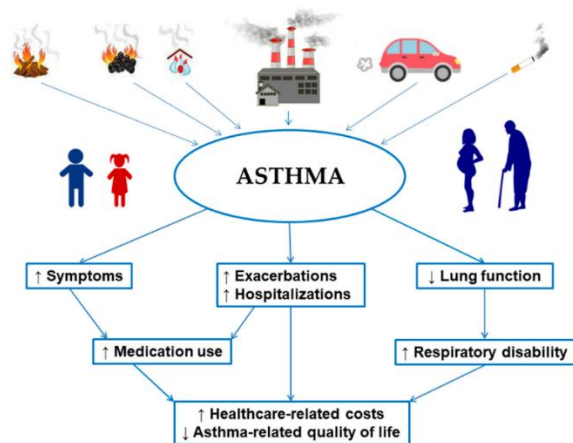


Figure 1: Outcome of asthma

The most expensive aspect of asthma-related medical expenses for those with severe asthma is the cost of asthma medicine, which includes both short-term relief medications and long-term controller treatment [8, 9]. Cost consciousness is growing in the healthcare industry as overall medical prices rise. Therefore, in addition to their efficacy and safety, it is crucial to take into account how healthcare products and services will affect the overall cost of treatment. Similar to economics, pharmaco-economics relies on the core concept of efficiency, which guides the development of strategies aimed at optimizing returns on a particular resource use [10-12]. In a situation where healthcare costs are rising, insurance companies are searching for information to help them make decisions about contracting, acquiring, and adding new pharmaceuticals to formularies. As a result, drug manufacturers need to evaluate the products' value from both a financial and clinical perspective [13].

Poverty to asthma: Asthma-related deaths per 100,000 persons varied from 2 in the Hong Kong Special Administrative Region of China and the USA to 7 in New Zealand and over 9 in Germany between 1985 and 1987; however, the rates for disadvantaged groups were much higher in all of these countries. These deaths generally involved young people and occurred at the patient's home (in 50–60% of cases) when the severity of an asthma attack was exaggerated and undertreated, which usually occurred prior to the fatal episode [14, 15]. In several rich nations, the rising trend in mortality has slowed down or even reversed despite an increase in the frequency of asthma. This is probably because people who have access to inhaled corticosteroids use them more effectively [16].

Asthma mortality: While the death rate from asthma has significantly decreased in recent years, chronic respiratory disorders are becoming a more common cause of disability as the population ages [17]. Asthma mortality has actually decreased significantly in most high-income areas as a result of the adoption of new treatment guidelines that stress the use of preventive anti-inflammatory drugs (such as inhaled corticosteroids) to control the disease; the United States is an exception, though, as there hasn't been a discernible decrease in asthma mortality in the last few decades, particularly among low-income asthma patients [18, 19]. Premature deaths and lasting impairments are expensive, particularly for the nations where these conditions are more prevalent.

Characterization of asthma: Asthma is a multifaceted, long-term illness characterized by sudden, intense episodes of dyspnea and bronchospasm that may typically be treated with bronchodilators. Patients with asthma can get long-term treatment to achieve and maintain asthma control, as well as short-term treatment for asthma exacerbations, depending on the disease's symptoms. In order to lower the dangers in the future—namely, lung function decline and asthma attacks—long-term treatment is essential. A significant portion of asthmatics also have comorbidities and atopic sensitivity. Allergies both indoors and outdoors are extremely frequent, and many asthmatics have many types of allergic sensitivity.

Many asthma patients often, and sometimes nearly solely, seek emergency care to address their asthma attacks [1, 20]. Numerous factors have been identified as the causes of this frequent need for unscheduled medical observations related to asthma. These include decreased or non-compliance with asthma management, severe asthma that is not responsive to prescribed treatment, financial hardship that prevents patients from purchasing controller medication, and patient exposure to trigger factors (such as acute respiratory infections, environmental and/or occupational irritants/allergens, tobacco consumption and/or passive exposure, among others). Even those who seek emergency treatment on a regular basis typically have modest hospitalization rates attributable to asthma. Nonetheless, during the past 20 years, there has been a rise in hospitalizations among people under the age of five and those over 65, particularly in places with poor socioeconomic growth [21, 22].

Drug cost for asthma: Complementary investigations or treatments (e.g. imaging, skin and blood tests, lung function tests, pulmonary rehabilitation), hospital admissions, medications, including over-the-counter and alternative medicines, outpatient visits, and all associated human resources (e.g., doctors, nurses, paramedics, psychologists), are examples of direct costs associated with asthma management. Other costs include home care assistance, professional preventive measures, transportation to medical appointments.

Work-related losses (e.g., early disability, permanent disability, lost days of work due to temporary disability, etc.) and early mortality are examples of indirect costs. Lastly, unquantifiable losses like a decline in living quality, an increase in pain or suffering, a restriction on physical activity, or a change in employment are examples of intangible costs. Sadly, the literature on asthma costs does not yet routinely cite these expenses. Numerous studies have provided data on the expenses associated with asthma, either at the individual patient level or at the societal (regional or national) level. The average annual cost of asthma can be roughly \$5,000 USD, with severe asthmatics incurring substantially greater costs [23]. According to a recent estimate, the overall yearly cost of asthma in the United States increased rapidly and continuously from \$USD 12 billion in 1994 to \$USD 56 billion in 2011 [24].

Medication costs, which make up around 37% of all direct asthma-related costs, are the main source of expenditures for those with mild to moderate asthma. The bulk of prescription drugs and equipment can be viewed as a part of the cost of managing asthma, provided that people take them as directed. Inadequate patient compliance with asthma medication, particularly with preventative care [25]. There may be space for improvement in therapy, as evidenced by the fact that rescue therapy is now more expensive than preventative therapy. Increased funding for preventative therapy is advised by international management guidelines [26, 27]. This should reduce the need for rescue therapy and, by enhancing asthma control, may reduce hospital costs and ultimately save overall health care costs. However, patients may find it challenging to comprehend the complicated current asthma treatment regimens and delivery systems.

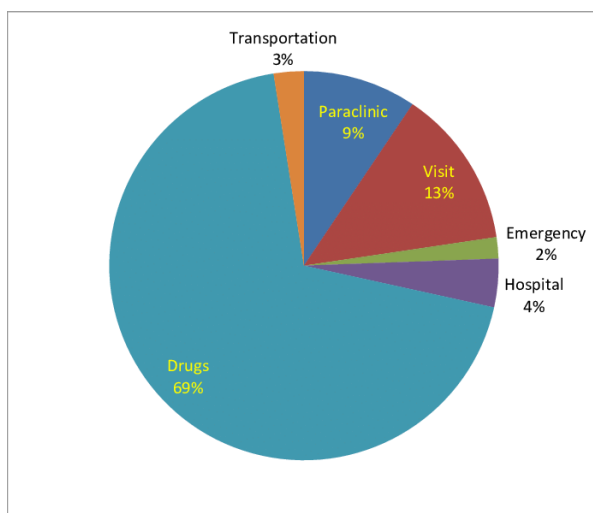


Figure 2: Approximate cost for asthma by individual

Hospital cost: Overall hospital costs are usually between 20 and 25 percent of the direct cost of asthma, however, there were notable differences in four of the nine studies. Given that hospital out-patient therapy constituted almost half of all physician visits in Sweden, the stated statistic in THOMPSON is inflated [28]. The high percentage of hospital expenses recorded by WIESS et al. [29] may be due to the high cost of in-patient care in the United States per unit. Reducing the frequency of hospital admissions requires an understanding of the causes of hospitalization as well as the identification of the sick population. Most hospital bills are paid by patients who are ill. Patients with moderate to severe asthma who are unable to halt an expensive acute severe asthma attack with asthma medication are usually admitted to the hospital [30]. The objective of any healthcare organization must be to achieve a balance between the benefits and costs of medical procedures [31].

Intangible cost: A patient's quality of life may be significantly reduced if they have asthma. Since there is no known cure, therapy aims to reduce symptoms so the patient can have a somewhat normal life. Understanding the views and opinions of the patient population is essential to achieving patient satisfaction in the therapy of asthma. Assessing these demands—and, more specifically, the patient's perception of the impact of their asthma on their quality of life—is a crucial aspect of measuring quality of life. Intangible costs are influenced by the patient's age and the severity of the condition. Despite the fact that individuals with mild asthma find the respiratory symptoms to be annoying, few young people think that having the condition will seriously disrupt their life. However, the parents of these children thought that specialists could address the usual anxieties and worries over the child's asthma [32]. The Saint George's Respiratory Questionnaire was developed as a tool to assess the quality of life for asthmatic patients. It is sensitive to both moderate and severe disease and allows for direct numerical comparisons between study groups, medicines, and patient populations [33].

Intervention's effects on asthma costs: The financial burden of asthma is significant, particularly for moderate-to-severe cases. Indirect costs account for half of asthma treatment costs. Medication accounts for 37% of the costs of managing controlled asthma, followed by GP care (16%) and the remainder (mostly hospital expenditures) that come from treating failed control. Thus, it would seem that improperly treated illness accounts for almost three-quarters of the total expense based on these assumptions. There is compelling evidence that disease management approaches, such as patient education and preventive therapy, can significantly lower the costs associated with uncontrolled asthma, including hospitalization, emergency admission, and missed work and school days. When the costs of treating uncontrolled asthma were examined, they were shown to be significantly greater than the additional costs of the control measures.

According to the National Asthma Campaign of Australia [34], by establishing optimal disease control in every patient, all categories of direct medical cost for people with severe asthma might be decreased including preventative care and expense

savings. International guidelines highlight that early initiation of preventative medication is crucial for treating asthma. The disease's new direct cost structure, which will prioritise medication and physician expenditures, will be more than offset by lower hospital stays and missed workdays. The cost of one hospital admission can cover three years of inhaled steroid medication [30]. Asthma management program that emphasise treatment plans that have been demonstrated to lower hospital admissions are an economical approach. When these program were implemented in certain affluent nations—the Finnish asthma program [35] being one of the most well-known examples—death and severity were dramatically reduced in tandem with cost savings.

The implementation of asthma guidelines is notably challenging in low-income nations. Further study is required to determine the applicability of therapy trials done in high-income countries and the resulting recommendations for low-income regions. National asthma programs are difficult to implement, even in high- or medium-income nations.

CONCLUSION

Over the past few decades, asthma has become more commonplace worldwide. With a heavy burden, asthma typically lasts a lifetime. Patients with asthma frequently use emergency rooms, occasionally necessitating hospital stays, and miss a lot of work and school days. It may also result in early, irreversible impairment and early death. One crucial indicator of asthma's impact on society is its financial cost. The entire cost of asthma to society has not been calculated in the majority of countries, despite the fact that it is widely acknowledged to be an expensive condition. Because asthma-related expenses are high, they should be routinely tracked using standardized techniques. These methods should take into account including the disease's natural history, trends in incidence and prevalence, the impact of the environment, comorbidities, quality of life, population ageing, the effect of guidelines being implemented, and variations in national health systems and income levels.

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