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The Budget Impact Trap: Why the Cheapest Drug May Not Be the Most Affordable?

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***Abstract*—** Healthcare decision makers frequently equate affordability with low acquisition costs when selecting pharmaceutical therapies. However, affordability extends beyond the purchase price and includes the broader consequences of treatment on healthcare budgets, resource utilization, and patient outcomes. Budget Impact Analysis (BIA) has become an essential component of health technology assessment because it evaluates the short and medium term financial consequences of adopting a health intervention within a specific healthcare system. Evidence from pharmacoeconomic literature demonstrates that focusing exclusively on drug acquisition costs may result in higher overall expenditures due to inferior effectiveness, adverse events, poor adherence, and increased healthcare utilization. This review examines the concept of the "budget impact trap" and highlights why the cheapest drug may not necessarily represent the most affordable treatment option.

Keywords: Budget Impact Analysis (BIA), Affordability, Healthcare System, Effectiveness, Health Technology Assessment, Pharmacoeconomic.

1. INTRODUCTION

Pharmaceutical expenditures continue to rise globally, creating substantial pressure on governments, insurers, and healthcare organizations to contain costs while maintaining access to effective treatments. Historically, reimbursement and procurement decisions have often prioritized medicines with the lowest acquisition price. However, acquisition cost represents only one component of the total economic burden associated with treatment. Modern pharmacoeconomic frameworks emphasize that affordability should be assessed in relation to overall healthcare spending, patient outcomes, and sustainability of healthcare budgets [1–3].

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The distinction between cost-effectiveness and affordability is increasingly recognized in health technology assessment. A medicine may be cost-effective because it generates substantial health benefits relative to its cost yet still creates an unsustainable budget burden due to widespread utilization. Conversely, a low priced medicine may appear affordable initially but result in greater downstream healthcare costs. This phenomenon is often described as the "budget impact trap" [1,2,4].

2. *Budget Impact Analysis: Beyond Drug Acquisition Costs*

Budget Impact Analysis (BIA) was developed to complement cost-effectiveness analysis by estimating the financial consequences of introducing a new intervention within a specific healthcare setting. According to International Society for Pharmacoeconomics and Outcomes Research (ISPOR) guidelines, BIA evaluates expected changes in healthcare expenditure following the adoption of healthcare technology over a defined time horizon [1,5].

Several factors influence budget impact, including target population size, treatment uptake, market share changes, treatment duration, healthcare resource utilization, and adverse event management costs [5,6,7]. Consequently, acquisition cost alone provides an incomplete assessment of affordability.

Updated ISPOR guidance further emphasized that reimbursement authorities increasingly require BIA alongside cost-effectiveness analyses because healthcare systems must determine not only whether an intervention offers value but also whether it can be afforded within existing budgets [5].

3. Clinical Effectiveness and Downstream Costs

The cheapest drug may not be the most affordable if it provides inferior clinical outcomes. In chronic conditions such as diabetes, asthma, cardiovascular disease, and rheumatoid arthritis, cancer, inadequate disease control can increase physician visits, emergency department use, hospital admissions, and long-term complications [6,8,9]. Economic evaluations consistently demonstrate that therapies associated with higher acquisition costs may reduce overall healthcare expenditures by preventing disease progression and costly complications [10,11].

4. Adverse Events and Safety Costs

Drug safety profiles are critical determinants of affordability. Medications associated with higher rates of adverse events frequently require additional monitoring, laboratory investigations, specialist consultations, or hospitalization, thereby increasing total healthcare costs [5,6].

A systematic review of published budget impact analyses found that adverse-event costs are often underrepresented despite their substantial influence on overall budget outcomes [7]. Therefore, a lower-priced medicine with a poorer safety profile may ultimately impose a greater financial burden on healthcare systems [7,12].

5. Treatment Adherence and Persistence

Medication adherence significantly influences real-world treatment effectiveness and healthcare spending. Poor adherence is associated with disease progression, avoidable healthcare utilization, and reduced therapeutic benefit [13,14].
Drugs that offer improved tolerability, simplified dosing schedules, or greater patient convenience often achieve higher adherence rates. Although these therapies may have higher acquisition costs, they can generate long-term savings by reducing disease-related complications and healthcare resource utilization [13–15].

6. Population-Level Affordability

Affordability depends not only on cost per patient but also on the size of the eligible patient population. A relatively inexpensive therapy prescribed to millions of patients may generate a larger budget impact than a costly treatment intended for a small patient population [1,5,16]. This issue has become increasingly important with the introduction of innovative therapies, biologics, and specialty medicines. Many of these interventions demonstrate favourable cost-effectiveness profiles but may still challenge healthcare budgets because of their aggregate financial impact [3,4,17].

7. Biosimilars and Specialty Medicines

The growing use of biosimilars illustrates why affordability extends beyond acquisition costs. While biosimilars reduce drug spending through lower prices, budget impact analyses suggest that their value also derives from expanding patient access and improving healthcare system efficiency [13,18].

Similarly, analyses of orphan drugs and specialty medicines indicate that affordability depends on multiple factors, including disease prevalence, treatment duration, and healthcare resource utilization rather than acquisition price alone [19].

8. Implications for Healthcare Decision-Makers

Healthcare decision-makers increasingly recognize that cost-effectiveness and affordability are distinct concepts. Cost-effectiveness analysis evaluates whether an intervention provides good value for money, whereas budget impact analysis determines whether the intervention can be financed within existing healthcare budgets [1,5,10,11].
Evidence from reimbursement agencies demonstrates that budget impact estimates are critical components of funding decisions and healthcare resource allocation [20, 21].

9. Conclusion

The assumption that the cheapest drug is automatically the most affordable represents a significant misconception in healthcare decision-making. Drug affordability extends beyond acquisition costs to encompass treatment effectiveness, adverse events, adherence, healthcare resource utilization, and population-level budget consequences. Budget Impact Analysis provides an essential framework for evaluating these factors and avoiding the budget impact trap [1,5,7]. As healthcare systems face increasing fiscal constraints, reimbursement decisions should be guided by comprehensive economic assessments rather than simple price comparisons.

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