

Impact of Cost-Sharing Mechanisms on Healthcare Expenditure



The increasing demand for healthcare services in many Western countries presents significant challenges for policymakers. Factors like ageing populations are driving up healthcare costs, which burdens both the public budget and healthcare systems. One of the primary methods to manage this growing financial pressure is the implementation of cost-sharing mechanisms, such as deductibles and co-payments. These strategies are designed to reduce moral hazard, which occurs when insured individuals over-utilise healthcare services because they do not bear the total cost. However, cost-sharing also increases out-of-pocket expenses, raising concerns about the financial burden on vulnerable populations, particularly the chronically ill. This recent article published in the *Journal of Health Economics* explores the findings from a structural microsimulation model designed to assess the impact of various cost-sharing schemes on both total healthcare expenditure and individual out-of-pocket expenses. This model, applied to data from the Dutch healthcare system, provides critical insights for policymakers looking to balance efficiency and equity in healthcare systems.

Modelling Healthcare Expenditures

To understand how cost-sharing impacts healthcare expenditures, the structural microsimulation model distinguishes between two types of healthcare treatments: exogenous and endogenous. Exogenous treatments, such as emergency procedures or critical surgeries, are unaffected by cost-sharing measures because they are medically necessary and always performed. Endogenous treatments, on the other hand, are subject to cost-sharing influence, meaning patients are more likely to factor in the costs before deciding to undergo such treatments.

The model calculates the expected out-of-pocket price (EOOP) for treatments, which depends on the distribution of healthcare expenditures. Individuals with higher expected medical expenses are less affected by increased deductibles because they are likely to exceed the deductible limit regardless of the number of treatments. Conversely, for those with lower healthcare expenses, an increase in the deductible can significantly raise the EOOP, potentially discouraging them from pursuing less critical treatments. This nuanced approach ensures that healthcare utilisation is shaped not only by medical necessity but also by cost considerations, thereby curbing unnecessary healthcare usage and reducing overall expenditure.

The Role of Shifted Deductibles in Reducing Expenditure

A critical component of the model is the concept of a shifted deductible, which changes the starting point at which the deductible is applied. Traditional deductibles begin at zero, meaning individuals pay out-of-pocket from their first healthcare expense until they reach the deductible limit. However, a shifted deductible starts at a higher expenditure threshold, for example, 400 euros, reducing the number of expenses for which patients pay out-of-pocket.

Simulations of the Dutch healthcare system demonstrate that shifting the deductible to 400 euros could reduce overall healthcare expenditure by 4% and lower out-of-pocket costs by 47% for individuals without chronic conditions. This reduction occurs because individuals with lower expected healthcare costs are less likely to reach the higher deductible threshold, thus decreasing the number of treatments they might otherwise seek. At the same time, the financial burden on high-cost individuals remains largely unchanged, as their healthcare expenses surpass the deductible threshold regardless.

The model highlights that while shifted deductibles may lead to cost savings and increased efficiency, their design must consider behavioural responses. For instance, individuals might view the deductible shift as an indication that they are expected to spend a certain amount annually on healthcare, potentially altering their consumption patterns. Further research is needed to examine these behavioural effects and ensure that implementing shifted deductibles achieves the desired outcomes.

Balancing Efficiency and Equity

One of the central challenges in healthcare cost-sharing is finding the right balance between efficiency—reducing moral hazard and overall healthcare expenditure—and equity—protecting vulnerable populations from excessive financial burden. The structural microsimulation model addresses this trade-off by simulating the effects of different cost-sharing schemes on various population groups based on age and gender.

For example, the model reveals that younger individuals and those with lower healthcare expenses are more sensitive to changes in cost-sharing arrangements. These groups are less likely to seek additional treatments when faced with higher out-of-pocket costs, reducing overall healthcare expenditure. However, the chronically ill and older populations, who consistently have high medical costs, are less impacted by such schemes. For these individuals, the healthcare expenditure remains well above the deductible limit, meaning changes in cost-sharing design do not substantially alter their treatment choices or out-of-pocket expenses.

The equity implications of cost-sharing are significant, especially for vulnerable groups such as the chronically ill. The model suggests that while cost-sharing mechanisms like shifted deductibles can lead to overall savings, they must be carefully calibrated to ensure that they do not disproportionately affect those already facing high healthcare costs. Policymakers should consider implementing complementary measures, such as income-based subsidies or exemptions for chronically ill individuals, to ensure that cost-sharing mechanisms do not exacerbate health disparities.

Conclusion

The structural microsimulation model provides valuable insights into the impact of different cost-sharing mechanisms on healthcare expenditure and out-of-pocket costs. In the Dutch context, the model suggests that shifted deductibles offer a promising strategy for reducing overall healthcare expenditure while simultaneously lowering the financial burden on certain population groups. However, the design of such schemes must be carefully considered to avoid unintended consequences, such as altering patient behaviour in ways that could undermine the benefits of cost-sharing.

Ultimately, the model emphasises the importance of balancing efficiency with equity in healthcare cost-sharing. While mechanisms like deductibles and co-payments can help control healthcare costs, they also raise concerns about financial access to care, particularly for vulnerable populations. Policymakers must weigh the benefits of cost-sharing in terms of reduced healthcare utilisation against the potential drawbacks of increased out-of-pocket expenses, ensuring that any changes to healthcare policy promote both fiscal sustainability and equitable access to care.

This model's flexibility means it can be adapted to different countries and healthcare systems where similar data is available, offering a valuable tool for international policymakers looking to navigate the complexities of healthcare cost-sharing.

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Published on : Mon, 16 Sep 2024