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VIEWPOINT ARTICLE

BEHAVIORAL STRATEGIES TO ADDRESS HEALTHCARE OVERUTILIZATION: A SOUTH KOREAN POLICY PROPOSAL FOR DELAYED REIMBURSEMENT

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ABSTRACT

The South Korean healthcare system faces significant challenges, including high service utilization, unnecessary consultations, and escalating healthcare expenditures, which strain the National Health Insurance (NHI). This perspective proposes a delayed reimbursement model to mitigate the overconsumption of healthcare services. Under this model, patients prepay for medical services, and the NHI reimburses a proportion of the cost after a designated period. This approach leverages behavioral economics principles, such as the "pain of paying," which posits that upfront payments can deter unnecessary medical usage.

The delayed reimbursement model aims to reduce frivolous medical spending by imposing immediate out-of-pocket costs on patients. The phased implementation will initially focus on non-urgent and potentially overutilized services, ensuring that essential or high-priority medical care remains unaffected. By addressing behavioral factors contributing to overutilization and incorporating socioeconomic status considerations, this model promotes the NHI's financial stability while maintaining equitable access to healthcare.

KEYWORDS

Healthcare Overutilization, Delayed Reimbursement, Behavioral Economics, Healthcare Sustainability, South Korean Healthcare Policy

INTRODUCTION

South Korea's healthcare system is facing significant challenges, including excessive utilization of medical services, wasteful healthcare expenditures, and a high number of unnecessary medical consultations [1, 2]. These issues have led to unsustainable spending patterns, placing a heavy financial strain on the National Health Insurance (NHI) [3, 4]. South Korea also records the highest outpatient utilization among OECD countries, with 18.0 annual physician consultations per capita compared to the OECD average of 6.5, highlighting the magnitude of the overutilization problem [5]. This stark global comparison underscores the urgent need for strategic reforms to ensure long-term sustainability.

Recent policy discussions have proposed reducing private health insurance coverage to curb overconsumption; however, this approach has faced strong opposition from healthcare providers and patient advocacy groups due to concerns about increased financial burdens on patients [6]. Such measures could also translate into higher out-of-pocket costs for specific populations, potentially adding to their financial strain.

Reducing private health insurance coverage imposes a greater economic strain on patients, but a delayed reimbursement model offers a promising alternative. Behavioral economic principles, such as loss aversion and the psychological impact of upfront payments, can effectively address overutilization when integrated into a delayed reimbursement framework [7-11]. Thus, innovative strategies are required to manage healthcare utilization effectively while safeguarding access to medically necessary and high-priority services.

SITUATION AND ISSUES

The NHI covers a significant portion of medical expenditures, leaving patients to pay only a small fraction of the total costs under South Korea's fee-for-service system [12, 13]. While this ensures broad access to affordable healthcare, it inadvertently fosters the perception that medical services are low-cost. Consequently, patients are less likely to consider the actual cost of care, contributing to high utilization rates. According to the OECD Health Statistics 2025, South Korea records 18.0 annual in-person doctor consultations per capita, the highest among OECD countries and nearly triple the OECD average of 6.5 [5].

In addition to high outpatient utilization, the NHI faces mounting financial pressure due to growing demand for services [12-14]. The practice of "medical shopping," in which patients consult multiple providers for the same condition, further increases inefficiency and system-wide costs. Korea also maintains a high level of healthcare system capacity, with 12.6 hospital beds per 1,000 population compared with the OECD average of 4.2, and 87 CT, MRI, and PET scanners per million population compared with the OECD average of 51 [5].

Beyond equipment availability, diagnostic imaging is heavily utilized. CT and MIR examination volumes per 1,000 population are among the highest in the OECD, and national use of these modalities has continued to increase over the past decade [5]. This combination of abundant capacity and sustained growth in diagnostic testing contributes to unnecessary examinations and additional fiscal strain on the NHI.

Financial pressure is further amplified by Korea's rapid growth in healthcare spending. Although Korea spends $US4,797 per capita on healthcare, which remains below the OECD average of $US5,967, OECD analyses indicate that Korea's per-capita public health spending grew at an exceptionally rapid pace, increasing by more than 7% per year in real terms between 2001 and 2023, the fastest growth among all OECD countries [5]. Looking ahead, spending is projected to continue rising by approximately 3.6% annually from 2024 to 2045, compared with the OECD average projection of 2.6%. Health spending as a share of GDP reached 8.4% in 2024, approaching the OECD average of 9.3%. These patterns demonstrate not only high utilization but also a sustained and accelerated expenditure trajectory that intensifies financial pressure on the NHI.

Demographic changes further intensify these pressures. Korea's population aged 65 and over accounted for 18.2% of the total population in 2023, close to the OECD average of 18.5%. However, it is projected to rise to more than 40% by 2050, the highest among all OECD countries and far above the OECD average projection of 26.4% [5]. This rapid demographic shift is expected to increase demand for chronic disease management, diagnostic evaluation, and long-term care, further straining the NHI.

Systemic stress has been further aggravated by the medical workforce disruptions that began in February 2024, driven by disputes over workforce shortages and resource distribution [13, 15]. These disruptions revealed existing operational weaknesses and increased both service instability and financial pressures within the NHI. The broader fragility of the healthcare system became increasingly evident during this period.

Projections from the National Assembly Budget Office (NABO) indicate that, without intervention, the NHI's accumulated reserves could be depleted by 2028 or even earlier [14, 16]. This potential for rapid reserve depletion highlights the urgency of implementing targeted reforms to improve system efficiency and address persistent overutilization.

PROPOSED SOLUTIONS

This plan offers a novel approach in which patients pay for all medical care upfront, and NHI covers the remaining costs after a specific period. This delay is intended as a psychological barrier preventing unnecessary medical appointments. The "psychological barrier" leverages behavioral economic principles, particularly the "pain of paying," which posits that losses loom larger than gains[9-11, 17, 18]. Research also suggests that individuals react more strongly to immediate financial consequences than to deferred expenses, further supporting the efficacy of this strategy in reducing frivolous medical spending [8, 19].

Unlike traditional measures that increase patients' financial burdens, such as reducing the scope of insurance coverage, the delayed reimbursement model represents an innovative approach that leverages psychological deterrence without imposing additional economic strain. The phased implementation will begin with non-urgent services, such as elective consultations or minor procedures, where overutilization is most prevalent. This allows for a controlled rollout and ensures that essential medical care, including treatments for chronic conditions, necessary diagnostics, and urgent care, remains readily accessible.

To ensure equity and practicality, the model must incorporate tailored mechanisms, such as subsidies, installment payment options, and exemptions for vulnerable populations. Pilot programs conducted in selected regions will allow adjustments and refinements to optimize scalability and maintain the model's financial sustainability. Administrative challenges and stakeholder resistance can be mitigated through strategic communication and iterative adjustments during these pilot phases, ensuring a balanced and equitable approach to healthcare reform.

FINANCIAL ANALYSIS AND FEASIBILITY

A thorough financial evaluation is necessary to ensure the success of the delayed reimbursement model. Retaining prepayment funds temporarily before reimbursement provides a unique opportunity for short-term economic gains, such as interest income. This enhances the NHI's financial stability and offers a scalable mechanism for addressing similar fiscal challenges in other countries, particularly those grappling with rising healthcare costs.

Behavioral research consistently shows that people respond not only to the overall cost of care but also to how and when they experience that cost. Even when the total financial burden is identical, shifting payments to the point of service increases the salience of out-of-pocket spending and makes the immediate loss more psychologically impactful. This heightened sensitivity to upfront costs can discourage low-value or discretionary use, providing a behavioral pathway

through which the delayed reimbursement model may reduce unnecessary medical spending without increasing long-term financial burdens on patients [7-9, 11, 18-20].

Financial adjustments such as subsidies and installment plans should be further evaluated to ensure accessibility for vulnerable populations. Addressing disparities in healthcare access through these mechanisms will enhance the model's scalability and social acceptance. By combining financial projections with behavioral economic insights, the delayed reimbursement model offers a robust framework for tackling inefficiencies and ensuring long-term sustainability.

CONCLUSION

By addressing the root causes of overutilization and fostering cost-effective healthcare behavior, the delayed reimbursement model offers a scalable, equitable solution to balance affordability, quality, and sustainability. Future studies should evaluate its scalability across diverse socioeconomic contexts to optimize its global application.

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CONFLICTS OF INTEREST

The author declares that there is no conflict of interest.

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