WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.453
Volume 15, Issue 2, 1038-1055. Research Article ISSN 2277–7105

THE IMPACT OF REFERENCE PRICING POLICY ON MEDICINE ACCESSIBILITY IN GEORGIA

Nana Shashiashvili*[1], Besarion Simonishvili[2], Nona Kochalidze[3], Nino Bakradze[4]

[1]Doctor of Pharmacy, Associate Professor,
Georgian Technical University, Georgia.
[2]Doctor of Public Administration, Georgian Technical University, Georgia.
[3]Master of Pharmacy, Georgia.
[4]Bachelor of Arts (B.A.) Public Health Sciences, Bremen University, Germany.

Article Received on 15 Dec. 2025,
Article Revised on 05 Jan. 2026,
Article Published on 15 Jan. 2026,

https://doi.org/10.5281/zenodo.18266375

***Corresponding Author**
Nana Shashiashvili
Doctor of Pharmacy, Associate Professor, Georgian Technical University, Georgia.

How to cite this Article: Nana Shashiashvili*[1], Besarion Simonishvili[2], Nona Kochalidze[3], Nino Bakradze[4] (2026). The Impact of Reference Pricing Policy on Medicine Accessibility in Georgia. World Journal of Pharmaceutical Research, 15(2), 1038–1055.

ABSTRACT

The uncontrolled increase in medicine prices has become a significant global challenge, limiting access to essential medications for populations in low- and middle-income countries as well as in economically developed nations. High medicine costs negatively affect public health outcomes and the sustainability of healthcare systems, prompting many countries to implement price regulation mechanisms. This study aims to analyze the external reference pricing (ERP) system in Georgia and assess its impact on medicine accessibility, pricing, and various components of the healthcare system. A mixed-methods approach was employed, involving four key stakeholder groups: patients, pharmacists, healthcare providers, and representatives of pharmaceutical companies. Both quantitative and qualitative questionnaires were used. Additionally, an analysis was conducted on retail medicine price changes before and after ERP implementation. The results reveal a heterogeneous impact of the policy. Price reductions were primarily observed in the generic medicine segment, while innovative and limited-alternative medicines generally showed stable or increasing prices. Pharmacists reported increased administrative burden and supply disruptions; physicians noted changes in prescribing practices; and pharmaceutical companies had to adjust product portfolios and pricing strategies. The study confirms that the reference

pricing system alone cannot ensure uniform and sustainable access to medicines. Enhancing its effectiveness requires an integrated approach that combines economic, clinical, and regulatory mechanisms, thereby promoting improved access to medicines, continuity of therapy, and sustainability of the pharmaceutical market.

KEYWORDS: Medicines, Reference Pricing, Price Regulation, Accessibility.

INTRODUCTION

The uncontrolled rise in medicine prices worldwide represents one of the most serious challenges affecting both populations in low- and middle-income countries and those in economically developed states.[1] High pharmaceutical prices significantly limit the population's ability to obtain essential, life-saving medications, which in turn affects public health indicators and the financial and structural sustainability of healthcare systems.[2] Consequently, many countries have been compelled to implement pharmaceutical price regulation mechanisms, with the primary aim of reducing financial barriers and improving access to medicines.[3]

Economically developed countries generally manage the pressure of rising prices more effectively, as they have strong institutional frameworks, extensive social insurance models, and robust state financing mechanisms.[1,4] In contrast, in low-income countries, a substantial proportion of medicine costs is borne out-of-pocket, increasing the risk of catastrophic healthcare expenditures and reinforcing cycles of poverty.[2,5]

High medicine prices are widely recognized as a primary barrier to ensuring access to pharmaceutical products.[3,6] According to World Health Organization recommendations, effective price management policies are essential tools to strengthen public health protection while ensuring the financial sustainability of healthcare systems.[7,8] In this context, reference pricing is one of the most commonly implemented regulatory mechanisms in practice.[9,10]

Reference pricing may be based on either external or internal comparisons. External reference pricing sets medicine prices based on prices in other countries, while internal reference pricing relies on prices of therapeutically equivalent or similar medicines within the country.[3,11] Internationally, additional mechanisms are also employed, including value-based approaches, regulation of distribution margins, price transparency, tenders and negotiations, and promotion of generic and biosimilar medicines.[1,4,12] The combined goal of these

mechanisms is to increase medicine accessibility, reduce healthcare expenditures, improve market transparency, and optimize public budgets.[2,5]

Literature indicates that the effectiveness of reference pricing systems depends significantly on a country's healthcare model. In Beveridge-type systems, such as those in the United Kingdom and Scandinavian countries, price regulation is closely linked to state financing and health technology assessment mechanisms.[1,13] In Bismarck-type systems, medicines are grouped and reimbursement limits are set, while in private insurance models, price regulation is less centralized, giving significant influence to private insurers and intermediary structures.[3,14]

Mixed models, such as those in Australia, Canada, and Japan, combine both state and private mechanisms and are considered flexible approaches for regulating pharmaceutical markets. [2,12] International literature recognizes both the benefits and limitations of reference pricing policies. Benefits include improved medicine access, reduced healthcare costs, market competition stimulation, and increased use of generics.[5,11] Conversely, such policies may delay the entry of innovative medicines, create medicine shortages, increase administrative burden, and pose quality-related challenges.[6,10]

Experiences from European and other regional countries confirm that the effectiveness of reference pricing systems depends heavily on economic context, regulatory design, and administrative capacity.[3,9,14] Examples from France, Germany, Bulgaria, and Turkey demonstrate that a well-planned and regularly reviewed system can effectively reduce prices for generic medicines, though access to innovative medicines remains a challenge.[1,13]

In Georgia, medicine expenditures constitute a significant portion of the healthcare budget, and a substantial share of the population still faces financial barriers when purchasing medicines.[11,12] In this context, implementing external reference pricing is considered an important step toward controlling medicine prices and improving accessibility.[11,12] However, existing data suggest that the policy requires further refinement, strengthened market monitoring, and integration of additional support mechanisms to ensure sustainable and equitable outcomes across all population groups.[14,15]

The primary objective of pharmaceutical pricing policy is to ensure access to essential medicines and reduce financial barriers caused by price increases.[7,8] A strong and well-

planned pricing policy relies on evidence, regular monitorin, and flexible revision mechanisms, thereby ensuring both improved accessibility and market stability.[11,12]

This study focuses on aalyzing the reference pricing policy implemented in Georgia to curb irrational increases in medicine prices. It aims to evaluate the policy's positive and negative impacts on various healthcare system components, particularly in the context of medicine accessibility, and to identify mechanisms that can mitigate existing system inefficiencies.[11,12,15]

MATERIAL AND METHODS

This study employed a mixed-methods approach. Four target groups were defined:

- Patients (medicine users),
- Pharmacists (retail pharmacies),
- Healthcare providers (physicians), and
- Representatives of pharmaceutical companies.

For each group, both quantitative and qualitative questionnaires were used, enabling a comprehensive, multi-dimensional evaluation of the reference pricing policy. Additionally, an analysis of retail medicine price changes was conducted before and after the introduction of the reference pricing system in the Georgian pharmaceutical market.

The reference pricing policy in Georgia was implemented to improve financial accessibility to medicines, reduce out-of-pocket expenses, and enhance competition in the pharmaceutical market. Its implementation was accompanied by both positive expectations and practical challenges, including temporary shortages of some medicines, the use of lower-priced alternatives, and price increases in other therapeutic categories.

The study utilized a mixed methodology comprising:

- A sociological survey using structured questionnaires;
- Analysis of retail medicine price dynamics before and after the introduction of reference pricing.

The sociological survey was conducted between 26 February and 10 March 2025 using the Google Forms platform. A total of 363 respondents participated, categorized into four main groups: medicine users, pharmacists, healthcare providers, and representatives of pharmaceutical companies. Respondents included physicians from medical institutions in

Tbilisi and Rustavi, pharmacists from three major retail pharmacy chains, and marketing and sales specialists from pharmaceutical companies.

RESULTS AND DISCUSSION

Four independent structured questionnaires were developed for the study, fully adapted to the specific characteristics of each target group. The questionnaires included both closed and semi-open questions, allowing respondents to provide pre-defined answers as well as additional personal insights and experiences.

The questionnaires focused on the following key areas

- Awareness of the reference pricing system;
- Perceived changes in medicine accessibility;
- Assessment of price dynamics;
- Changes in pharmacy service quality;
- General attitudes toward the policy.

Data were processed using descriptive statistical methods, including percentage distributions, mean values, and median values. Semi-open questions were analyzed using thematic coding, which allowed identification of respondents' key perceptions, "significant terms," and subjective evaluations of the policy's effectiveness and shortcomings.

Results for the Patient Group

The analysis of the patient group is particularly important, as it reflects the real impact of the reference pricing policy on medicine accessibility and price perception from the patient perspective. A total of 127 respondents participated in this group. The age distribution indicated a predominance of economically active populations: 66.1% were aged 20–40 years, and 29.1% were aged 40–60 years. This distribution is significant because these age groups are the most frequent users of both chronic and acute treatment medications.

Awareness of the reference pricing system was assessed at a moderate level. Among respondents, 42.5% reported being fully informed, 44.9% partially informed, and 12.6% indicated a lack of information. Primary sources of information included mass media (37.8%), physicians (28.3%), and pharmacists (22.5%). These results indicate that, despite official communication channels, patient awareness largely depends on indirect sources,

which may lead to incomplete understanding of lower-priced alternatives or overall market trends.

Regarding perceived changes in medicine accessibility, 36.2% of respondents noted a decrease, 30.7% reported improvement, and 33.1% observed no significant change. This heterogeneous perception may relate to both individual therapeutic needs and the diversity of price categories for specific medicines.

Concerning price dynamics, 39.4% of patients perceived price increases, 36.2% perceived decreases, and 24.4% noted no change. The perception of rising prices is particularly important, as it indicates that the impact of reference pricing is not uniformly positive across all medicine categories.

Regarding pharmacy service quality, the majority of respondents (93.7%) reported no deterioration in service due to the policy, while only 6.3% acknowledged minor quality issues. Nevertheless, dissatisfaction with medicine prices remained high, at 59.8%. This apparent contradiction highlights that maintaining service quality cannot compensate for the financial burden experienced by patients, emphasizing the need for additional regulatory or support mechanisms alongside price control policies.

Additionally, a significant portion of respondents (34.6%) expressed concern about the long-term effects of the reference pricing system, particularly on medicines that do not have generic or biosimilar alternatives. This finding underscores the necessity of improving patient awareness and developing communication strategies to ensure that patients accurately understand both the benefits and limitations of the policy.

Results for the Pharmacist Group

The pharmacist group included 96 respondents, allowing an assessment of the practical impact of the reference pricing policy on retail medicine distribution. The majority of respondents (65.4%) reported that the reference pricing system significantly increases administrative and communication workload, particularly under conditions of frequent price changes. Pharmacists indicated that continuous data updates, monitoring regulatory changes, and timely communication to patients create additional work demands.

According to the survey, 48.9% of pharmacists acknowledged delays in the supply of certain medicines. These delays were often related to price revisions by manufacturers and

distributors or temporary product withdrawals from the market. Such disruptions caused challenges in inventory management, necessitated the substitution of medicines, and required additional time spent communicating with patients.

The study also revealed that 41.7% of pharmacists observed increased demand for alternative medicines. This trend substantially increased pharmacists' involvement in patient consultations. Pharmacists explained that this process involves not only informing patients about prices and alternatives but also assessing patients' health conditions, discussing potential side effects, and monitoring therapeutic outcomes.

A significant proportion of respondents (57.3%) noted that communication with patients became more challenging, especially when prescribed medicines did not align with reference prices or required substitution. This situation creates additional professional responsibility, increases the risk of conflict, and requires high levels of clinical and communication skills.

Pharmacists' assessments also indicated that the reference pricing policy requires additional tools to simplify price management, ensure uninterrupted medicine supply in retail networks, and minimize the risk of stock shortages. Among respondents, 62.5% believed that specialized software, electronic communication systems with distributors and manufacturers, and regular training could significantly reduce administrative burdens and improve service quality.

Healthcare Providers' (Physicians') Assessments

The healthcare provider group consisted of 78 physicians representing both primary care and specialized medical services. Their assessments are critical, as physicians play a central role in making prescribing decisions.

Survey results showed that 52.6% of physicians reported changes in prescribing practices due to reference pricing. In particular, patients often requested lower-cost alternatives due to financial constraints, prompting physicians to adjust prescriptions. This trend was especially observed in the management of chronic diseases, where treatment continuity is crucial.

Additionally, 38.5% of physicians noted that the use of alternative medicines sometimes increased the need for monitoring therapeutic outcomes, creating additional clinical workload and greater responsibility for medical staff. This process includes regular evaluation of

treatment outcomes, monitoring for side effects, and patient education to minimize risks associated with new medicines.

Importantly, 29.4% of physicians indicated that price restrictions might limit the ability to tailor therapy to individual patient needs. As a result, clinical decision-making becomes more complex, requiring timely communication with both pharmacists and patients, and sometimes delaying the prescription of innovative or new medicines.

These findings highlight that reference pricing affects not only economic but also clinical dimensions. Ensuring policy effectiveness requires an integrated approach that coordinates price regulation, clinical guidelines, and patients' financial capacity.

Pharmaceutical Companies' Assessments

The pharmaceutical company group included 62 respondents actively involved in pricing strategies and product portfolio management. Their experience provides valuable insight into how reference pricing impacts market structure and manufacturers' strategic decisions.

The majority of respondents (71%) believed that the reference pricing system significantly affects pricing strategies and, to some extent, complicates the retention of medicines in the market. Particular difficulties were noted for low-margin products, which become economically less attractive over time. Consequently, companies often have to decide which products to retain in the market and which to withdraw, either temporarily or permanently.

Furthermore, 58% of respondents indicated that maintaining financial sustainability requires price adjustments on other products or portfolio optimization. This process necessitates risk analysis, decision-making balancing costs and benefits, and evaluating potential effects on patients. Such adaptive strategies may influence price perception, especially in therapeutic groups where alternative treatment options are limited.

Company representatives emphasized that successful reference pricing policy design should consider not only short-term pricing effects but also long-term strategic incentives to

- Maintain product diversity in the market, ensuring patient needs are fully met;
- Ensure access to innovative medicines, allowing the introduction of new technologies and treatments without delay;
- Create a financially sustainable environment, enabling manufacturers to operate stably, invest, and support long-term market development.

The findings also highlight the importance of administrative and market monitoring, including

- Regular market demand analysis and optimization of medicine stocks;
- Forecasting price changes and ensuring effective communication with distributors and retail networks;
- Active involvement of the pharmaceutical sector in policy development to ensure regulations are realistic and sustainable.

In summary, pharmaceutical companies' assessments underscore that reference pricing presents a dual challenge: it is essential for improving medicine accessibility but also creates long-term challenges for market structure and manufacturers' economic stability. Effective policy must therefore be balanced, taking into account both short-term pricing effects and long-term innovation and strategic objectives.

Dynamics of Medicine Prices Following the Implementation of the Reference Pricing Policy

Both phases of the study, which compared medicine prices before (December 2022) and after (April 2025) the implementation of the reference pricing policy, provided significant insights into the economic effects of the policy. Data were collected through the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health, and Social Affairs of Georgia and through retail pharmacy networks. The Ministry was unable to provide complete historical data; therefore, additional information was obtained from retail network records.

Within the study, 46 randomly selected medicines were analysed, representing generic, innovative, specialised, and imported products. The data indicate that the reference pricing policy led to both price reductions and increases, and in some cases, medicines disappeared entirely from the market.

Quantitative analysis of price changes revealed:

- Prices increased for 14 medicines.
- Prices decreased by 20–40% for 18 medicines.
- Prices remained stable for 2 medicines.
- 12 medicines were no longer available on the market, in either wholesale or retail channels.

The analysis of price changes demonstrates that the category of medicine and the market structure are significant factors in determining the effectiveness of the reference pricing policy.

- Generic medicines: Significant price reductions were more frequently observed for medicines with high market competition. Price decreases occurred because manufacturers and distributors responded to regulatory constraints while attempting to remain competitive. In this category, prices fell on average by 25–40%.
- Innovative and limited-alternative medicines: This group exhibited stable or increasing prices, explained by several factors.

1. Limited supply creating a natural price floor;
2. Manufacturers' attempts to compensate by adjusting prices of other products;
3. Low market competition, which restricts the potential for price reductions.

- Medicines withdrawn from the market: Twelve medicines were no longer available, likely due to the economically non-viable production of low-margin medicines or import restrictions. This phenomenon highlights that reference pricing alone cannot ensure the preservation of market diversity and requires additional regulatory mechanisms.

Analysis confirms that the reference pricing policy in Georgia exhibits heterogeneity and segment-specific effectiveness

- The policy is successful in competitive generic markets, where price reductions can positively affect consumers.
- In innovative and specialised segments with limited competition, effects are inconsistent and may sometimes lead to price increases.
- Market withdrawals underscore the need for strategic support to avoid reduced medicine availability.

Implications for market dynamics and system integration.

The analysis indicates that while reference pricing provides certain positive effects in terms of price control and accessibility, it simultaneously requires a systemic approach that includes

1. Market monitoring and timely data collection;
2. Stable supply of alternative medicines;
3. Support for manufacturers and distributors to minimize market shortages;
4. Tailored communication with consumers, pharmacies, and clinicians.

Such an integrated approach can ensure sustainable price regulation, increased accessibility, and market stability, thereby mitigating undesired side effects, including supply disruptions, heterogeneous price changes, and restricted therapeutic choice.

Information and perception of the policy

The study found heterogeneity in awareness levels. Among patients, 42.5% reported full knowledge of the reference pricing system, 44.9% were partially informed, and 12.6% acknowledged insufficient information. Main sources of information were mass media (37.8%) and medical professionals — physicians and pharmacists. Among pharmacists, 65% were fully informed about policy mechanisms and price changes, though they highlighted the administrative burden. Fifty-eight percent of physicians acknowledged that price changes affected prescribing practices, while 72% of pharmaceutical companies were fully aware of the policy's strategic aspects but emphasised the need to maintain market stability.

High awareness among pharmacists and companies increases administrative and strategic control, whereas incomplete information among patients leads to heterogeneous perceptions and potential negative evaluations of the policy, ultimately affecting demand and clinical decision-making.

Medicine accessibility

Perceptions of medicine accessibility vary across groups. Among patients, 36.2% perceived decreased accessibility, 30.7% perceived improvement, and 33.1% observed stability. Forty-eight point nine percent of pharmacists reported supply delays, often due to price changes, and 41.7% reported increased demand for alternative medicines, raising consultation workload. Among physicians, 52.6% acknowledged that price changes influenced prescribing practices, while pharmaceutical companies noted that maintaining low-margin medicines in the market is difficult, limiting product diversity.

Consequently, perceived accessibility is heterogeneous: for patients — less predictable; for pharmacists — an administrative challenge; for physicians — influencing clinical decisions; for companies — a strategic constraint. This underscores the need for systemic integration across all market elements.

Price dynamics and perception

Price perception is also heterogeneous. Among patients, 39.4% reported price increases, 36.2% decreases, and 24.4% no change. Pharmacists noted that frequent price changes increase administrative and communication workload and require offering alternative medicines. Physicians indicated that price changes affected prescribing practices, as patients often requested lower-cost alternatives. From a company perspective, price strategy adjustments, especially for low-margin medicines, pose long-term market stability challenges.

Thus, the effect of reference pricing is not uniformly reflected in price reductions. Its impact varies across different stakeholders in administrative, clinical, and strategic terms.

Service quality and clinical effect

Service quality has remained relatively high, though financial burdens and alternative choices create systemic stress. Only 6.3% of patients reported a decline in service quality, but 59.8% expressed dissatisfaction due to prices. Pharmacists emphasised the additional workload associated with offering alternative medicines, and physicians highlighted that using alternatives increases the need for therapeutic monitoring, thereby raising clinical workload. Pharmaceutical companies noted that price changes constrain product diversity, affecting both consumers and clinical choices.

The comprehensive analysis of Georgia's reference pricing policy reveals a multifaceted set of systemic outcomes. While the policy has contributed to measurable improvements in certain areas of medicine accessibility and market functioning, it has also exposed structural vulnerabilities and unintended effects that warrant careful consideration.

Positive Systemic Outcomes

1. Improved Accessibility for Specific Medicine Categories Reference pricing has demonstrably enhanced access to certain groups of medicines, particularly generics and essential treatments for chronic diseases. According to WHO-supported evaluations, the list of medicines subject to reference pricing in Georgia now includes over 2,300 products across major therapeutic categories such as antihypertensives, anticoagulants, antibiotics, and analgesics [turn0search2]. This expansion reflects a strategic prioritization of high-use, high-need medicines, which has the dual benefit of reducing out-of-pocket costs for patients and improving equity in access. For example, reforms that introduced reference pricing alongside

the abolition of balance billing were associated with a reduction in medicine prices and a drop in out-of-pocket expenditures for inpatient care from 27% in 2022 to 10% in 2023 [turn0search2]. Such reductions align with global health goals to reduce financial hardship and support universal health coverage.

2. Greater Transparency in the Pharmaceutical Market Structure By establishing explicit reference prices, Georgia has made the pricing process more transparent and predictable. This transparency allows healthcare providers, patients, and regulators to understand pricing levels and trends more clearly, limiting the scope for arbitrary markups or opaque pricing practices—some of which, prior to regulation, included markup levels reported at 180–200% on certain products [turn0search5]. Transparent pricing mechanisms are essential to discourage price gouging, support rational prescribing, and align incentives among supply chain actors. Moreover, publicly defined reference prices create a platform for systematic market monitoring and performance benchmarking, which is critical for long-term policy evaluation and adjustment.

3. Promotion of Alternative Medicines and Market Competition Reference pricing creates incentives for generic manufacturers to compete on price, fostering a more competitive environment. In European markets where reference pricing has been long established (22 countries implementing such systems), research shows that reference pricing can increase the utilization of cost-effective medicines and create short-term savings without negatively impacting health outcomes [turn0search9]. By anchoring reimbursement to the cost of a reference group of therapeutically equivalent medicines, reference pricing encourages both prescribers and patients to consider lower-cost alternatives, supporting efficient allocation of health expenditures.

Negative Systemic Outcomes

1. Heterogeneous Price Effects and Patient Dissatisfaction Despite observed price decreases for many medicines, the impact is uneven across product categories. High-cost innovative medicines and those with limited alternatives remain less responsive to reference pricing, leading to continued affordability challenges for patients requiring these treatments. Heterogeneity in price effects can fuel perceptions of inequity and dissatisfaction, particularly among patients facing significant out-of-pocket burdens for specialized therapies. International experience also suggests that while reference pricing can reduce price levels for

targeted products, it does not necessarily curb the overall long-term growth of drug expenditures [turn0search9], highlighting the limits of price regulation as a sole strategy.

2. Administrative Burden in Retail Networks Implementation of reference pricing imposes an administrative load on pharmacies and retail distributors, who must monitor price lists, update dispensing systems, and ensure compliance with reference thresholds. Electronic price monitoring systems help mitigate some workload, but regular adjustments and data management demands remain significant. This burden can divert human and financial resources away from core patient care tasks, and in smaller pharmacy settings without sophisticated infrastructure, can create operational stress.

3. Clinical and Management Workload for Physicians Physicians are increasingly required to integrate cost considerations, including adherence to reference price ceilings, into clinical decision-making. Clinical guidelines may lack alignment with price constraints, leading to ethical and practical tensions in prescribing practice. For conditions where cost-effective alternatives are not clinically equivalent or suitable for all patients, physicians face dilemmas that increase consultation time, require patient education about trade-offs, and elevate work complexity. These added clinical management responsibilities can reduce efficiency in care delivery.

4. Strategic Difficulties for Pharmaceutical Companies and Market Diversity Manufacturers must respond strategically to reference pricing by adjusting portfolios and pricing strategies. Low-margin specialties may become economically unviable, increasing the risk that certain medicines will be withdrawn from the Georgian market. This trend has been observed in other settings where reference pricing erodes incentives to supply products with narrow profit margins, subsequently reducing therapeutic diversity and limiting patient choice in niche segments.

Interpretation of Results

These findings indicate that price regulation alone is an insufficient policy instrument for achieving sustained improvements in medicine accessibility and market equity. Reference pricing plays a valuable role in controlling costs for selected medicines and enhancing transparency, but it cannot, by itself, ensure stable supply, holistic market balance, or comprehensive access to all necessary therapies.

Instead, an integrated policy approach is essential—one that synergistically combines:

- Economic measures, including price regulation, competitive market incentives, and support for local and generic production.
- Clinical alignment, ensuring that pricing strategies are harmonized with clinical guidelines and therapeutic needs.
- Regulatory strengthening, enhancing monitoring systems, enforcement mechanisms, and adaptive pricing frameworks that reflect evolving market dynamics.

Empirical evidence from Europe demonstrates that reference pricing systems are most effective when embedded within broader pharmaceutical policy frameworks that include health technology assessment (HTA), generic substitution policies, and active market surveillance [turn0search9]. For example, countries that regularly review reference price baskets and integrate HTA findings tend to sustain savings without compromising quality of care.

Policy Recommendations

To build on the positive foundations of reference pricing and address its shortcomings, the following strategic recommendations are proposed:

1. Regular Review and Adjustment of Reference Price Lists: Establish systematic mechanisms for periodic revision of reference prices to reflect market changes, therapeutic advancements, and cost-effectiveness evidence.
2. Supply Chain Support Mechanisms: Implement policies to ensure consistent availability of alternative medicines, such as incentivizing manufacturers to maintain supply of low-margin essential drugs and monitoring shortages proactively.
3. Clinical Integration Frameworks: Align reference pricing with national clinical guidelines, and develop decision-support tools to assist physicians in selecting cost-effective yet clinically appropriate therapies.
4. Enhanced Communication and Stakeholder Education: Develop targeted communication strategies and educational initiatives to improve awareness among patients, healthcare providers, and pharmacists about the objectives and mechanisms of reference pricing.
5. Complementary Policy Tools: Combine reference pricing with other cost-containment measures, including value-based pricing, risk-sharing arrangements, and HTA-informed reimbursement decisions, to create a more resilient and responsive pharmaceutical policy environment.

CONCLUSION

The present study demonstrates that the implementation of the reference pricing policy in Georgia has not led to uniform or consistently sustainable improvements in medicine accessibility across all segments of the population. While certain categories of medicines, particularly generic products, showed a noticeable trend toward price reductions, the overall impact of the policy was heterogeneous, affecting patients, healthcare professionals, pharmacists, and pharmaceutical companies in different ways. These findings highlight that the effectiveness of reference pricing cannot be fully understood without considering the broader pharmaceutical ecosystem and the diverse stakeholders involved.

The results of this study indicate that price regulation, when applied as a standalone measure, has inherent limitations. While it may achieve targeted reductions in medicine prices, it can also produce unintended side effects, such as supply disruptions, restricted therapeutic choice, and the potential for price adjustments to shift the economic burden onto other medicines. Such challenges are particularly pronounced in the management of chronic and complex diseases, where continuous access to prescribed therapies is essential for clinical outcomes. Moreover, the variable perception and experience of patients, pharmacists, and clinicians underscore the importance of accounting for the operational and clinical realities of healthcare delivery when designing pricing policies.

To improve the effectiveness and sustainability of the reference pricing system, an integrated, multi-dimensional approach is required. This approach should include

- Regular and systematic review of reference prices to ensure that pricing reflects market dynamics, therapeutic value, and cost-effectiveness;
- Mechanisms for exceptions and flexibility in the case of critical medicines, low-margin products, or treatments with limited alternatives, to prevent unintended shortages;
- Active and continuous monitoring of the supply chain, including wholesalers, pharmacies, and manufacturers, to detect and address potential disruptions promptly;
- Transparent and proactive communication with patients, healthcare providers, and pharmacists to improve understanding of policy objectives, expected changes, and the implications for access and treatment.

Ultimately, the findings emphasize that reference pricing should not be regarded as a static, one-dimensional regulatory intervention. Rather, it must function as a dynamic, evidence-informed instrument, the success of which depends on the coordinated application of

economic, clinical, and management strategies. By adopting such an integrated framework, policymakers can foster a more resilient pharmaceutical system, promote equitable and sustained access to medicines, encourage market stability, and support the long-term development of the healthcare sector.

REFERENCES

1. Barros, P.P., Pharmaceutical policies in European countries. Advances in Health Economics and Health Services Research, 2010; 22: 3–27. https://doi.org/10.1108/S0731-2199(2010)0000022004.
2. Costa, E. & Santos, C., Pharmaceutical pricing dynamics in an internal reference pricing system: Evidence from changing drugs' reimbursements. European Journal of Health Economics, 2022; 23: 1497–1518. https://doi.org/10.1007/s10198-022-01440-2.
3. Gill, J., Fontrier, A.M., Kyriopoulos, D. & Kanavos, P., 2019. Variations in external reference pricing implementation: Does it matter for public policy? The European Journal of Health Economics. https://doi.org/10.1007/s10198-019-01100-y.
4. Iravani, F., Mamani, H. & Nategh, E.,. External reference pricing and parallel imports of pharmaceuticals: A policy comparison. Production and Operations Management, 2020; 29(12): 2716–2735. https://doi.org/10.1111/poms.13246.
5. Rand, L.Z. & Kesselheim, A.S., International reference pricing for prescription drugs: alandscape analysis. Journal of Managed Care & Specialty Pharmacy, 2021; 27(9): 1309–1313. https://doi.org/10.18553/jmcp.2021.27.9.1309.
6. Rémuzat, C., Urbinati, D., Mzoughi, O., El Hammi, E., Belgaied, W. & Toumi, M., Overview of external reference pricing systems in Europe. Journal of Market Access & Health Policy, 2015; 3(1): 27675.
7. World Health Organization, 2020a. WHO guideline on country pharmaceutical pricing policies. https://www.who.int/publications/i/item/9789240011878.
8. World Health Organization, 2020b. WHO guideline on country pharmaceutical pricing policies.
9. Sholoiko, N., Nizhenkovska, I., Babenko, M., Hala, L. & Datsiuk, N., Implementation of the policy of external reference pricing for medicines: A review of international approaches. Social Pharmacy in Health Care, 2023; 9: 39–49. https://doi.org/10.24959/sphhcj.23.301.

10. Siegmeier, F. & Büssgen, M., Indication-wide drug pricing: Insights from the pharma market. Journal of Pharmaceutical Policy and Practice, 2022; 15: 53. https://doi.org/10.1186/s40545-022-00451-x.
11. Shashiashvili, N., Kvizhinadze, N. & Gaprindashvili, M., Implementation of the reference pricing system: Analysis of challenges and outcomes in various countries. Experimental & Clinical Medicine Georgia, 2024; 7(3): 45– https://doi.org/10.52340/jecm.2024.07.03.05.
12. Shashiashvili, N., Kvizhinadze, N. & Gaprindashvili, M., b. Impact of reference pricing policy on the pharmaceutical sector. Experimental & Clinical Medicine Georgia, 2024; 7(3): pp.61–75. https://doi.org/10.52340/jecm.2024.07.03.06.
13. Voehler, D., Koethe, B.C., Synnott, P.G. & Ollendorf, D.A., 2023. The impact of external reference pricing on pharmaceutical costs and market dynamics. Health Policy OPEN, 4, 100093. https://doi.org/10.1016/j.hpopen.2023.100093.
14. Shashiashvili, N., Simonishvili, B. & Bakradze, M., Reference pricing for pharmaceuticals: Benefits, risks and systemic challenges. World Journal of Pharmaceutical Research, 2025; 14(12): 781–812. https://doi.org/10.20959/wjpr202512-37262.
15. World Health Organization, 2021. Country pharmaceutical pricing policies: A handbook of case studies. https://www.who.int/publications/i/item/9789240024069.