

Health System Expansion Without Proportional Health Gains? An Open-Data Policy Analysis of Healthcare Utilization and Overuse in Türkiye

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Abstract

Background: Health system reforms in Türkiye have substantially expanded healthcare access and utilization. However, whether increased service use has translated into proportional improvements in population health outcomes remains unclear.

Methods: This study employs a descriptive policy analysis combined with secondary analysis of open-access data from OECD, and national sources. Trends in healthcare utilization, selected population health outcomes, and system performance between 2003 and 2023 were examined descriptively using open-access OECD, World Bank, and national data, supplemented by comparative benchmarking and a narrative utilization–outcome gap framework.

Results: Healthcare utilization in Türkiye increased markedly, with physician visits per capita rising above OECD averages. Patient satisfaction followed a similar pattern, showing early gains followed by stabilization or decline. These findings indicate a growing divergence between service volume and health outcomes. Additional signals, including hospital-centered utilization patterns and evidence relevant to potentially avoidable hospitalizations, suggest emerging inefficiencies and potential overuse.

Conclusion: Türkiye appears to be transitioning from an access-expansion phase to a system maturity phase characterized by high utilization and a descriptive pattern compatible with diminishing marginal returns. Future improvements in population health will depend less on increasing service volume and more on enhancing care quality, coordination, and appropriateness. Policy priorities should include strengthening primary care gatekeeping, reducing low-value care, aligning incentives with outcomes, and improving data transparency. The Turkish case provides broader lessons for health systems globally, highlighting the need to shift from utilization-driven to value-based models of care.

Keywords: Health transformation, healthcare utilization, overuse, low-value care, Türkiye, health policy, OEC

Introduction

Health system reforms in Türkiye since 2003 have been widely recognized for expanding access and achieving near-universal coverage. These reforms significantly increased healthcare utilization through improved financial protection and service availability. However, the relationship between utilization and population health outcomes is not linear. Evidence from OECD countries shows that while early increases in healthcare use are associated with improved outcomes, these gains tend to diminish as systems mature and utilization rises [1,2].

As health systems mature, additional healthcare inputs may generate progressively smaller incremental health gains [1]. In some systems, excessive care is associated with inefficiencies and patient harm, reflecting a shift toward **overuse** [3,4].

Recent multi-country analyses show that while healthcare spending is associated with reduced mortality, broader outcomes such as quality of life and disability-adjusted measures depend more strongly on social determinants and non-medical factors [5,6]. This suggests that expanding healthcare utilization alone is insufficient to sustain long-term population health gains.

Against this background, a critical policy question emerges:

Does increased healthcare utilization necessarily lead to improved population health, or does it reflect a transition toward inefficiency and low-value care?

This paper explores the hypothesis that increased service utilization may not proportionally improve health outcomes and may instead contribute to overuse and inefficiency.

This study examines the hypothesis that rising healthcare utilization does not necessarily translate into proportional health gains and may contribute to systemic inefficiencies and low-value care. While expanded access can generate early improvements, excessive use of diagnostics and specialist services may lead to **overdiagnosis, overtreatment, and avoidable costs without clinical benefit** [7-9].

Overuse is increasingly understood as a **system-level phenomenon**, driven by weak gatekeeping, volume-based incentives, and high patient demand rather than isolated clinical decisions [10]. Consequently, increasing service volume may not improve outcomes and can instead expose patients to unnecessary risks while straining healthcare resources [11].

Conceptual framework

1 Healthcare Utilization vs. Health Outcomes

Healthcare systems aim to improve population health through accessible and effective care. In early phases, increased utilization, such as higher consultation and admission rates, is associated with substantial gains in mortality reduction and life expectancy, largely driven by improved access and management of acute and preventive care [5].

However, this relationship is not linear. Additional utilization yields **diminishing marginal returns**, with limited impact on population health in high-use settings [1]. This reflects a shift from addressing unmet need to potential **overuse of medical services**.

Excessive utilization may also cause harm. Overdiagnosis, unnecessary procedures, and excessive treatments expose patients to avoidable risks, while contributing to **resource misallocation** and diverting attention from high-value and preventive care [3,12].

Overall, improving health outcomes depends not on increasing care volume, but on ensuring the **appropriateness, quality, and value** of services delivered.

2 Overuse and Low-Value Care

Overuse, commonly termed **low-value care**, has become a central concern in contemporary health policy. It refers to services with little or no clinical benefit, such as excessive imaging, redundant testing, inappropriate pharmacotherapy, and avoidable procedures, which may increase costs and expose patients to harm [3].

International evidence indicates that overuse is widespread across health systems, with an estimated **10–30% of healthcare spending** attributable to wasteful care [11]. These patterns reflect systemic features rather than isolated clinical decisions.

Several structural drivers sustain overuse. **Fee-for-service payment models** incentivize higher service volume [4], while **defensive medicine** encourages unnecessary testing to mitigate legal risk [12]. In addition, **weak gatekeeping mechanisms** and direct access to specialist care promote fragmented and excessive utilization [13]. **Patient expectations**, often equating more care with better care, further reinforce these dynamics [10].

Beyond inefficiency, overuse represents a **patient safety risk**, contributing to overdiagnosis, overtreatment, and iatrogenic harm. Addressing low-value care therefore requires coordinated policy responses, including payment reform, strengthened primary care, evidence-based guidelines, and improved patient engagement.

Methods

1 Study Design

This study employs a **descriptive policy analysis combined with secondary data analysis** to examine the relationship between healthcare utilization and population health outcomes in Türkiye.

The analytical framework draws on health system performance literature, particularly the distinction between inputs, outputs, and outcomes, and the shift toward **value-based care** [2,14].

Rather than establishing causal relationships, the analysis focuses on identifying **macro-level trends, temporal patterns, and potential inefficiencies**, particularly the alignment between healthcare utilization and health outcomes over time.

2 Data Sources

The analysis integrates multiple **open-access and internationally comparable datasets** to ensure robustness through data triangulation. Healthcare utilization and system indicators were obtained from OECD Health Statistics and *Health at a Glance* reports, which provide standardized cross-country measures [2]. Population health outcomes were obtained from the World Bank World Development Indicators (WDI), including life expectancy at birth (SP.DYN.LE00.IN) and infant mortality (SP.DYN.IMRT.IN) [15,16].

Country-specific healthcare utilization data for Türkiye were obtained from the Ministry of Health Health Statistics Yearbook [17]. Additional contextual insights were drawn from peer-reviewed studies on the Turkish Health Transformation Program and its impact on access, equity, and system performance [18].

Patient satisfaction with health services was obtained from the Turkish Statistical Institute (TÜİK) Life Satisfaction Survey, which has been conducted annually since 2003. Changes in the handling of the “no opinion” response category from 2014 onward were considered when interpreting long-term satisfaction trends [19,20].

The integration of these sources enables **triangulation of evidence**, enhancing validity and reducing reliance on any single dataset.

3 Study Period

The analysis focuses on the period 2003–2023, corresponding to the implementation and maturation of Türkiye’s Health Transformation Program. This period captures three distinct phases:

The initial reform and expansion phase (2003–2012)

The consolidation phase (2013–2019)

The recent period of system pressure and recalibration (2020–2023)

This temporal segmentation enables the identification of structural shifts in both utilization and health outcomes.

4 Indicators and Operational Definitions

A set of indicators was selected to capture multiple dimensions of health system performance, consistent with OECD and WHO frameworks [2,21,22].

Healthcare utilization was assessed using total physician visits per capita and physician contacts at primary versus secondary/tertiary levels of care, reflecting service intensity and the distribution of healthcare contacts across care levels [2,23].

Health outcomes included life expectancy at birth and infant mortality, representing complementary population-level indicators of long-term health improvement [15,16,24].

System performance was evaluated through patient satisfaction and access indicators, capturing perceived quality and responsiveness [21,22].

Given the limitations of directly measuring efficiency at the macro level, **proxy indicators** were employed, including divergence between utilization and outcomes, avoidable hospitalizations, and patterns of low-value care. These proxies are widely used in OECD frameworks to identify inefficiencies in health systems [11].

5 Analytical Strategy

The analysis followed a **three-step analytical strategy**.

First, **descriptive trend analysis** was used to examine time-series changes in healthcare utilization and health outcomes, identifying growth patterns and temporal dynamics.

Second, **comparative benchmarking** positioned Türkiye’s performance relative to OECD averages, providing an international context for utilization and outcome indicators [2,11].

Third, a **utilization–outcome gap analysis** assessed whether increases in healthcare use corresponded to proportional improvements in outcomes. Periods in which healthcare utilization increased without commensurate improvement in selected outcomes were interpreted as descriptive signals of declining marginal value and possible system inefficiency. Such divergence was not considered direct evidence of overuse, which requires service-specific assessment of clinical appropriateness [14].

6 Conceptual Assumptions

The interpretation was informed by the concept of diminishing marginal returns, whereby additional healthcare inputs may produce progressively smaller health gains as unmet need is reduced [5]. Second, not all healthcare services contribute equally to improved outcomes, reflecting variation in **clinical value** [11]. Third, high utilization may simultaneously indicate improved access and **systemic overuse** [3].

7 Ethical Considerations

This study is based exclusively on publicly available, aggregated datasets. No individual-level or identifiable data were used. Therefore, ethical approval was not required.

8 Limitations

Several limitations should be acknowledged. First, the descriptive design does not permit causal inference. Second, aggregate data may obscure regional inequalities and population-level heterogeneity. Third, efficiency is assessed indirectly through proxy indicators rather than direct measurement. Finally, the influence of social determinants of health cannot be fully isolated within the scope of this analysis.

The observed increases represent descriptive trends derived from aggregated data and were not subjected to formal statistical hypothesis testing.

Results

1 Trends in Healthcare Utilization

Descriptive trend analysis shows a substantial and sustained increase in healthcare utilization in Türkiye following the Health Transformation Program. Physician visits per capita increased from 3.4 in 2003 to 11.4 in 2023. The long-term rise was temporarily interrupted during the COVID-19 period, with visits declining from 9.8 in 2019 to 7.2 in 2020, before recovering to 8.0 in 2021, 10.0 in 2022, and 11.4 in 2023 [2,23]. This long-term increase represents one of the clearest consequences of the expansion of healthcare access following the Health Transformation Program. Although utilization fluctuated during the COVID-19 period, the broader trajectory remained one of markedly increased contact with healthcare services.

Similarly, physician contacts at secondary and tertiary levels of care also increased substantially, from 2.1 per capita in 2003 to 6.5 in 2023, reflecting a marked increase in the use of secondary- and tertiary-level services [23]. This increase reflects expanded hospital capacity, improved financial protection, and reduced out-of-pocket barriers under universal coverage [2].

The rapid growth in hospital capacity, particularly following large-scale investments in public hospitals and city hospital projects, has facilitated greater reliance on secondary and tertiary care services.

Hospital-based service use also expanded during the reform period, reflecting increased capacity, broader financial protection, and easier access to secondary and tertiary care. However, high hospital utilization may represent both improved access and persistent reliance on hospital-centered pathways, particularly where primary care gatekeeping remains limited [14]. Such patterns are typical of systems with **weak gatekeeping and volume-based incentives**, which prioritize service intensity over appropriateness [11].

International evidence indicates that reliance on hospital-based care for conditions manageable in outpatient settings may signal **inefficiency and unnecessary utilization**. Accordingly, rising hospital use should be interpreted not only as improved access but also as a potential indicator of system-level **overuse and weak care coordination** [22,25].

2 Comparative Benchmarking with OECD Countries

Comparative benchmarking indicates that Türkiye exhibits a distinctive pattern of **high utilization relative to moderate health expenditure**. In 2021, Türkiye recorded 8.0 physician consultations per capita compared with an OECD average of 6.0 [2]. This diverges from the typical OECD pattern, where higher utilization is associated with higher expenditure.

This configuration suggests a **high-contact, cost-contained model**, raising concerns about consultation quality and clinical appropriateness. High visit volumes may constrain consultation time and reduce the effectiveness of clinical encounters [26,27]. From a systems perspective, this pattern reflects both **supply- and demand-driven pressures**, rather than purely need-based utilization. Weak gatekeeping and easy access to higher levels of care may increase service intensity without improving coordination or effectiveness. Health outcomes have improved substantially, including gains in life expectancy and reductions in maternal and infant mortality, largely driven by expanded access to essential services [2,28].

This pattern reflects **diminishing marginal returns**, whereby early expansion yields substantial gains, while further increases in utilization generate limited improvements [5]. Türkiye thus appears to be transitioning from addressing unmet need to a phase where **efficiency, appropriateness, and value of care** are the primary determinants of further progress. Taken together, these trends suggest a transition in the policy challenge facing the Turkish health system. During the earlier reform period, expanding access and utilization addressed substantial unmet need. As coverage matured and service use increased, however, further progress became increasingly dependent on the quality, appropriateness, coordination, and value of care rather than on service volume alone.

3 Trends in Health Outcomes

Life expectancy increased substantially over the study period, from 72.9 years in 2003 to 77.7 years in 2019. The COVID-19 period was associated with a temporary decline, followed by recovery to 77.2 years in 2023 (29). Life expectancy increased markedly during the initial phase of the Health Transformation Program, reflecting gains in access, preventive care, and maternal-child health services [2,28]. These early gains are widely attributed to the reduction of unmet healthcare needs and improved coverage.

However, improvements in life expectancy became more incremental, indicating a shift from rapid catch-up to slower progress. Infant mortality declined substantially, from 24.4 deaths per 1,000 live births in 2003 to 12.8 in 2012 and 9.4 in 2019. The absolute reduction was larger during the earlier reform period than during subsequent years (24). This suggests that initial gains were driven by expanded basic and preventive services, while further improvements require **system-level optimization** [5].

From a comparative perspective, this pattern is consistent with **diminishing marginal returns**, particularly in systems with broad coverage. Once essential service gaps are addressed, further increases in utilization yield **smaller incremental health gains** [30,31].

The stabilization of health outcomes despite rising utilization indicates a **utilization–outcome decoupling**, suggesting limited marginal effectiveness of additional inputs. Future health gains are therefore more likely to depend on improvements in **care quality, coordination, and value**, rather than further increases in service volume [21,30,32]. Thus, the long-term pattern is compatible with progressively smaller incremental health gains as the system moved from rapid expansion toward a more mature phase. This descriptive pattern should not be interpreted as evidence that increasing utilization itself caused the slower improvement in population health.

4 Patient Satisfaction and System Responsiveness

Patient satisfaction and perceived system responsiveness in Türkiye show a pattern similar to utilization trends, with **early improvement followed by stabilization or partial decline**. Satisfaction with health services increased from 39.5% in 2003 to 75.9% in 2011. It subsequently fluctuated and was 67.1% in 2019, 65.6% in 2022, and 65.4% in 2023. These data indicate substantial early improvement followed by lower levels relative to the earlier peak (19). Interpretation of the long-term series should account for the change in handling of the “no opinion” category introduced in 2014 and incorporated into published calculations from 2015 onward (20). During the initial phase of the Health Transformation Program, satisfaction increased markedly, driven by expanded coverage, improved access, and reduced waiting times [2,18].

However, more recent evidence suggests that this upward trend has plateaued, with some indicators pointing to declining satisfaction in specific domains of care experience. Emerging concerns increasingly relate to **shortened consultation times, perceived reductions in care quality, and persistent difficulties in accessing physicians despite high visit rates**. This apparent contradiction reflects a structural tension within high-utilization systems.

From a systems perspective, the coexistence of high utilization and declining perceived quality reflects **capacity strain and workflow fragmentation**. Increased consultation volumes reduce time per encounter, limiting clinical assessment, communication, and continuity of

care. Short consultation times have been associated at the health-system level with several adverse organizational and health-service indicators, including higher rates of ambulatory-care-sensitive hospital admissions [26,27,33].

High-frequency service use does not necessarily improve patient experience when care pathways are **fragmented and poorly coordinated**. In systems with weak gatekeeping, repeated and uncoordinated contacts can lead to inefficiencies, duplication, and patient dissatisfaction [11].

Taken together, these findings reinforce the notion that **increasing healthcare utilization alone is insufficient to improve system responsiveness**. Instead, patient satisfaction appears to be increasingly shaped by qualitative dimensions of care, including continuity, communication, and coordination. This underscores the need for a shift from volume-based performance metrics toward **patient-centered and value-based care models**, particularly in health systems that have already achieved high levels of service utilization.

The coexistence of high utilization with less favorable trends in some dimensions of patient experience suggests that service volume alone is an incomplete measure of health-system performance. Patient experience may increasingly depend on consultation quality, continuity, communication, and coordination.

5 Utilization–Outcome Gap Analysis

The analysis reveals a growing **decoupling between healthcare utilization and health outcomes** in Türkiye. While physician visits increased markedly, improvements in selected population-level outcomes became more incremental over time. This descriptive divergence is compatible with diminishing marginal returns but does not establish a statistical threshold, change point, or causal relationship [30,31].

This divergence is marking a shift from rapid gains to relative stabilization in outcomes.

- **Physician utilization increased markedly and exceeded OECD averages in recent comparable years.**
- **Life expectancy and infant mortality improved substantially over the long term, although subsequent gains were more incremental and were disrupted during the COVID-19 period.**
- **Satisfaction with health services increased markedly during the early reform period but was below its earlier peak in recent years.**

Together, these trends indicate a widening **utilization–outcome gap**, where increased service volume is no longer matched by proportional gains in health or patient experience. This pattern is consistent with **diminishing marginal returns**, whereby initial expansion yields

substantial gains, but further utilization produces limited benefits [5,11]. As healthcare utilization continued to rise, additional increases were accompanied by progressively smaller improvements in selected population-level outcomes. This descriptive divergence is compatible with diminishing marginal returns, although it does not identify a specific utilization level or establish a causal relationship. The emerging utilization–outcome gap therefore raises questions regarding the marginal value, appropriateness, and organization of additional healthcare activity.

The coexistence of rising utilization, plateauing outcomes, and declining satisfaction indicates a **structural, not merely quantitative, problem**. This gap reflects a misalignment between service volume and care value, driven by weak gatekeeping, fragmented care pathways, and volume-based incentives [11,34].

Comparative OECD evidence supports this interpretation: systems with **lower utilization but stronger primary care coordination** achieve comparable or better outcomes and higher patient satisfaction [11]. In contrast, high-contact systems without effective integration may generate **overuse without performance gains**.

Overall, the findings suggest that Türkiye's health system is entering a phase in which further improvements in population health will depend less on increasing utilization and more on enhancing the appropriateness, coordination, and value of care delivery.

6 Avoidable Hospitalizations and Signals of Overuse

The findings of this study provide converging signals of potential system-level inefficiency and overuse, although overuse was not directly measured at the level of individual services. Multiple indicators point toward a structural shift from a phase of unmet need reduction to one characterized by **potential overutilization and low-value care delivery**.

First, physician consultation rates in Türkiye exceed OECD averages, indicating a **high-contact model** that may not be fully aligned with clinical necessity. While initially reflecting improved access, persistently high utilization raises concerns about **appropriateness and efficiency** [2].

Taken together, these findings indicate that Türkiye's health system is undergoing a transition from an **access-expansion paradigm to a maturity phase** in which the dominant policy challenge is no longer increasing service volume, but rather ensuring that care delivery is **appropriate, coordinated, and value-based**. Without such a shift, continued growth in utilization risks reinforcing inefficiencies and undermining the long-term sustainability of the system. Comprehensive longitudinal national data on **ambulatory care sensitive conditions** (ACSC) admissions remain limited in Türkiye. Avoidable hospitalization is therefore used here primarily as a policy-relevant conceptual indicator, supported by International evidence, which generally suggests that better access to effective primary care is associated with lower rates of avoidable hospitalization, although findings across studies are heterogeneous.

6.1 Conceptual Framing

Avoidable hospitalizations, defined as admissions for **ACSCs**, are a key indicator of health system performance, particularly reflecting primary care effectiveness and care coordination [11,35]. These include conditions such as asthma, COPD, diabetes complications, and hypertension, which are largely manageable through timely outpatient care.

From a health systems perspective, avoidable hospitalizations act as a **proxy for inefficiency**, reflecting failures in prevention, early diagnosis, and continuity of care. Elevated ACSC admissions typically signal **weak primary care capacity, inadequate coordination, inappropriate access pathways, and overreliance on hospital-based care**.

Importantly, these admissions are shaped not only by clinical need but also by **system design, provider incentives, and patient behavior**. In systems with weak gatekeeping and fragmented care pathways, repeated and uncoordinated care increases the likelihood of avoidable admissions [11,13,36].

Comparative OECD evidence shows that **lower avoidable hospitalization rates** are associated with strong primary care systems characterized by effective gatekeeping and integrated care, whereas higher rates reflect misalignment between utilization and care value [11,13,35,36].

In this context, avoidable hospitalizations provide a critical lens for understanding the **utilization–outcome gap**, linking increased service volume to deficiencies in care quality and system organization.

6.2 Descriptive Findings

International comparative evidence generally suggests, although findings are heterogeneous that health systems with **strong primary care orientation and effective gatekeeping mechanisms** tend to exhibit lower rates of avoidable hospital admissions, particularly for ACSCs. In contrast, systems characterized by **high specialist accessibility, weak referral systems, and fragmented care pathways** are associated with higher rates of potentially avoidable hospitalizations [11,35].

In the Turkish context, although comprehensive longitudinal datasets specifically measuring avoidable hospitalizations remain limited, **available proxy indicators and indirect evidence suggest patterns consistent with increased hospital dependence and potential inefficiency**.

First, as demonstrated in Section 4.2, **overall hospital utilization rates have increased substantially**, reflecting expanded access but also indicating a persistent reliance on secondary and tertiary care services. Second, despite a marked increase in **physician contacts per capita**, there is no clear evidence of a proportional reduction in hospital admissions, which would be expected in systems where primary care effectively manages chronic and preventable conditions. This mismatch points toward potential inefficiencies in care delivery and coordination.

Third, the continued use of hospital-based services for conditions that are typically manageable within primary care settings suggests a **functional gap in primary care capacity and problem-solving ability**. This pattern may be further reinforced by weak gatekeeping, allowing patients to bypass primary care and directly access higher levels of care, thereby increasing system costs without commensurate improvements in outcomes [36].

Taken together, these findings indicate that **increased access to healthcare services has not been fully translated into effective primary care management**. As a result, the expected reduction in avoidable hospitalizations, commonly observed in well-integrated primary care systems, may be attenuated. This reinforces the broader conclusion that **service expansion without parallel strengthening of primary care functions and care coordination mechanisms may limit efficiency gains and contribute to overuse**.

6.3 Interpretation within Utilization–Outcome Gap

When interpreted alongside the **utilization–outcome gap**, avoidable hospitalizations provide an additional explanatory layer. Despite increased physician visits and expanded infrastructure, there is limited direct evidence; however, **available proxy indicators and indirect evidence suggest** a disconnect between service volume and care effectiveness.

This divergence suggests that utilization is not optimally distributed across care levels but instead concentrated in **higher-cost, hospital-based services**. Such patterns are consistent with weak gatekeeping, fragmented care pathways, and misaligned incentives, which constrain the coordinating role of primary care [11,13,35].

From a systems perspective, avoidable hospitalizations provide a plausible mechanism linking weaknesses in primary care and care coordination with high hospital utilization and suboptimal system performance.

This interpretation is consistent with international evidence showing that higher utilization does not inherently improve outcomes in the absence of **strong primary care integration and coordinated care delivery** [14]. Consequently, the Turkish experience illustrates how expanding access without simultaneously strengthening the **functional capacity and coordinating role of primary care** may result in inefficiencies and reduced system performance.

6.4 Link to Overuse and System Incentives

From a policy perspective, avoidable hospitalizations reflect not only **primary care underperformance but also system-level overuse driven by structural incentives**. Admissions for ACSCs may therefore indicate the combined effects of institutional arrangements shaping care-seeking behavior and provider decisions.

A key driver is **weak gatekeeping**, which allows direct access to hospital services and increases admissions for conditions manageable in primary care. This undermines care coordination and reinforces a **hospital-centered model of delivery** [13,37].

Second, **performance-based payment systems** that reward service volume may incentivize excessive diagnostic and therapeutic activity. Such incentives create pressure to increase throughput rather than optimize appropriateness, contributing to the expansion of **low-value care** [4,11].

Third, **fragmented care pathways** further exacerbate inefficiencies. In the absence of integrated care models, patients may experience repeated, uncoordinated encounters across different providers and levels of care, increasing the risk of duplication, unnecessary admissions, and discontinuity in disease management [36].

Fourth, **patient behavior and expectations** also play a role. In systems where hospital services are perceived as more accessible, comprehensive, or higher quality, patients may preferentially seek hospital-based care, reinforcing demand for specialist and inpatient services even when primary care would be clinically appropriate.

Taken together, these factors suggest that avoidable hospitalizations in Türkiye may function as a **substitute for insufficiently integrated primary care**, rather than as a medically necessary endpoint of care. This interpretation reinforces the broader conclusion that overuse is not solely a clinical issue but a **systemic phenomenon shaped by incentives, access pathways, and institutional design**.

Addressing this challenge therefore requires policy interventions that realign incentives, strengthen gatekeeping, and enhance the **coordinating and problem-solving capacity of primary care**, rather than simply reducing service volume.

6.5 Policy-Relevant Implications

The potential burden of avoidable hospitalizations highlights the importance of examining the alignment between access, utilization, and care allocation in Türkiye. Although the Health Transformation Program expanded coverage and service use, **value-oriented and efficient care delivery remains suboptimal**.

This misalignment can be summarized as follows:

First, strengthening **primary care gatekeeping** is essential to ensure appropriate first-contact management and reduce unnecessary referrals. Evidence shows that strong primary care systems are associated with lower avoidable hospitalizations and greater efficiency [35,37].

Second, implementing **integrated care coordination**, particularly for chronic disease management, is essential. Effective coordination across care levels reduces duplication, improves continuity, and prevents avoidable hospital admissions [35].

Third, routine monitoring of **ACSC admission rates** should be institutionalized as a key performance indicator. These metrics provide a practical and internationally comparable tool for evaluating primary care effectiveness and identifying system inefficiencies [2,11].

Fourth, **realigning incentives toward value-based care** is essential to reduce overuse. Volume-driven payment models may encourage unnecessary interventions, whereas value-based approaches promote **appropriate, patient-centered care**.

Finally, patient behavior and expectations should be addressed through health literacy initiatives and system navigation strategies, encouraging appropriate use of primary care services and reducing unnecessary reliance on hospital-based care.

These mechanisms can be understood as a reinforcing policy pathway. Weak gatekeeping and limited primary care coordination may encourage hospital-centered utilization; greater hospital dependence may in turn reinforce fragmented care pathways and volume-oriented incentives. Within the Walt and Gilson framework, these relationships reflect interactions between policy context, actors, processes, and content rather than a single causal mechanism. The model is framed within the Walt and Gilson policy triangle, which emphasizes the interaction of policy context, actors, processes, and content in shaping health system performance [38].

7 Summary of Key Findings

The findings indicate a **structural transition** in the Turkish health system, characterized by high utilization, slowing outcome gains, and emerging inefficiencies.

First, healthcare utilization has increased substantially, with physician visit rates exceeding OECD averages, reflecting successful expansion of access. Second, health outcomes have improved, but gains have slowed over time, indicating a shift from rapid early gains toward more incremental improvements in selected population-health outcomes. Third, a growing **utilization–outcome gap** has emerged, where rising service volume is no longer matched by proportional improvements in population health or patient satisfaction, supported by patterns consistent with avoidable hospitalizations and perceived declines in care quality.

Together, these findings suggest that the central policy challenge has shifted from expanding access to ensuring **efficient, well-coordinated, and value-based care delivery**. Without this transition, further increases in utilization risk reinforcing inefficiencies and overuse rather than improving health outcomes.

Discussion

1 The Utilization–Outcome Paradox

The Turkish experience illustrates a fundamental health system paradox: increased utilization does not necessarily translate into improved population health outcomes. While expanded access has produced substantial early gains, as systems mature, additional inputs may yield progressively smaller gains [1,5].

Several interrelated mechanisms may explain this utilization–outcome paradox.

First, the concept of **diminishing marginal returns** provides a key explanatory framework. Initial expansions in access and utilization effectively address unmet need and improve outcomes; however, once basic coverage is achieved, further increases yield **progressively smaller health gains** [1,5].

Second, increasing service volume may elevate the risk of **overdiagnosis and overtreatment**, particularly in systems where incentives favor activity. Excessive testing and low-value interventions can expose patients to harm without corresponding benefit, reducing overall system efficiency [3].

Third, high patient load and consultation intensity may compromise clinical encounter quality. Shorter consultations can limit assessment, weaken communication, and reduce continuity of care, thereby diminishing effectiveness [26,27,33,39].

Fourth, weak referral and gatekeeping mechanisms enable patients to bypass primary care, leading to **fragmented care, duplication, and suboptimal resource allocation** across system levels [11,13].

Taken together, these mechanisms indicate that the utilization–outcome gap is not an anomaly a pattern compatible with a health system transitioning from access expansion toward a mature, high-utilization phase. In this phase, the central challenge shifts from increasing volume to ensuring **appropriate, coordinated, and value-based care**.

2 Overuse as a Systemic Risk

High levels of healthcare utilization, when misaligned with clinical necessity, increase the risk of **systematic overuse**, posing threats to both patient safety and system efficiency. In Türkiye, persistently high consultation rates and hospital dependence create conditions in which system-level overuse and low-value care may emerge, particularly when clinical appropriateness is not routinely measured. [3,11].

Overuse manifests as unnecessary imaging, redundant testing, and avoidable procedures, driven by defensive medicine, patient expectations, and volume-based incentives. Globally, such low-value care constitutes a substantial share of healthcare inefficiency, with

significant implications for both costs and outcomes [3,11]. Beyond financial impact, overuse may expose patients to avoidable risks, including radiation exposure, procedural complications, and psychological burden associated with overdiagnosis.

Overuse should be understood not as an individual clinical failure but as a **system-level risk embedded in organizational and financial structures**. In high-intensity systems with weak gatekeeping and fragmented care, the likelihood of low-value care increases substantially [11,37,40].

The Turkish case illustrates this transition: a system that successfully expanded access now faces the challenge of **managing excess utilization and preventing low-value care**. Addressing overuse therefore requires system-level interventions, including **evidence-based practice, incentive redesign, and stronger primary care coordination** [3].

3 Structural Drivers in Türkiye

The emergence of overuse and inefficiency in Türkiye's health system reflects **interrelated structural drivers** embedded in its organizational design. These factors shape provider behavior and patient care-seeking patterns, reinforcing **high utilization and hospital-centered care**.

First, **performance-based payment systems** have driven increased service volume. While effective in improving access during early reforms, they may incentivize excessive testing, procedures, and consultations regardless of clinical necessity, thereby promoting **low-value care and overuse** [11].

Second, high patient expectations, driven by expanded access and a consumer-oriented view of healthcare, increase demand for rapid diagnostics and specialist consultations, often exceeding clinical necessity [10,32].

Third, **easy access to hospital services in the absence of strong referral and gatekeeping mechanisms** facilitates direct utilization of secondary and tertiary care. Without effective primary care coordination, patients may bypass first-contact services, leading to fragmented care pathways, duplication of services, and increased reliance on hospital-based interventions [28].

Fourth, **high physician workload** may reduce consultation time and limit comprehensive assessment. Under such constraints, clinicians may rely more on testing and referrals as time-efficient strategies, increasing the risk of **unnecessary interventions** [39,41,42].

Taken together, these structural drivers create a **reinforcing system** in which high utilization is both supply- and demand-driven. This dynamic underscores the need for **system-level reforms** that realign incentives, care pathways, and provider workload toward value-based care [37,43].

Policy Implications

1 Shift Toward Value-Based Care

A key implication is the need to transition from a **volume-driven model to value-based care**, aligning resource allocation and incentives with patient outcomes rather than service intensity.

First, implementing greater use of outcome-oriented reimbursement could help reduce reliance on activity-based incentives. Linking incentives to measurable outcomes—such as disease control, readmissions, and patient-reported outcomes—can promote effectiveness and continuity of care over service volume. Such models are increasingly adopted across OECD systems to reduce inefficiencies and low-value care [11].

Second, health systems should **reward quality over quantity**, using performance metrics that capture clinical outcomes, care coordination, patient experience, and adherence to evidence-based guidelines. This shift from throughput to quality incentivizes **appropriate, patient-centered care** and helps mitigate overuse [44].

Transitioning to **value-based care** requires not only payment reform but also supportive institutional changes, including robust data infrastructure, transparent performance measurement, and accountability mechanisms. Without these elements, value-based initiatives are unlikely to achieve their intended impact [11].

In the Turkish context, such a shift represents a critical step in addressing the utilization–outcome gap and ensuring that future improvements in health system performance are driven by **efficiency, appropriateness, and patient-centered outcomes**, rather than continued expansion of service volume.

2 Strengthening Primary Care Gatekeeping

A key policy priority is strengthening the **gatekeeping and coordinating role of primary care**, particularly within the family medicine model. Effective gatekeeping ensures care is delivered at the appropriate level, reducing unnecessary hospital use and improving system efficiency [32,35].

First, enforcing **structured referral systems** is essential to prevent bypassing of primary care. Strengthened referral pathways—supported by digital health records and appointment systems—can improve **care continuity, reduce duplication, and ensure appropriate use of specialist services** [11,28].

Second, expanding the **capacity and capability of family medicine** is essential. This includes increasing physician numbers, reducing panel sizes, and strengthening clinical problem-solving capacity. Ensuring adequate consultation time is critical, as shorter visits are associated with lower care quality and higher rates of unnecessary referrals and investigations.

In addition, strengthening primary care requires investments in **multidisciplinary team-based models**, including nurses, allied health professionals, and care coordinators, to support chronic disease management and preventive care. Such models have been shown to reduce avoidable hospitalizations and improve patient outcomes in high-performing health systems [35].

Finally, strengthening **trust in primary care** is essential, as patient preferences often favor hospital-based services. Policies should promote health literacy and system designs that position primary care as the **first and most appropriate point of contact**.

Overall, reinforcing primary care gatekeeping is a **foundational step** in addressing the utilization–outcome gap, reducing overuse, and advancing a more **efficient, coordinated, and value-based health system**.

3 Implement “Choosing Wisely”-Type Policies

A critical strategy to reduce overuse is the implementation of **“Choosing Wisely”-type policies**, which target low-value interventions through evidence-based guidance and clinician engagement [3,11].

First, the development and dissemination of **national clinical guidelines targeting low-value care** is essential. These guidelines should explicitly identify commonly overused tests, procedures, and treatments—such as unnecessary imaging, redundant laboratory testing, and inappropriate surgical interventions—and provide clear recommendations for their appropriate use. International initiatives, including the Choosing Wisely recommendations, which can support reductions in low-value care when coupled with active implementation strategies; dissemination of recommendations alone appears substantially less effective [45,46].

Second, developing and disseminating **national clinical guidelines on low-value care** is essential. These should identify commonly overused tests and interventions and provide clear recommendations for appropriate use.

The effectiveness of **Choosing Wisely-type initiatives** depends on clinician engagement and cultural change. These policies should be framed as improving **patient safety and care quality**, rather than as cost-containment. Educational interventions, audit and feedback, and peer benchmarking can support the adoption of appropriate care practices [3].

In Türkiye, such initiatives could directly address drivers of overuse and help close the **utilization–outcome gap**. Combined with payment reform and strengthened primary care, they can promote a more **efficient, evidence-based, and patient-centered health system**.

4 Improve Health Data Transparency

Improving **health data transparency** is a key enabler for reducing overuse, strengthening accountability, and advancing value-based care. Accessible data enable stakeholders to identify utilization patterns, detect inefficiencies, and monitor system performance [11].

First, **public reporting of procedure rates** can reveal unwarranted variation and potential overuse, influencing provider behavior and reducing unnecessary interventions [11,47].

Second, reporting **diagnostic utilization patterns** (e.g., imaging and laboratory use) helps identify low-value care when intensity is not linked to improved outcomes.

Third, systematic reporting of **health outcomes**, including mortality, readmissions, and patient-reported outcomes, allows assessment of whether utilization translates into meaningful health gains.

Transparency should be supported by **risk-adjusted benchmarking and comparative reporting**, ensuring fair evaluation across institutions. In Türkiye, strengthening transparency would help identify the **utilization–outcome gap** and enable targeted interventions, supporting a more **evidence-driven, accountable, and value-oriented health system**.

Conclusion

Türkiye's Health Transformation Program has substantially expanded access and utilization, addressing long-standing gaps and improving key health indicators. However, continued growth in utilization without proportional outcome gains raises concerns regarding **efficiency, appropriateness, and overuse**.

The findings suggest that Türkiye has entered a phase in which the central policy challenge is no longer access expansion alone, but optimization of the value derived from healthcare utilization. The observed divergence between high service use and more incremental gains in selected population outcomes does not establish overuse causally; rather, it highlights the need for closer assessment of clinical appropriateness, care coordination, primary care capacity, and resource allocation.

In this context, future reforms should prioritize:

- **Reducing low-value care**, particularly in high-volume service areas
- **Improving clinical appropriateness** through evidence-based guidelines and decision support
- **Aligning incentives with outcomes**, shifting from volume-driven to value-based care

More broadly, the Turkish case offers a key lesson for health systems globally: as systems mature, the focus must shift from **expanding utilization to maximizing value**. Health system success should be measured not by the quantity of care delivered, but by the **quality and value of health produced**.

This transition represents a fundamental reorientation of health policy, requiring coordinated action across **governance, financing, and service delivery**.

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