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## Analysis of Hospital Admissions and Invoice Amounts in Turkey within the Context of the Referral Chain Based on Social Security Institution Data: A Retrospective Study



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### Abstract

This study aims to examine the number of referrals to second-tier public hospitals, third-tier hospitals, and private hospitals, as well as the total invoice amounts, within the context of the referral chain, using data from the Social Security Institution data application between 2019 and 2024. First, a correlation analysis was performed on the data. To elaborate on the significant correlations identified in the correlation analysis, a structural equation model (SEM) was developed. The total number of hospital visits is positively and directly influenced by the total number of third-tier hospital visits ( $\beta = 0.421$ ) and the number of second-tier hospital visits ( $\beta = 0.625$ ). Second-level hospital visits have a direct negative effect on total visit total invoice amounts ( $\beta = -0.620$ ). Third-level hospital visits have a direct positive effect on total visit total invoice amounts ( $\beta = 1.305$ ). The total number of third-level hospital visits directly negatively affects the total number of private hospital visits ( $\beta = -0.550$ ). The number of second-level hospital visits has an indirect negative effect on the total number of private hospital visits through the number of third-level hospital visits ( $\beta = -0.449$ ). Our study shows that to reduce the total invoice amount, it is necessary to improve the quality of secondary and tertiary healthcare services and implement a referral chain. Improving the quality of secondary and tertiary healthcare services and reducing unnecessary referrals will decrease citizens' preference for private hospitals over public hospitals due to reasons such as service quality and long examination times.

### Keywords

Economic Growth · Health · Health Care Financing · Public Health Insurance

### Jel Codes

H51, I15

### Author Note

The author gratefully acknowledges the Social Security Institution for making the data openly accessible to the public.



Citation: Çetin, M. E. (2025). Analysis of hospital admissions and invoice amounts in Turkey within the context of the referral chain based on social security institution data: A retrospective study. *İstanbul İktisat Dergisi–Istanbul Journal of Economics*, 75(2), 498–510. <https://doi.org/10.26650/ISTJECON2025-1767540>

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 2025. Çetin, M. E.

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## Analysis of Hospital Admissions and Invoice Amounts in Turkey within the Context of the Referral Chain Based on Social Security Institution Data: A Retrospective Study

The challenges of accessing health services are problems that need to be solved for an accessible and effective health system for all. It is essential for societies that health services are provided in an accessible and fair way for all. A fair and accessible health system must also be affordable and sustainable. In addition to these and similar goals, the World Health Organisation emphasises this situation with the slogan "Health for All" while putting health at the centre of economic development at the same time (WHO, 2022).

The studies required for an affordable and sustainable health system include different requirements, such as an inclusive and effective insurance system, planned procurement processes for the fast and high-quality supply of materials needed by service providers, and trained quality human resources (Fineberg, 2012). Likewise, increasing the health literacy of individuals is important for planning access to health services (Zanobini et al., 2024). Increasing health literacy contributes to a more effective treatment by increasing the participation of individuals in treatment processes and reduces costs by using health services efficiently (Haun et al., 2015). Because unnecessary applications are important problems that prevent patients with urgent and serious needs from accessing treatment in the provision of health services. The multifaceted effects of health literacy contribute to the formation of the necessary basis for an efficient and effective health system (Sørensen et al., 2021; Zanobini et al., 2024). Increasing health literacy also includes high awareness of individuals about which health institution they should apply to. It is a result of health literacy that the individual plans the treatment process by receiving health counselling at least within the primary health care system. The stepping up of health services is a requirement of a cost-effective, accessible, and sustainable health system in this context. However, there are low literacy of individuals, socioeconomic reasons, and some administrative problems in front of the inability to use cascading systems effectively and efficiently (Jamal et al., 2024).

In systems where health services are classified, primary health care services are the step where outpatient or inpatient primary services are provided, including community health centres, family health centres, 112 emergency health services, home care centres, etc. Secondary health care services, on the other hand, are secondary health care centres where more advanced diagnosis and treatment services are provided compared to primary care, such as public hospitals, medical centres, private hospitals, dialysis centres, which do not have education and research. Training and research hospitals, where advanced or special diagnosis, treatment, and rehabilitation services are provided as tertiary care, and hospitals belonging to state and foundation universities are cascaded as tertiary care (Resmi Gazete, 2022). In a healthy society, it is aimed to protect the society from diseases and not to get sick first. Primary health care is the first step towards widespread and accessible health care. The place of primary care services is important in the correct referral of citizens to secondary and tertiary care services, which are offered with relatively more costly and limited opportunities. Otherwise, secondary and tertiary health care services become difficult to manage and cause deficiencies in the delivery and quality of services. Another consequence of the increasing demand for health services in society is delays in diagnosis, treatment, and imaging in the provision of health services, a decrease in the quality of examinations, and an increase in costs (Jamal et al., 2024). All these results make it difficult to access health services and make the financing of health services unsustainable. Planning patient

demand for secondary and tertiary health care services, as well as analysis of private hospital admissions, will provide important outputs to policymakers for the planning of the health system.

In our study, the effects of secondary-level state hospital applications, tertiary-level total hospital applications, and private hospital applications on total patient applications and the total number of invoices were studied. It aims to understand the effectiveness of the abovementioned cascading system through the data published publicly by the social insurance institution. In addition, this study aims to understand the correlation between the number of secondary hospital applications and the number of tertiary and private hospital applications.

## Materials and Methods

In this study, the data between January 2019 and December 2024 were analysed through the Social Security Institution (SSI) data application, which is open to everyone (Sosyal Güvenlik Kurumu, 2025). In the study, State Hospital 2. Number of Step Applications (Annex-1), State Hospital 3. Number of Step Applications (Annex-1), Number of Private Hospital Applications (Annex-3), Number of University Hospital Applications (Annex-1), Total Number of Hospital Applications (Annex-1), and Total Application Invoice Amount (Annex-2) data were included in the analysis. State Hospital for Analysis 3. The number of step applications and the number of applications to the University Hospital were combined in accordance with the above-mentioned legislation and are shown in the structural equation model as the total number of tertiary hospital applications. The ethics committee was obtained from the Non-Interventional Clinical Research Ethics Committee (Ethics Committee Approval: HNEAH-GOAEK/KK/2025/66) of Haydarpaşa Numune Training and Research Hospital. The statistical analyses of the research were conducted together with an expert statistician within the scope of the professional statistical support service offered to academicians within the institution.

## Statistical Analysis

In the data analysis, correlation analysis was first performed between the number of state hospital 2nd level applications, the 3rd level total number of hospital applications, the number of private hospital applications, the total number of hospital applications, and the total application invoice amount. Afterward, the structural equation model (YEM) was performed to elaborate the relationships that were significant in the correlation analysis and to explain the indirect and direct effects of the relationship between the variables.

In the study, the number of applications and the total invoice amount variables are expressed in different units of measurement, and at the same time, the data are expressed in very large numbers. In order to prevent a statistical error that may occur due to these reasons, Z-score standardisation was applied. In this way, the comparability of different magnitudes is statistically increased. In the structural equation model (SEM), standardised regression coefficients ( $\beta$ ) were more interpretable.

## Results

**Figure 1**

Monthly distribution of hospital admissions between 2019 and 2024 (right axis) and total invoice amounts (left axis). \* All monetary values are expressed in the Turkish Lira (TL).

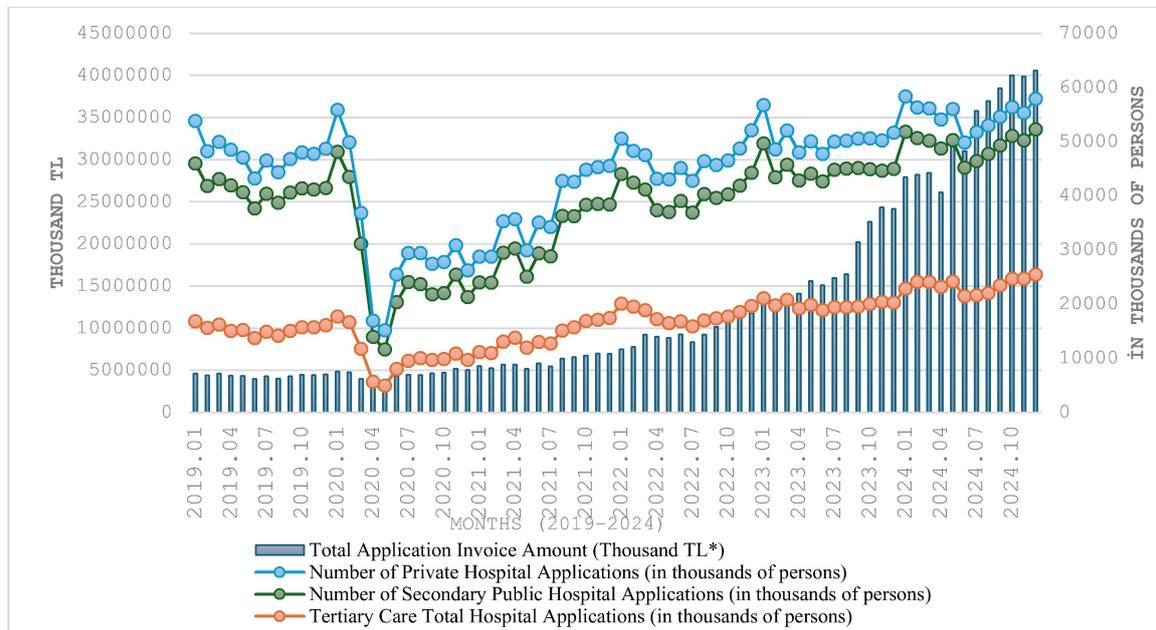


Figure 1 shows the number of hospital applications and total invoice amounts. It is understood that the number of secondary care applications in public hospitals, the number of private hospital applications, the total number of tertiary hospital applications, and the total invoice amounts increased before the COVID-19 pandemic and then decreased significantly. The number of applications varies according to the months.

The results of the correlation analysis are shown in Table 1. A positive and statistically significant correlation was found between the total amount of invoices and the total number of hospital admissions ( $r=0.681$ ,  $p<0.01$ ). Similarly, a positive and significant correlation was found between the total invoice amount and the total number of tertiary care hospital admissions ( $r=0.883$ ,  $p<0.01$ ). There is a positive but weakly significant correlation between the total invoice amount and the number of secondary care applications to the state hospital ( $r=0.362$ ,  $p<0.01$ ). There is no statistically significant correlation between the total invoice amount and the number of private hospital applications ( $p>0.05$ ). There is a positive but weak correlation between the total number of hospital admissions and the number of private hospital admissions ( $r=0.286$ ,  $p<0.05$ ). A positive and high correlation was found between the total number of hospital admissions and the total number of tertiary care admissions ( $r=0.909$ ,  $p<0.01$ ). There is a statistically positive and high correlation between the total number of hospital admissions and the number of secondary care admissions in state hospitals ( $r=0.893$ ,  $p<0.01$ ) (Table 1).

There is a positive, statistically significant, but weak correlation between the number of private hospital admissions and the number of state hospital secondary care admissions ( $r=0.388$ ,  $p<0.01$ ). There was no statistically significant relationship between the number of private hospital admissions and the number of tertiary care admissions ( $p>0.05$ ). There is a positive and statistically significant correlation between the total number of tertiary care care applications and the number of secondary care applications in state hospitals ( $r=0.674$ ,  $p<0.01$ ) (Table 1).

**Table 1**  
Correlation Analysis

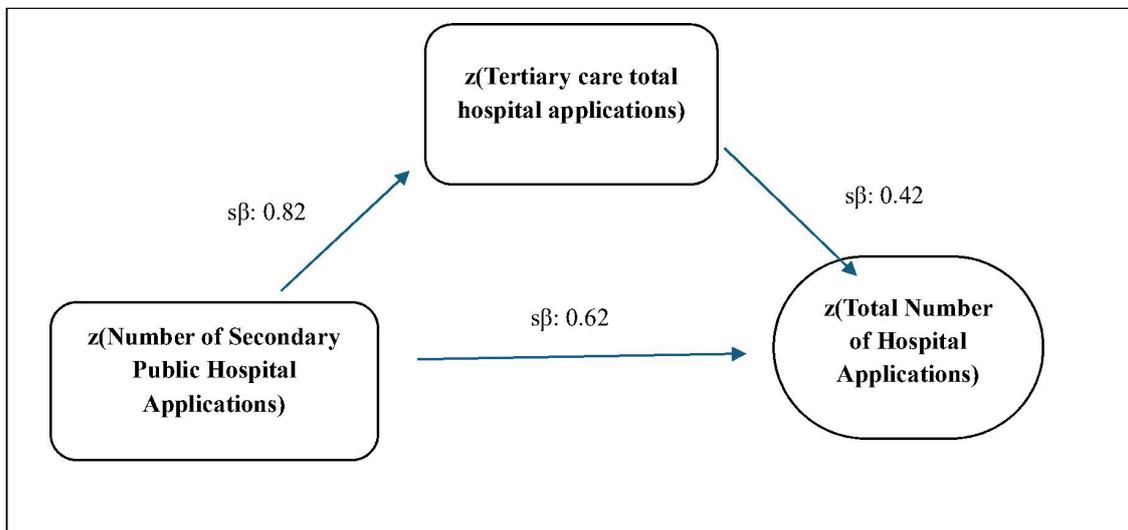
|  |   | 1      | 2      | 3      | 4      | 5 |
|--|---|--------|--------|--------|--------|---|
| <b>1. Total Application Invoice Amount (Thousand TL)</b>                             | r | 1      |        |        |        |   |
|  | p | .      |        |        |        |   |
| <b>2. Total number of hospital applications (in thousands of persons)</b>            | r | .681** | 1      |        |        |   |
|  | p | 0.000  | .      |        |        |   |
| <b>3. Number of Private Hospital Applications (in thousands of persons)</b>          | r | -0.151 | .286*  | 1      |        |   |
|  | p | 0.205  | 0.015  | .      |        |   |
| <b>4. Tertiary Care Total Hospital Applications (in thousands of persons)</b>        | r | .883** | .909** | 0.127  | 1.000  |   |
|  | p | 0.000  | 0.000  | .288   | .      |   |
| <b>5. Number of Secondary Public Hospital Applications (in thousands of persons)</b> | r | .362** | .893** | .388** | .674** | 1 |
|  | p | 0.002  | 0.000  | 0.001  | 0.000  | . |

Spearman's \*p<0.05. \*\*p<0.01

Structural equation model (SEM) was performed to elaborate the relationships that were significant in the correlation analysis mentioned above and to explain the indirect and direct effects of the correlation between the variables.

**Figure 2**

Structural equation diagram of the effect of the number of secondary and total tertiary care applications in state hospitals on the total number of admissions (Model 1)



The findings obtained as a result of the analysis show that the effect of the number of secondary care applications on the total hospital admissions is significant, directly and indirectly, over the number of tertiary care applications (Figure 2). The total number of hospital admissions is positively affected by the number of secondary care applications in state hospitals ( $\beta = 0.625$ ). Similarly, the total number of tertiary care admissions directly affects the total hospital admissions positively ( $\beta = 0.421$ ). The number of second-level applications strongly affects the total number of third-level applications ( $\beta: 0.817$ ). The number of second-level applications has an indirect positive effect on the total number of applications over the



number of third-level applications ( $\beta = 0.343$ ). The direct and indirect total effect of the number of second-level applications on the total number of applications was found to be positive  $s\beta: 0.968$  (Table 2).

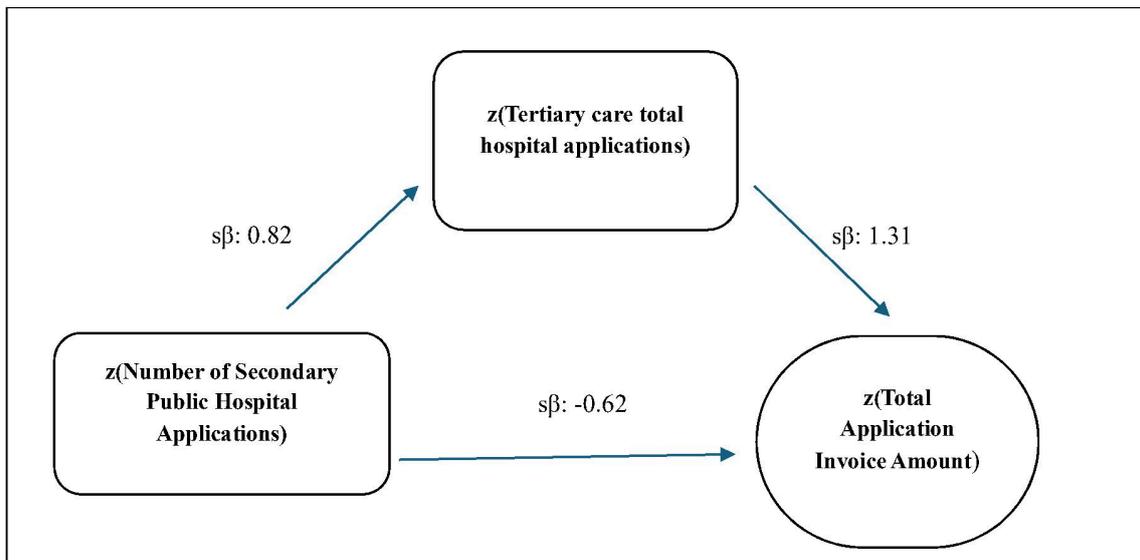
**Table 2**

Model 1 path coefficients and significance test results

| Impact Type      | path                                      | Coefficient $\beta$ | SE    | 95% confidence interval | p-value   |
|------------------|---|---------------------|-------|-------------------------|-----------|
| Indirect effect  | z-secondaryhospital→                      | 0.343               | 0.031 | [0.284–0.403]           | p < 0.001 |
|                  | z-tertiaryhospital → z-totalapplications  |                     |       |                         |           |
| Direct effect    | z-secondaryhospital → z-totalapplications | 0.625               | 0.013 | [0.599–0.650]           | p < 0.001 |
| Total effect     | z-secondaryhospital → z-totalapplications | 0.968               | 0.030 | [0.910–1.026]           | p < 0.001 |
| Mediating Effect | z-secondaryhospital → z-tertiaryhospital  | 0.817               | 0.068 | (0.683-0.951)           | p < 0.001 |
| Mediating Effect | z-tertiaryhospital → z-totalapplications  | 0.421               | 0.027 | (0.368-0.474)           | p < 0.001 |

**Figure 3**

Structural equation diagram of the effect of the number of second-level and total tertiary care applications to state hospitals on the total application total invoice amount (Model 2)



The findings obtained as a result of the analysis show that the number of second-level referrals has a direct and indirect significant effect on the total hospital referral total invoice amount through the number of third-level referrals (Figure 3). The total referral total invoice amount is directly and negatively affected by the number of second-level referrals ( $\beta = -0.620$ ). Similarly, the number of third-level visits also has a direct positive effect ( $\beta = 1.305$ ). The total direct and indirect effects of the number of second-level visits on the total visit total invoice amount were positive at  $s\beta: 0.446$  (Table 3).

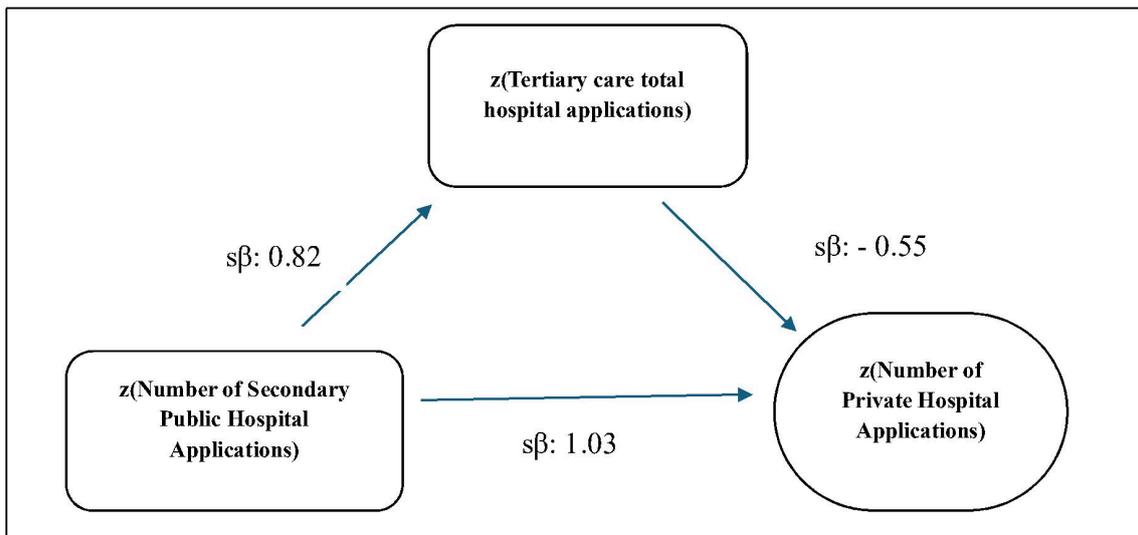
**Table 3**

Model 2 path coefficients and significance test results

| Impact Type             | path   | Coefficient $\beta$ | SE    | 95% confidence interval | p-value   |
|-------------------------|--|---------------------|-------|-------------------------|-----------|
| <b>Indirect effect</b>  | z-secondaryhospital $\rightarrow$                        | 1.066               | 0.120 | [0.831–1.130]           | p < 0.001 |
|                         | z-tertiaryhospital $\rightarrow$ z-app-<br>invoicetotal  |                     |       |                         |           |
| <b>Direct effect</b>    | z-secondaryhospital $\rightarrow$ z-app-<br>invoicetotal | -0.620              | 0.099 | [-0.813 – -0.426]       | p < 0.001 |
| <b>Total effect</b>     | z-secondaryhospital $\rightarrow$ z-app-<br>invoicetotal | 0.446               | 0.106 | [0.238–0.654]           | p < 0.001 |
| <b>Mediating Effect</b> | z-secondaryhospital $\rightarrow$ z-<br>tertiaryhospital | 0.817               | 0.068 | (0.683–0.951)           | p < 0.001 |
| <b>Mediating Effect</b> | z-tertiaryhospital $\rightarrow$ z-app-<br>invoice-total | 1.305               | 0.099 | (1.111–1.499)           | p < 0.001 |

**Figure 4**

Structural equation diagram of the effect of the number of second-level and total third-level applications to state hospitals on the total number of applications to private hospitals (Model 3)



The findings obtained from the analysis show that the number of secondary applications has a direct effect on the total number of private hospital applications and an indirect effect on the total number of tertiary hospital applications (Figure 4). The number of secondary applications has a positive direct effect on the total number of private hospital applications ( $\beta = 1.034$ ). Similarly, the total number of tertiary hospital applications directly negatively affects the number of private hospital applications ( $\beta = -0.550$ ). The number of secondary applications has an indirect negative effect on the number of private hospital applications through the total number of tertiary hospital applications ( $\beta = -0.449$ ). The direct and indirect total effect of the number of second-level applications on the number of private hospital applications was found to be positive at  $s\beta: 0.585$  (Table 4).

**Table 4***Model 3 road coefficients and significance test results*

| Impact Type             | path                                     | Coefficient $\beta$ | SE    | 95% confidence interval | p-value   |
|-------------------------|--|---------------------|-------|-------------------------|-----------|
| <b>Indirect effect</b>  | z-secondaryhospital →                    |                     |       |                         |           |
|                         | z-tertiaryhospital → z-private-hosp-app  | -0.449              | 0.130 | [-0.704 – -0.194]       | p < 0.001 |
| <b>Direct effect</b>    | z-secondaryhospital → z-private-hosp-app | 1.034               | 0.153 | [0.735–1.332]           | p < 0.001 |
| <b>Total effect</b>     | z-secondaryhospital → z-private-hosp-app | 0.585               | 0.096 | [0.396–0.773]           | p < 0.001 |
| <b>Mediating Effect</b> | z-secondaryhospital → z-tertiaryhospital | 0.817               | 0.068 | (0.683-0.951)           | p < 0.001 |
| <b>Mediating Effect</b> | z-tertiaryhospital → z-private-hosp-app  | -0.550              | 0.153 | (-0.850- (-0.250))      | p < 0.001 |

## Discussion

When evaluating the findings of our study, as shown in Figure 2, secondary public hospitals have a direct and indirect effect on total applications. The number of applications to secondary public hospitals has a strong effect on the total number of tertiary hospital applications. This situation shows the importance of secondary public hospitals in meeting patient demand. The direct effect of tertiary hospital applications on total applications is less than that of secondary public hospitals. This situation shows that the number of secondary public hospital applications is more effective than the total number of applications. This result shows that the secondary level plays an important role in meeting the total patient demand, as expected. In a study conducted with family physicians in 2018, Gençer et al. stated that 75.62% of the participants believed that the referral chain should be encouraged by charging additional fees to patients who apply to secondary healthcare institutions without first consulting their family physicians (Gençer et al., 2018). As primary care physicians, family physicians' awareness of the need to reduce the total number of secondary care visits is consistent with the expectations of the active referral chain, the reduction of congestion in tertiary care services, and the reduction of total invoice amounts, which are in line with the results of our study.

The fact that the number of applications to secondary state hospitals has a greater indirect effect on total applications than its direct effect is an important result that demonstrates the functionality of the tiered referral system. The significant presence of indirect effects is meaningful in that it shows the patient demand created at the tertiary level by patient demands that cannot be met at the secondary level. The direct effect of tertiary applications on total applications is an important result of our study. In a study conducted by Akgün and Özkaya (2024) among specialists in city hospitals in Istanbul, 65.9% of respondents argued that patients' referral requests and insistence influenced the family doctor's referral decision (Akgün & Özkaya, 2025). Considering that the study was conducted among specialist physicians working in tertiary hospitals in Istanbul, it is understood that patients' expectations of tertiary care, based on the assumption that their health needs cannot be met at lower levels of care, are an important factor explaining tertiary care demand. Gümüş and Güngörmüş (2020) conducted a study on patients who applied to the internal outpatient clinics of a state hospital and found that 91.1% of patients did not consult a family doctor before coming to the state hospital. Similarly, it was determined that 54% of patients came to the state hospital for specialist doctors and more comprehensive examinations and treatment (Çiçek Gümüş & Güngörmüş, 2020).

The impact of tertiary applications on the total invoice amount is strong and positive. The impact of secondary public hospitals on the total invoice amount is directly negative but indirectly positive through tertiary applications. This is one of the important findings of our study in terms of demonstrating the cost-effectiveness of tiering (referral chain). Although tertiary hospital applications do not affect total hospital applications as much as secondary public hospitals, the effect of tertiary applications on total invoice is much greater than that of secondary applications (Table 3). Despite the strong positive effect of second-level public hospitals on total applications, the negative direct effect on the total invoice demonstrates the contribution of the referral chain to the health economy, its cost-effectiveness, and efficiency. The results are consistent with the literature. Başol (2015) highlighted the cost-reducing effect of referral chain applications in developed countries (Başol, 2015).

Healthcare providers offering tertiary care are patients who undergo advanced examinations, imaging, and monitoring of medical processes. They are patients who receive intensive care and are monitored for complex cases that cannot be resolved at lower levels. In addition to medical reasons that increase total invoice amounts, unnecessary visits, examinations, and imaging have a significant impact on invoices. This situation is frequently highlighted in the literature. However, there is a need for a detailed analysis of the reasons underlying patients' hospital visits. In their study, Akgün and Özkaya (2024) indicated that 71.6% of physicians working in the third tier, while 70.1% of physicians indicated that the family physician did not have sufficient knowledge/experience about the disease they were facing (Akgün & Özkaya, 2025). Policymakers' awareness of the importance of the referral chain and physicians' positive attitudes towards the referral chain are not sufficient for the process to be successful. There is a need for national studies on the causes of patients' concerns and requests for higher-level care. Similarly, increasing primary care supervision and conducting studies on the assessment of medical competence will increase physicians' belief in and confidence in the referral chain.

Another aspect of patient applications discussed in our study is the effect of applications to secondary state hospitals and tertiary applications on private hospital applications. Private hospitals are healthcare providers that increase individual healthcare expenditures. Individuals may prefer private hospitals due to reasons such as overcrowding in state hospitals, preference for a particular physician to follow up on their case, physical facilities, etc. In their study on the factors affecting demand for private hospitals, Akyürek and Orhaner (2017) emphasised the importance of waiting times in private hospital preferences, while also stating that individuals prefer university hospitals in cases of severe illness (Akyürek & Orhaner, 2017). The results obtained in our study are consistent with the literature, showing that secondary public hospitals have a direct positive effect on private hospital applications. However, their indirect effect through tertiary hospitals is negative. Again, the number of third-level applications directly negatively affects the number of private hospital applications (Table 4). Our study supports the literature that the increasing intensity of applications in state hospitals reduces the quality of service (Tekin, 2015). Our study shows that the increase in secondary public hospital applications directly increases private hospital applications. However, the number of secondary applications has an indirect negative effect on the number of private hospital applications based on the total number of tertiary applications. This result supports an important conclusion that patients who meet the demand for public health services do not apply to private hospitals. Kayaoğlu and Gülmez (2020) showed in their study that individuals consider factors such as service quality, experience, success, and satisfaction when choosing private hospitals (Kayaoğlu, 2020). Our study shows that the negative effect of tertiary applications on private hospital applications indicates that individuals finding appropriate responses to their health needs at tertiary health service providers reduces the demand for

private hospitals. The trained human resources and advanced examination, imaging, etc. facilities at tertiary healthcare institutions are more effective in meeting patient demands than secondary public hospitals. This finding is consistent with the literature.

The results of our study present an analysis of SGK data on the referral chain, i.e., the stratification of healthcare providers, based on patient applications and total invoice amounts. It shows that patient applications to second-tier public hospitals have a positive effect on the total number of patient applications and third-tier patient applications. Similarly, tertiary hospital applications also positively affect the total number of patient applications. However, the negative direct effect of the number of applications to secondary public hospitals on the total invoice amount is an important result in terms of demonstrating the cost-effectiveness of the referral chain policy. Similarly, the strong positive impact of tertiary care visits on the total invoice amount indicates that reducing unnecessary visits to tertiary care providers is essential for reducing costs. In addition, the fact that the total number of tertiary and secondary public hospital applications indirectly negatively affects private hospital applications shows that citizens do not prefer private hospitals when their health needs are met by public health services.

Our study was prepared by analysing SGK data. Family medicine patient application numbers were not included in this data and therefore could not be included in the primary analysis. Foundation universities with educational and research missions are evaluated among tertiary applications in SGK data. Some institutions providing private healthcare services provide healthcare services as foundation universities. These constitute the limitations of our study.

Future studies using broader data on the tiered healthcare system or referral chain could contribute more to the literature.

Overall, the establishment of a referral chain is an important health policy aimed at ensuring that healthcare services are provided in a fair, cost-effective, and sustainable manner.

## Conclusion

Our study shows that the quality of secondary healthcare services needs to be improved and expanded. Similarly, reducing unnecessary patient visits to tertiary healthcare services will improve the quality of healthcare services and reduce the total invoice amount. Improving the quality of secondary and tertiary healthcare services and reducing unnecessary visits will decrease individuals' preference for private hospitals due to reasons such as service quality and long examination times. This is expected to protect society from the catastrophic effects of healthcare.

Our study supports the implementation of referral chains as an effective policy for increasing efficiency in healthcare services, equitable access to healthcare services, sustainability, and cost-effective policy. However, there is a need for large-scale studies to investigate the demand and supply-side reasons for the ineffective implementation of referral chains in detail.



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| <a href="#">Ethical Committee Approval</a> | The study was approved by the Non-Interventional Clinical Research Ethics Committee of Haydarpaşa Numune Training and Research Hospital (Date: 06.052025; HNEAH-GOAEK/KK/2025/66). |
| <a href="#">Peer Review</a>                | Externally peer-reviewed.  |
| <a href="#">Conflict of Interest</a>       | The author has no conflict of interest to declare.   |
| <a href="#">Grant Support</a>              | The author declared that this study has received no financial support.   |

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## Appendix

### Appendix 1: "Total number of applications" indicator information

**Indicator:** Total number of applications

**Value:** in thousands of persons

**Definition:** It refers to the applications made to health service providers by insured persons and their dependents who are covered by General Health Insurance and, in exceptional cases, by persons who are not covered by General Health Insurance.

1-Secondary Care State Hospitals: It refers to the number of applications made to state hospitals and branch hospitals that are not training and research hospitals contracted with the institution, district polyclinics affiliated to these hospitals, integrated district state hospitals, oral and dental health centres affiliated to the Ministry of Health, Istanbul Governorship Hospice Institution Directorate Hospital, and hospitals belonging to municipalities and medical centres and branch centres belonging to public institutions.

2-Tertiary State Hospitals: It refers to the number of applications made to training and research hospitals affiliated to the Ministry of Health and private branch training and research hospitals contracted with the institution and to the district polyclinics affiliated to these hospitals.

3- Secondary Care Private Hospitals: It refers to the number of applications made to hospitals licenced according to the "Regulation on Private Hospitals" contracted with the institution, medical centres opened within the scope of the "Regulation on Private Health Institutions Providing Outpatient Diagnosis and Treatment," and medical centres and branch centres that continue their activities according to the temporary second article of the "Regulation on Private Health Institutions Providing Outpatient Diagnosis and Treatment."

4-University Hospitals: It refers to the number of applications made to the hospitals of foundation and state university hospitals contracted with the institution, health application and research centres, institutes and district polyclinics affiliated to these hospitals, and the dentistry faculties of the universities.

**Publication frequency:** Monthly

**Release Schedule:** Last Business Day of Each Month

**Source:** <https://net.sgk.gov.tr/SgkVeriV2/>

### Appendix 2: "Total invoice amount" indicator information

**Gösterge:** Total invoice amount

**Value:** Thousand TL

**Definition:** It refers to the invoice amount incurred as a result of the applications made to the health service providers by the insured persons and their dependents who are covered by the General Health Insurance and the persons who are not covered by the General Health Insurance in exceptional cases.

1-Secondary Care State Hospitals: It refers to the invoice amount sent to the Institution in the relevant month by state hospitals and branch hospitals that are not training and research hospitals contracted with the Institution, district polyclinics affiliated to these hospitals, integrated district state hospitals, oral and dental health centres affiliated to the Ministry of Health, Istanbul Governorship Hospice Institution Directorate Hospital, and hospitals belonging to municipalities and medical centres and branch centres belonging to public institutions.

2-Tertiary State Hospitals: It refers to the invoice amount sent to the Institution in the relevant month by the training and research hospitals affiliated to the Ministry of Health and private branch training and research hospitals contracted with the Institution and the district polyclinics affiliated to these hospitals.

3- Secondary Private Hospitals: It refers to the invoice amount sent to the Institution in the relevant month by the hospitals licenced according to the "Regulation on Private Hospitals" contracted with the Institution, the medical centres opened within the scope of the "Regulation on Private Health Institutions Providing Outpatient Diagnosis and Treatment" and the medical centres and branch centres that continue their activities according to the provisional second article of the "Regulation on Private Health Institutions Providing Outpatient Diagnosis and Treatment".

4-University Hospitals: It refers to the invoice amount sent to the institution in the relevant month by the foundation and state university hospitals contracted with the institution, the health application and research centres, institutes and district polyclinics affiliated to these hospitals, and the hospitals of the dentistry faculties of the universities.

**Publication frequency: Monthly**

**Release Schedule:** Last Business Day of Each Month

**Source:** <https://net.sgk.gov.tr/SgkVeriV2/>

**Appendix 3:** "Number of Private Hospital Applications" indicator information

**Indicator:** Number of Private Hospital Applications

**Value:** in thousands of persons

**Definition:** It refers to the number of applications made to hospitals licenced according to the "Regulation on Private Hospitals" contracted with the institution, medical centres opened within the scope of the "Regulation on Private Health Institutions Providing Outpatient Diagnosis and Treatment," and medical centres and branch centres that continue their activities according to the provisional second article of the "Regulation on Private Health Institutions Providing Outpatient Diagnosis and Treatment."

**Publication frequency: Monthly**

**Release Schedule:** Last Business Day of Each Month

**Source:** <https://net.sgk.gov.tr/SgkVeriV2/>