Published Online: 2025 August 10 **Editorial**

Managing Inappropriate Hospital Admissions in Iran's Public Hospitals: Policy Recommendations

Mohammad Khammarnia [1,*], Tahereh Rigi [2], Bita Moudi [3]

[1] Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran
[2] Library of Ali Ibn-Abi Taleb Hospital, Zahedan University of Medical Sciences, Zahedan, Iran
[3] Infectious Diseases and Tropical Medicine Research Center, Research Institute of Cellular and Molecular Sciences in Infectious Diseases, Zahedan University of Medical Sciences, Zahedan, Iran

[*] ***Corresponding Author:*** Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran. Email: m_khammar1985@yahoo.com

Received: 29 April, 2025; **Revised:** 2 August, 2025; **Accepted:** 3 August, 2025

Keywords: Inappropriate Admissions, Hospital Utilization, Health Transformation Plan

Dear Editor,

Controlling hospital costs is a key priority for health system managers. In this regard, inappropriate hospital admissions significantly drive up costs and impair system efficiency and effectiveness (1-3). This issue imposes an unnecessary financial burden on both the health system and patients, occupies beds reserved for genuine patients, and increases the workload of healthcare personnel, ultimately lowering service quality. Key contributing factors include changes in hospitalization policies, lack of precise mechanisms to assess admission necessity, and deficiencies in the referral system and service stratification (3-6). Furthermore, the implementation of Iran's Health Transformation Plan (HTP), intended to increase access to hospital services and reduce costs, has paradoxically been associated with increased workload and hospitalizations, which may partly explain the rise in inappropriate admissions (7, 8).

Local Study in Southeast of Iran and National Perspective Development

In a cross-sectional study conducted in 2020 in the two largest public hospitals affiliated with Zahedan University of Medical Sciences (ZAUMS), 8.3% of admissions and 3.5% of hospital days were rated inappropriate. Additionally, 12% of laboratory services, physician visits, nursing care, and pharmaceutical interventions were deemed unnecessary. The highest rates were found in internal medicine and surgical departments in public hospitals (3). A national systematic review and meta-analysis of 17 studies reported a pooled inappropriate admission rate of 12.3% (95% CI: 8.4% - 17.5%) and a hospitalization rate of 11.9% (95% CI: 7.7% - 18.1%). Notably, the admission rate declined after the HTP from 14.6% to 10%, while the hospitalization rate increased post-plan from 9.5% to 16.9% (9). In Semnan (2014), inappropriate admissions were 7.4% and inappropriate hospital stays were 22.1%, mostly attributed to delays in diagnostics and conservative physician discharge policies (10). A study in Shiraz (2010) estimated an inactive admission rate of 22% and inappropriate stays around 29.6%, with a clear link between inappropriateness, longer length of stay, and increased cost (11). At Tehran University hospitals, about 8.6% of hospital days were considered inappropriate, often tied to specialty-specific and administrative factors (12).

These findings confirm that inappropriate hospital utilization is a widespread issue across Iran and support the need for nationally scalable solutions.

Policy Making and Practical Suggestions

Based on local and national evidence, we recommend the following policy interventions, presented conceptually under thematic headings to enhance clarity and applicability.

1. Referral system and clinical guidelines: (A) optimizing the referral system by strengthening primary and outpatient care to reduce unnecessary admissions; (B) developing and implement standard clinical guidelines for admission and discharge, substantiated by protocols such as the appropriateness

How to Cite: Khammarnia M, Rigi T, Moudi B. Managing Inappropriate Hospital Admissions in Iran's Public Hospitals: Policy Recommendations. Health Scope. 2025; 14 (4): e161223. https://doi.org/10.5812/healthscope-161223.

evaluation protocol (AEP), which have demonstrated utility in credible studies (11, 12).

2. Triage processes and artificial demand control: (A) reforming clinical triage mechanisms and hospital entry points, particularly in the emergency department and for surgery scheduling; (B) controling induced demand for elective patients through follow-up, monitoring, and documentation of admission reasons.

3. Human resources and specialist oversight: (A) increasing the presence of internists, senior surgeons, and hospitalists in public hospitals to expedite decision-making and reduce unnecessary lengths of stay; (B) actively monitoring physician activities — studies have shown that physician-related factors account for the largest share of inappropriate admissions (9).

4. Training, monitoring, and digital infrastructure: (A) providing continuous training and awareness to healthcare staff regarding the importance of appropriate admissions and assessment methods; (B) establishing an electronic monitoring system within patient records to log and flag inappropriate admissions and unjustified stays.

5. Timely discharge and bed capacity management: Expediting the discharge of patients who no longer require hospitalization and prevent the cancellation of scheduled surgeries to improve bed productivity (3).

Conclusions

In summary, the combination of findings from ZAUMS and national studies reveals that rates of inappropriate admissions and stays in Iran range from 7% to over 22%, depending on region and timeframe. This demonstrates an urgent need for systematic policy reform. Our focused recommendations, particularly on strengthening referral systems, clinical guidelines, and specialist oversight, are both context-sensitive and adaptable to diverse healthcare settings. Such reforms are expected to reduce hospital expenditures, enhance health system efficiency, and ultimately improve the quality of healthcare services.

Acknowledgements

We gratefully acknowledge the Knowledge Translation Unit of Zahedan University of Medical Sciences for their substantial collaboration and support.

Footnotes

Authors' Contribution: Study concept, design, acquisition of data, statistical analysis, study supervision, and administrative, technical, and material support: M. Kh.; Analysis, interpretation of data, and critical revision of the manuscript for important intellectual content: B. M.; Drafting of the manuscript: T. R.

Conflict of Interests Statement: The authors declare no conflict of interest.

Data Availability: The dataset presented in the study is available on request from the corresponding author during submission or after publication.

Ethical Approval: This study is approved under the ethical approval code of Ethical Committee of Zahedan University of Medical Sciences (ZAUMS) (IR.ZAUMS.REC.1398.099).

Funding/Support: Grant number: 9207.

References

1. Soltani S, Hoseini Kasnavieh M, Shaker H, Abbasian A, Amanollahi A, Tahmasebi A. Evaluation of Inappropriate Admission and Hospitalization According to Appropriateness Evaluation Protocol and Estimation of Direct Financial Burden. *Shiraz E-Med J*. 2019;**20**(12). https://doi.org/10.5812/semj.87870.
2. Arab-Zozani M, Pezeshki MZ, Khodayari-Zarnaq R, Janati A. Inappropriate Rate of Admission and Hospitalization in the Iranian Hospitals: A Systematic Review and Meta-Analysis. *Value Health Reg Issues*. 2020;**21**:105-12. [PubMed ID: 31704488]. https://doi.org/10.1016/j.vhri.2019.07.011.
3. Khamarnia M, Payandeh A, Keshtkaran A, Ramezani F. [Inappropriate hospital admission rates after the implementation of the health system transformation plan: A cross-sectional study in southeastern Iran]. *Payesh*. 2022;**21**(4):343-54. FA. https://doi.org/10.52547/payesh.21.4.343.
4. Kermani B, Gharsi M, Ghanbari B, Sarabi Asiabar A, Atefi Manesh P, Baniasadi A, et al. [The Relationship between the Levels of Patient Care and Length of Stay in Hospital]. *Neurosci J Shefaye Khatam*. 2015;**3**(S1):32-40. FA. https://doi.org/10.18869/acadpub.shefa.3.3.32.
5. Setoodehzadeh F, Ansari-Moghaddam A, Khammarnia M, Barahouei FB. The Impact of the Health Transformation Plan on Hospital Performance Indicators: A Meta-analysis Study in an EMRO Region Country. *Int J Prev Med*. 2024;**15**:24. [PubMed ID: 39239300]. [PubMed Central ID: PMC11376520]. https://doi.org/10.4103/ijpvm.ijpvm_69_23.
6. Miri Bonjar M, Khammarnia M, Bakhshi M, Ansari-Moghaddam A, Okati-Aliabad H, Mohammadi M. Impact of the Health Transformation Plan on the Number of Surgical Operations and Their Cancelation. *Inquiry*. 2019;**56**:46958019846385. [PubMed ID: 31587603]. [PubMed Central ID: PMC6778997]. https://doi.org/10.1177/0046958019846385.
7. Ranjbar M, Bazyar M, Jafari H, Pakdaman M, Pirasteh V. Investigating the effect of health transformation plan on the public hospitals performance indicators; a case study from Iran. *BMC Health Serv Res*. 2021;**21**(1):1133. [PubMed ID: 34674684]. [PubMed Central ID: PMC8532262]. https://doi.org/10.1186/s12913-021-07164-y.
8. Piroozi B, Rashidian A, Takian A, Amerzadeh M, Sakha MA, Faraji O, et al. The impact of health transformation plan on hospitalization rates in Iran: An interrupted time series. *Int J Health Plann Manage*. 2019;**34**(1):e264-73. [PubMed ID: 30207409]. https://doi.org/10.1002/hpm.2645.

9. Kouhestan SM, Hashempour R, Raei B, Chivaee D, Safari H. Prevalence and determinants of inappropriate admission and hospitalization in Iran: A systematic review and meta-analysis. *Med J Islam Repub Iran*. 2020;**34**:2. [PubMed ID: 32284926]. [PubMed Central ID: PMC7139265]. https://doi.org/10.34171/mjiri.34.2.
10. Ghods AA, Khabiri R, Raeisdana N, Ansari M, Hoshmand Motlagh N, Sadeghi M, et al. Predictors of inappropriate hospital stay: experience from Iran. *Glob J Health Sci*. 2014;**7**(3):82-9. [PubMed ID: 25948427]. [PubMed Central ID: PMC4802064]. https://doi.org/10.5539/gjhs.v7n3p82.
11. Hatam N, Askarian M, Sarikhani Y, Ghaem H. Necessity of admissions in selected teaching university affiliated and private hospitals during 2007 in Shiraz, Iran. *Arch Iran Med*. 2010;**13**(3):230-4. [PubMed ID: 20433228].
12. Pourreza A, Kavosi Z, Khabiri R, Salimzadeh H. Inappropriate admission and hospitalization in teaching hospitals of Tehran University of Medical Sciences, Iran. *Pak J Med Sci*. 2008;**24**(2):301-5.