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BRIEF REPORT

Effect of Video-Assisted Tele-triage on Waiting Times in the Emergency Department: Preliminary Single-Centre Results

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ABSTRACT

Objective: To evaluate the effect on waiting times of video-assisted tele-triage, in which a remote emergency physician supports the triage nurse during peak hours.

Methods: In this before–after study, records of adult patients presenting to the emergency department between 16:00 and 24:00 in the pre-implementation (September–November 2024) and post-implementation (September–November 2025) periods were reviewed retrospectively. The primary outcome was door-to-triage time; secondary outcomes were door-to-physician time and the rate of patients leaving without being seen.

Results: A total of 4,812 visits before and 5,027 visits after implementation were analysed. The median door-to-triage time fell from 14 to 6 minutes and the door-to-physician time from 48 to 37 minutes ($p < 0.001$ for both). The rate of leaving without being seen decreased from 4.1% to 2.6%. There was no significant change in the undertriage rate.

Conclusion: Video-assisted tele-triage may shorten waiting times during peak hours without reducing safety. The results need to be confirmed in multicentre studies.

Keywords: emergency department; triage; telemedicine; waiting time; crowding

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INTRODUCTION

Emergency department crowding can lead to longer waiting times, patients leaving without being seen and adverse clinical outcomes [1,2]. Triage is one of the steps where crowding is felt most, and the workload of the triage nurse rises markedly in the evening hours. Telemedicine can quickly bring specialist support to places where it is not physically available [4]. In this brief report, we present the first results of video-assisted tele-triage, in which a remote emergency physician supports the triage nurse during peak hours.

METHODS

The study was conducted with a before–after design in the emergency department of a state hospital with about 85,000 visits per year. From September 2025, a video system connecting an emergency physician remotely was installed in the triage area between 16:00 and 24:00. Together with the nurse, the physician assessed the patient, assigned the Emergency Severity Index (ESI) level [3] and, when needed, ordered initial tests at triage.

Records of patients aged 18 years or older presenting at the same hours in the pre-implementation (September–November 2024) and post-implementation (September–November 2025) periods were retrieved retrospectively from the hospital information system. Patients taken directly to the resuscitation area by the trauma team were excluded. Undertriage was assessed by two specialists reviewing 400 randomly selected records from each period. Times were compared with the Mann–Whitney U test and proportions with the chi-square test.

RESULTS

A total of 4,812 visits before and 5,027 visits after implementation were analysed. Age, sex and ESI distribution were similar in the two periods. The results are summarised in Table 1.

Table 1. Main outcomes before and after implementation

Outcome	Before (n = 4,812)	After (n = 5,027)	p
Door-to-triage, min	14 (8–23)	6 (3–11)	<0.001
Door-to-physician, min	48 (29–76)	37 (22–60)	<0.001
Left without being seen, n (%)	197 (4.1)	131 (2.6)	<0.001
Undertriage, %	3.2	2.9	0.41

Times are given as median (interquartile range).

DISCUSSION

Video-assisted tele-triage more than halved the door-to-triage time during peak hours, shortened the door-to-physician time by about 11 minutes and reduced the proportion of patients leaving without being seen. The unchanged undertriage rate suggests that the shorter times were achieved without compromising the quality of assessment.

The before–after design does not allow us to exclude the effect of other process changes in the same period. Although the same months of two years were compared to reduce seasonal effects, the results are limited to a single centre.

CONCLUSION

Video-assisted tele-triage is a feasible method for shortening waiting times during peak hours in emergency departments. Multicentre studies that also assess cost-effectiveness and patient outcomes are needed.

Ethics approval: The study was approved by the Altınkoru University Clinical Research Ethics Committee (decision no: 2026/02-11). Informed consent was waived because of the retrospective design.

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

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Author contributions: BE: concept, data collection, writing; GT: design, statistical analysis; VS: data collection, critical review.

REFERENCES

1. Hoot NR, Aronsky D. Systematic review of emergency department crowding: causes, effects, and solutions. Ann Emerg Med. 2008;52(2):126-36.
2. Sun BC, Hsia RY, Weiss RE, Zingmond D, Liang LJ, Han W, et al. Effect of emergency department crowding on outcomes of admitted patients. Ann Emerg Med. 2013;61(6):605-11.
3. Gilboy N, Tanabe P, Travers D, Rosenau AM. Emergency Severity Index (ESI): a triage tool for emergency department care, version 4. Implementation handbook 2012 edition. Rockville (MD): Agency for Healthcare Research and Quality; 2011.
4. Hollander JE, Carr BG. Virtually perfect? Telemedicine for Covid-19. N Engl J Med. 2020;382(18):1679-81.