

Improving Emergency Department Efficiency Through a Primary-Care-Led Fast Track Model: A High-Volume Hospital Experience

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INTRODUCTION & AIM

Emergency Departments (EDs) in Greece face persistent challenges related to overcrowding, prolonged waiting times, staff shortages, and limited infrastructure. Many patients seek care in EDs for conditions that could be managed at the primary care level. The General Hospital of Nikaia, among the busiest in Athens, reports more than 107,000 annual ED visits, highlighting the urgency for operational improvements. To mitigate system strain and streamline patient flow, a Fast Track (FT) area staffed by primary care physicians was introduced in 2017.

METHOD

The Fast Track intervention targeted low-acuity patients who did not require immediate resuscitation or advanced diagnostic interventions. All ED incomings were triaged using the proprietary multi-layer triage system. Eligible for fast track referral were priority 4 and 5 patients with NEWSs of 0–3, ambulatory individuals over 16 years of age, and minor trauma cases. Additional specialty pathways were delineated for more specialties. Operational metrics, including Fast Track utilization, referral rates, and admission rates among referred patients, were monitored over time during the period 2017-2024, to evaluate effectiveness.

Year (February)	Visits ED	EMS	Special pathways	FAST
2017	9309	914 (9,82%)	1666 (17,90%)	110
2022	7221	923 (12,78%)	1147 (15,88%)	288
2024	8727	1098 (12,59%)	1459 (16,71%)	566

* Special pathway : Dermatology, ENT, Ophthalmology, Pregnancy, Dentist, Pediatrics, Pediatric Surgeon

RESULTS & DISCUSSION

Findings indicate a significant increase in Fast Track utilization across the observation period, rising from 1.63% in 2017 to 9.17% in 2024 of all Fast Track-eligible ED attendances (i.e., total ED arrivals excluding EMS arrivals and direct specialty referrals).

Year	FAST	ED VISITS	Eligible for F/T = ED-EMS - Special	PROPORTION
2017	110	9309	6729	1.63%
2022	288	7221	5151	5.59%
2024	566	8727	6170	9.17%

Referral rates from Fast Track to the main ED decreased, demonstrating improved case resolution within the FT area. By 2024 only 1 in 5 patients were referred, while nearly 9 out of 10 patients were fully managed within fast compared to more than half in 2017.

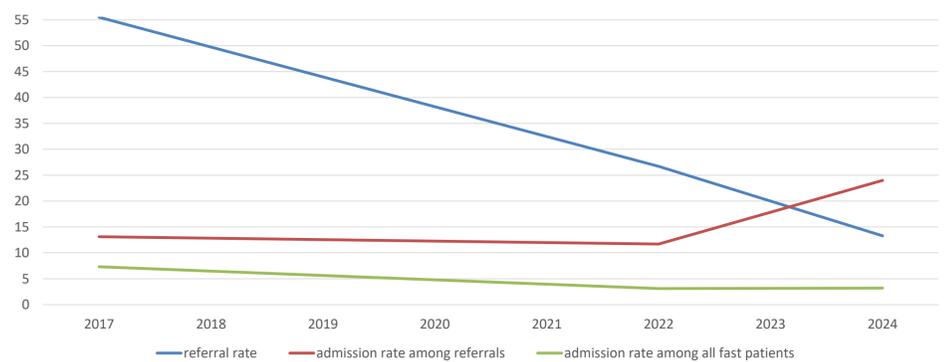
Simultaneously, the proportion of referrals that resulted in hospital admission increased, suggesting more appropriate and targeted identification of patients requiring higher-level care.

Specifically, the percentage of patients admitted from referrals to subspecialties was 13.1% in 2017, 11.7% in 2022, and 24% in 2024. The main medical areas, and particularly the internal medicine area, experienced demonstrable relief from patient congestion.

Admission Rate among referrals

Year	Referrals	Admitted	Admission rate (%)= Admitted / Referred	Admission rate (%) Admitted / Fast
2017	61	8	13.1%	7.3%
2022	77	9	11.7%	3.1%
2024	75	18	24%	3.2%

Fast track Outcome over time



CONCLUSION

The implementation of a primary-care-led Fast Track area contributed to optimized resource allocation and reduced bottlenecks within a high-demand ED environment. The model effectively improved patient flow and represents a viable strategy for enhancing acute care delivery in resource-strained healthcare systems.

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