SEUP
SOCIEDAD ESPAÑOLA DE URGENCIAS DE PEDIATRÍA

EMERGENCIASPediátricas
Vol. 4. No. 2. May - August 2025

Emerg Pediatr. 2025; 4(2): 133-135

SCIENTIFIC LETTER

Assessment of a specific care pathway for patients referred from Primary Care to a Hospital Pediatric Emergency Department

Verónica Patricia Guerra Salazar[1], Júlia Plaja Aguilar[1], José Martínez Hernando[2], Arantxa Aparicio Coll[2], Victoria Trenchs Sainz de la Maza[2,3], Carles Luaces Cubells[2,3]

[1]Department of Pediatrics. Hospital Sant Joan de Déu Barcelona. Esplugues de Llobregat, Barcelona. [2]Emergency Department. Hospital Sant Joan de Déu. Esplugues de Llobregat, Barcelona. [3]Universidad de Barcelona. Barcelona

A considerable proportion of patients seen in a hospital Pediatric Emergency Department (PED) are initially referred from a Primary Care Center (PCC) or private medical consultations (PMCs), where a physician performs the initial assessment and determines that referral to a hospital is necessary[1,2]. These patients differ from those who present on their own initiative, as they have been initially assessed by a physician and are referred with a report requesting specific actions. The reasons for hospital referral vary and may include the need for diagnostic tests not available in primary care, urgent evaluation by a specialist, or the initiation of treatments that cannot be provided at the primary care level[2,3]]. At our center, the care pathway for referred patients is identical to that for those who attend on their own initiative: initial data registration at admission, triage classification, and post-triage waiting based on the assigned level. During periods of high demand, waiting times in the emergency department increase for this group of patients, as well as for others. In this context, there is a rise in emergency department abandonment, higher rates of return visits, and increased discomfort among patients and their families.

As previously mentioned, since these patients have already been evaluated by another physician, an initiative was proposed to optimize their care through a pilot study conducted in October 2023. A specific care pathway was developed to establish a system for prioritizing referred patients. At the time of registration, referral status was recorded, and after triage classification (which remained unchanged regardless of referral), a pediatrician specialized in emergency medicine evaluated these patients in consultation rooms specifically reserved for this purpose, separate from those used for patients who came on their own initiative. The remaining pediatricians attended to these patients through the standard care pathways in the emergency and urgent care areas.

The aim of this study was to determine whether a specific care pathway for referred patients improved their management in the PED.

A descriptive observational study was conducted in the PED of a tertiary maternal and child hospital in Barcelona. We reviewed the electronic medical records of patients under 18 years of age who were seen between 8:00 a.m. and 8:00 p.m. on weekdays and were referred from a PCC, a primary care emergency center (PCEC), or a PMC. Data were collected for two periods: October 2022 (prior to the pilot test) and October 2023 (during the implementation of the specific care pathway). Patients seen exclusively by the Traumatology, Surgery, and/or Psychiatry departments, as well as those referred from other hospitals, were excluded from the analysis.

Improvements in hospital care were defined as a reduction in the number of triaged patients who left without being seen (dropout rate), a decrease in waiting time for medical evaluation (measured in minutes from arrival at the PED to the start of care), and a reduction in the need for scheduled follow-up appointments with other specialists or additional diagnostic tests to complete the consultation.

For the statistical analysis, the extracted data were analyzed using IBM SPSS Statistics for Windows, Version 29.0.0.0 (IBM Corp., Armonk, NY, USA, 2023). Descriptive statistics were used, with means or medians for quantitative variables and percentages for categorical variables. The hospital's ethics committee approved the study.

Received on december 3, 2024
Accepted on march 17, 2025

Corresponding author:
Dr. José Martínez Hernando.
E-mail: jose.martinezh@sjd.es

In October 2022, there were 343 referrals out of a total of 4,755 visits (7.2%), compared to 359 referrals out of 4,303 visits (8.3%) in October 2023 (p= 0.045). The median age of referred patients in 2022 was 4.1 years (interquartile range [IQR]: 1.2–8.9 years), compared to 4.0 years in 2023 (IQR: 1.0–9.9 years) (p= 0.91). Regarding the hourly distribution of referrals, 43% arrived at the PED during the morning shift (08:00–14:00), while 57% arrived in the afternoon (14:00–20:00). In October 2022, the dropout rate among referred patients was 3.8% (13 patients), whereas in 2023, no referred patients left the PED without being seen (p< 0.001). Table 1 presents the comparison according to triage level, waiting times, and discharge destination.

Analysis of the results showed that the percentage of pediatric referrals was similar to that reported in other studies, such as Yebra Delgado et al., who found a rate of 7.2% in the Gijón area[4], and San José-González et al, who reported a rate of 9% in Lugo[5]. The time distribution of referrals, with a predominance in the afternoon, was consistent with findings from other studies[6]. The most frequent reasons for referral were the need for complementary tests and evaluation by another specialists[7]. It would be valuable to assess the resources available in various primary care centers and consider providing them with additional diagnostic tools to reduce the number of referrals, thereby minimizing patient travel and alleviating the demand on hospital care[2].

We found that implementing a specific care pathway for referred patients led to a notable improvement in their management, according to the defined criteria. There was a reduction in the median waiting time, particularly among patients classified in the lower triage priority levels. This may help explain the absence of patients who left the PED without being seen. However, there was no significant decrease in the rate of follow-up appointments scheduled at discharge during the pilot phase of the new pathway. This may be attributed to the fact that most pediatric subspecialties provide care only during morning hours, whereas a higher proportion of referrals occurred in the afternoon.

The results demonstrate an improvement in certain aspects of patient care during the pilot test, suggesting that long-term implementation of this pathway should be considered. However, such a strategy would require additional personnel and appropriate space, which is currently unfeasible due to limited available resources. Nevertheless, the implementation of a single, isolated care pathway might be insufficient[8]. As previously mentioned, a considerable number of referrals require assessment by pediatric subspecialties outside the PED, which often cannot be provided immediately. Improving communication between primary care and these subspecialty services through the creation of a direct referral pathway could reduce visits to the PED that primarily serve a liaison function.

The results of our pilot study demonstrate the usefulness of a specific care pathway in improving the management of referred patients. Nevertheless, we believe that optimal communication and coordination between hospital centers and primary care would represent the ideal approach to enhancing their care. At a broader level, effective organization across the different levels of the healthcare system is essential to optimize pediatric care, not only to reduce the burden on healthcare services, but also to lower costs and improve care quality and patient experience.

TABLE 1. Patients referred to the PED (pediatrics only) seen according to triage level, median waiting time according to triage level and destination.

	2022 (n= 330)	2023 (n= 359)	p
Triage level			*0.366*
2	33 (10%)	30 (8.4%)	
3	133 (40.3%)	128 (35.7%)	
4	141 (42.7%)	168 (46.8%)	
5	23 (7%)	33 (9.2%)	
Median waiting Triage 2 (min)	21	15	***0.018***
Median waiting Triage 3 (min)	43.5	24	***<0.001***
Median waiting Triage 4 (min)	168.5	56.5	***<0.001***
Median waiting Triage 5 (min)	196	44	***<0.001***
Destination at discharger from PED			*0.811*
Home	231 (70%)	248 (69.1%)	
Appointment with specialist	45 (13.6%)	55 (15.3%)	
Admission	54 (16.4%)	56 (15.6%)	

FUNDING

The authors report no financial support related to the present study.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

REFERENCES

1. Mollar JB, Vara M, Meneu R, Roselló M, Ripoll P. Derivaciones desde Atención Primaria a las urgencias hospitalarias en el departamento 7 de Valencia. FML. 2010; 14(3): 6.
2. Pérez Martín A, López Lanza JR, Dierssen Sotos T, Villa Puente M, Raba Oruña S, del Río Madrazo JA. Análisis de las derivaciones hospitalarias desde un servicio de urgencias de Atención Primaria durante un año. Semergen. 2007; 33(7): 341-8.
3. Escobedo F, González Gil L, Salarichs M, Manzano A, López I, Martín JA, et al. Evaluación de las urgencias hospitalarias desde un área básica de salud (ABS). Aten Primaria. 1997; 19(4): 169-75.
4. Yebra Delgado S, Bravo Merino L, Suárez Gil P. Análisis de la atención a la población pediátrica por médicos de familia en un punto de atención continuada. Semergen. 2019; 45(8): 523-7.

5. San José-González MA, Méndez-Fernández P, Basanta-González D, Núñez-García C. Atención urgente de una población pediátrica rural en un punto de atención continuada. Aten Primaria. 2008; 36(9): 524–5.
6. Bouzas Senande E, López Olmeda C, Cerrada Cerrada E, Olalla Linares J, Menéndez JL. Adecuación de las derivaciones desde atención primaria al servicio de urgencias hospitalario en el Área 9 de Madrid. Emergencias. 2005; 17: 215-9.
7. Trenchs V, Hernández-Bou S, Fernández-Santervás Y, Quintillá JM, Luaces C, García-García JJ, et al. Anàlisi dels motius de derivació a un servei d'urgències pediàtriques. Bol Soc Catalana Pediatr. 2003; 63: 69-72.
8. Hodgson HS, Webb N, Diskin L. Consultant-led triage of paediatric hospital referrals: a service evaluation. BMJ Paediatr Open [Internet]. 2021; 5(1): e000892.