

Crowd Control: The Input Problem in the Pediatric Emergency Department

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Emergency department (ED) attendance has seen a worldwide increase over the past decade and Portugal tops the chart as the country with the highest number of visits per capita, with over 70 visits per 100 inhabitants each year.¹ This escalating growth in demand inevitably contributes to ED crowding, which can be defined as a situation where the need for emergency services exceeds the available resources for patient care, leading to compromised quality and access to health care.²

Studies performed in adult EDs have documented some of the consequences of crowding, including longer waiting times, patient dissatisfaction, safety and efficiency problems, and increased morbidity.² Even though the impact of crowding in pediatric EDs is less clear, reports have shown increases in the time to the administration of antibiotics in sepsis and delays in the treatment of asthma and fracture care.³⁻⁵

The etiology of ED crowding is multifactorial and its determinants can be grouped into three conceptual moments of the flow of emergency care: input factors (volume of visits), throughput factors (the process of care from door to door and their associated resources) and output factors (ED disposition).² While the delay of admitted patient transfer (i.e. output) is considered to be the leading factor of adult ED crowding, patient volume (i.e. input) represents a more significant influence in the pediatric setting.² Two specific sub-groups are the main contributors to the high volume of visits that overcrowd pediatric EDs: inappropriate visits and frequent users.² Inappropriate visits are those from patients who self-refer with low urgency problems that are unlikely to require admission and are more suitable for other services, such as primary care or telephone advice helplines.⁶ There is a perception that EDs are convenient 'one-stop shops' where patients can get direct access to a specialist, often bypassing the general practitioner (GP).⁷ Reports have shown that these visits can account for up to 40% of pediatric ED visits.⁸ This type of misuse of EDs can divert resources from time-sensitive and life-threatening situations with potential health risks.⁹ Furthermore, the replacement of primary care compromises the efficient

use of health care resources and leads to a lack of continuity and follow-up.⁶

On the other hand, frequent or high ED use is defined as recurrent use over a period of time by certain individuals, with the cut-off number in the literature varying from 2-12 times per year.¹⁰ These patients represent a significant burden to health care providers, as studies have shown that up to 72% of pediatric ED visits are accounted for by frequent users.¹¹ In the current issue of the Portuguese Journal of Pediatrics, Botelho et al. report a case-control study of pediatric ED frequent users at a level II hospital.¹² Despite having a higher prevalence of chronic conditions, frequent users presented to the ED with mainly non-urgent problems and their admission rate was similar to that of the control group. Furthermore, ED visits by frequent users were less often preceded by a GP appointment or a call to the national telephone advice helpline, thus representing a bypass of other possibly more suitable services.

Some authors have focused on available measures to decrease ED overcrowding by reducing its unnecessary use.^{2,9,13} These include: (1) education and self-management support; (2) strengthening primary care services, namely through the increase of supply and extension of out-of-hours availability; (3) pre-hospital diversion, such as telephone triage; (4) barriers to ED access such as cost-sharing (where patients have to provide out-of-pocket payment for health care services), gate-keeping (defined as patients who do not have direct access to secondary care and need a referral from a GP) or referral to primary care services; (5) coordination through interdisciplinary case-management. Portuguese health care providers at different levels have already used (or are still using) many of these measures, some of which are noteworthy.

Between 2000 and 2006, Hospital Garcia de Orta in Almada implemented a hybrid gate-keeping system at the pediatric ED. During this period, patients were only seen if previously referred (by a physician or by the national telephone helpline) or if considered to have an urgent condition after a triage performed by a pediatrician. This

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measure produced a decrease in the number of patients seen at the ED of up to 17%, with no increase in the number of admissions.¹⁴

However, barrier systems such as this require a clockwork harmony between primary and secondary care centers, and this is often their Achilles heel. Any kind of patient diversion away from EDs needs to be accompanied by a proportional and pragmatic response by local health centers and other primary care facilities, guaranteeing a smooth continuum of care. With this idea in mind, hospitals in Barcelos and Póvoa de Varzim implemented a pilot project in 2018 where patients with low-acuity conditions (given green and blue colors on the Manchester triage system) are diverted to primary care services. What is particular about this system is that the regional health care services share the same booking software among primary and secondary care, which means that patients leave the ED with an appointment already booked at their local health center on the same day or the next. If they prefer to stay in the ED and wait to be seen, they are still able to do so. This pilot project, funded by the Ministry of Health with a grant of €12.5 million, is still underway, but policymakers are already considering replicating the experience in other areas of Portugal.¹⁵

Published data about measures to prevent ED overcrowding stress the fact that this is a multifactorial problem and that any solution that fails to address it on a framework approach is deemed to be unsuccessful. Economic factors must also be taken into account, as hospitals in Portugal receive their funding partly based on the number of ED visits that they generate. This may play a nefarious role in undermining a system where EDs are supposed to be a last case scenario. The medical community needs to personally engage and cooperate with policymakers in addressing this problem because, as ED overcrowding is currently on an upward trend, quality of care will inevitably be at stake.

Conflicts of Interest

The authors declare that there were no conflicts of interest in conducting this work.

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